

Id	Program	CourseCode	CourseName	COCode
5094	B.Sc.-PMCs	M1T	Mathematics-I	CO3
5094	B.Sc.-PMCs	M1T	Mathematics-I	CO2
5094	B.Sc.-PMCs	M1T	Mathematics-I	CO3
5094	B.Sc.-PMCs	M1T	Mathematics-I	CO4
5094	B.Sc.-PMCs	M2T	Mathematics-II	CO1
5094	B.Sc.-PMCs	M2T	Mathematics-II	CO2
5094	B.Sc.-PMCs	M2T	Mathematics-II	CO3
5094	B.Sc.-PMCs	M2T	Mathematics-II	CO4
5094	B.Sc.-PMCs	M3T	Mathematics-III	CO2
5094	B.Sc.-PMCs	M3T	Mathematics-III	CO3
5094	B.Sc.-PMCs	M3T	Mathematics-III	CO4
5094	B.Sc.-PMCs	M3T	Mathematics-III	CO1
5094	B.Sc.-PMCs	M4T	Mathematics-IV	CO1
5094	B.Sc.-PMCs	M4T	Mathematics-IV	CO2
5094	B.Sc.-PMCs	M4T	Mathematics-IV	CO3
5094	B.Sc.-PMCs	M4T	Mathematics-IV	CO4
5094	B.Sc.-PMCs	M4T	Mathematics-IV	CO5
5094	B.Sc.-PMCs	M5T	Mathematics-V	CO4
5094	B.Sc.-PMCs	M5T	Mathematics-V	CO5
5094	B.Sc.-PMCs	M5T	Mathematics-V	CO6
5094	B.Sc.-PMCs	M6T	Mathematics-VI	CO1
5094	B.Sc.-PMCs	M6T	Mathematics-VI	CO2
5094	B.Sc.-PMCs	M6T	Mathematics-VI	CO3
5094	B.Sc.-PMCs	M7T	Mathematics-VII	CO1
5094	B.Sc.-PMCs	M7T	Mathematics-VII	CO2
5094	B.Sc.-PMCs	M7T	Mathematics-VII	CO3
5094	B.Sc.-PMCs	M8T	Mathematics-VIII	CO1

5094 B.Sc.-PMCs	M8T	Mathematics-VIII	CO2
5094 B.Sc.-PMCs	M8T	Mathematics-VIII	CO3
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO1
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO2
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO3
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO4
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO5
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO6
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO7
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO8
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO9
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO10
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO11
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO12
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO13
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO14
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO15
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO16
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO17
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO18
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO19
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO20
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO21

5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO22
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO23
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO24
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO25
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO26
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO27
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO28
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO29
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO30
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO31
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO32
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO33
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO34
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO35
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO36
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO37
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO38
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO39
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO40
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO41
5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO42

5094 B.Sc.-PMCs	CS4T	Operating System and UNIX	CO43
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO1
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO2
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO3
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO4
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO5
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO6
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO7
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO8
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO9
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO10
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO11
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO12
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO13
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO14
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO15
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO16
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO17
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO18
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO19
5094 B.Sc.-PMCs	CS6T2	Computer Networks	CO20
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO10

5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO11
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO12
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO13
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO14
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO15
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO16
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO17
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO18
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO19
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO8
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO9
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO2
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO3
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO4
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO5
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO6
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO7
5094 B.Sc.-PMCs	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO1
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO1
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO2
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO3
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO4
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO5
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO6
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO7

5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO8
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO9
5094 B.Sc.-PMCs	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO10
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO6
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO1
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO2
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO3
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO4
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO5
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO7
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO8
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO9
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO10
5094 B.Sc.-PMCs	PHY T301	ELECTRICITY and MAGNETISM	CO11
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO19
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO18
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO17
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO13
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO14
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO15
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO16
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO12
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO11
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO10

5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO6
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO7
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO8
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO9
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO5
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO1
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO2
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO3
5095 B.Sc.-PME	PHY T101	MECHANICS – 1 , HEAT AND THERMODYNAMICS – 1	CO4
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO1
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO2
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO3
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO4
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO5
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO6
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO7
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO8
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO9
5095 B.Sc.-PME	PHY T201	MECHANICS – 2 , HEAT AND THERMODYNAMICS – 2	CO10
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	CO11
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	CO10
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	CO9
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	CO5
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	CO6
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	CO7

5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	C08
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	C01
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	C02
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	C03
5095 B.Sc.-PME	PHY T301	ELECTRICITY and MAGNETISM	C04
5095 B.Sc.-PME	M1T	Mathematics-I	C05
5095 B.Sc.-PME	M1T	Mathematics-I	C02
5095 B.Sc.-PME	M1T	Mathematics-I	C03
5095 B.Sc.-PME	M1T	Mathematics-I	C06
5095 B.Sc.-PME	M2T	Mathematics-II	C01
5095 B.Sc.-PME	M2T	Mathematics-II	C02
5095 B.Sc.-PME	M2T	Mathematics-II	C03
5095 B.Sc.-PME	M2T	Mathematics-II	C04
5095 B.Sc.-PME	M3T	Mathematics-III	C01
5095 B.Sc.-PME	M3T	Mathematics-III	C02
5095 B.Sc.-PME	M3T	Mathematics-III	C03
5095 B.Sc.-PME	M3T	Mathematics-III	C04
5095 B.Sc.-PME	M4T	Mathematics-IV	C01
5095 B.Sc.-PME	M4T	Mathematics-IV	C02
5095 B.Sc.-PME	M4T	Mathematics-IV	C03
5095 B.Sc.-PME	M4T	Mathematics-IV	C04
5095 B.Sc.-PME	M4T	Mathematics-IV	C05
5095 B.Sc.-PME	M5T	Mathematics-V	C01
5095 B.Sc.-PME	M5T	Mathematics-V	C02
5095 B.Sc.-PME	M5T	Mathematics-V	C03
5095 B.Sc.-PME	M6T	Mathematics-VI	C01
5095 B.Sc.-PME	M6T	Mathematics-VI	C02
5095 B.Sc.-PME	M6T	Mathematics-VI	C03
5095 B.Sc.-PME	M7T	Mathematics-VII	C01
5095 B.Sc.-PME	M7T	Mathematics-VII	C02
5095 B.Sc.-PME	M7T	Mathematics-VII	C03

5095 B.Sc.-PME	M8T	Mathematics-VIII	CO1
5095 B.Sc.-PME	M8T	Mathematics-VIII	CO2
5095 B.Sc.-PME	M8T	Mathematics-VIII	CO3
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO1
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO2
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO3
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO4
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO5
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO6
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO7
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO8
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO9
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO10
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO11
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO12
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO13

5095 B.Sc.-PME	EL-101T	Basic Electronics	CO18
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO19
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO20
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO15
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO14
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO16
5095 B.Sc.-PME	EL-101T	Basic Electronics	CO17
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO29
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO30
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO28
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO24
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO25
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO26
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO27
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO23

5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO18
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO19
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO21
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO22
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO17
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO20
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO16
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO14
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO15
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO13
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO9
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO10
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO11
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO12
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO1
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO2
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO3
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO4
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO5
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO6
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO7
5095 B.Sc.-PME	EL-201T	Electronic Circuits & Special Purpose Devices	CO8

5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO1
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO2
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO3
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO4
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO5
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO6
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO7
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO8
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO9
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO10
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO11
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO12
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO13
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO14
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO15
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO16
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO17
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO18
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO19
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO20
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO21
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO22

5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO23
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO24
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO25
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO26
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO27
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO28
5096 B.Sc.-EMCs	EL-201T	Electronic Circuits & Special Purpose Devices	CO29
5096 B.Sc.-EMCs	EL-301P	Linear Integrated Circuits & C programming Lab	CO1
5096 B.Sc.-EMCs	EL-301P	Linear Integrated Circuits & C programming Lab	CO2
5096 B.Sc.-EMCs	M1T	Mathematics-I	CO5
5096 B.Sc.-EMCs	M1T	Mathematics-I	CO4
5096 B.Sc.-EMCs	M1T	Mathematics-I	CO2
5096 B.Sc.-EMCs	M1T	Mathematics-I	CO1
5096 B.Sc.-EMCs	M2T	Mathematics-II	CO4
5096 B.Sc.-EMCs	M2T	Mathematics-II	CO2
5096 B.Sc.-EMCs	M2T	Mathematics-II	CO3
5096 B.Sc.-EMCs	M2T	Mathematics-II	CO4
5096 B.Sc.-EMCs	M3T	Mathematics-III	CO1
5096 B.Sc.-EMCs	M3T	Mathematics-III	CO2
5096 B.Sc.-EMCs	M3T	Mathematics-III	CO3
5096 B.Sc.-EMCs	M3T	Mathematics-III	CO4
5096 B.Sc.-EMCs	M4T	Mathematics-IV	CO1
5096 B.Sc.-EMCs	M4T	Mathematics-IV	CO2
5096 B.Sc.-EMCs	M4T	Mathematics-IV	CO3
5096 B.Sc.-EMCs	M4T	Mathematics-IV	CO4
5096 B.Sc.-EMCs	M4T	Mathematics-IV	CO5

5096 B.Sc.-EMCs	M5T	Mathematics-V	CO1
5096 B.Sc.-EMCs	M5T	Mathematics-V	CO2
5096 B.Sc.-EMCs	M5T	Mathematics-V	CO3
5096 B.Sc.-EMCs	M6T	Mathematics-VI	CO1
5096 B.Sc.-EMCs	M6T	Mathematics-VI	CO2
5096 B.Sc.-EMCs	M6T	Mathematics-VI	CO3
5096 B.Sc.-EMCs	M7T	Mathematics-VII	CO1
5096 B.Sc.-EMCs	M7T	Mathematics-VII	CO2
5096 B.Sc.-EMCs	M7T	Mathematics-VII	CO3
5096 B.Sc.-EMCs	M8T	Mathematics-VIII	CO3
5096 B.Sc.-EMCs	M8T	Mathematics-VIII	CO1
5096 B.Sc.-EMCs	M8T	Mathematics-VIII	CO2
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO9
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO8
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO7
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO6
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO5
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO4
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO2
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO3
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO1
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO10
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO11
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO12
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO13
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO14

5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO15
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO16
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO17
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO18
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO19
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO20
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO21
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO22
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO23
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO24
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO25
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO26
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO27
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO28
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO29
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO30
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO31
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO32
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO33
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO34
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO35
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO36
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO37
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO38
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO39
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO40

5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO41
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO42
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO43
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO44
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO45
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO46
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO47
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO48
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO49
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO50
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO51
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO52
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO53
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO54
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO55
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO56
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO57
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO58
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO59
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO60
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO61
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO62
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO63
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO64
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO65

5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO66
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO67
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO68
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO69
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO70
5096 B.Sc.-EMCs	CS4T	Operating System and UNIX	CO71
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO25
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO21
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO22
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO23
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO24
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO20
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO17
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO18
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO19
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO11
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO13
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO12
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO10

5096 B.Sc.-EMCs	CS6T1	Web Programming	CO16
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO14
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO15
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO1
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO2
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO9
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO6
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO7
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO8
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO5
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO4
5096 B.Sc.-EMCs	CS6T1	Web Programming	CO3
5097 B.Sc.-SMCs	M1T	Mathematics-I	CO1
5097 B.Sc.-SMCs	M1T	Mathematics-I	CO2
5097 B.Sc.-SMCs	M1T	Mathematics-I	CO4
5097 B.Sc.-SMCs	M1T	Mathematics-I	CO5
5097 B.Sc.-SMCs	M2T	Mathematics-II	CO1
5097 B.Sc.-SMCs	M2T	Mathematics-II	CO2
5097 B.Sc.-SMCs	M2T	Mathematics-II	CO3

5097 B.Sc.-SMCs	M2T	Mathematics-II	CO4
5097 B.Sc.-SMCs	M3T	Mathematics-III	CO1
5097 B.Sc.-SMCs	M3T	Mathematics-III	CO2
5097 B.Sc.-SMCs	M3T	Mathematics-III	CO3
5097 B.Sc.-SMCs	M3T	Mathematics-III	CO4
5097 B.Sc.-SMCs	M4T	Mathematics-IV	CO1
5097 B.Sc.-SMCs	M4T	Mathematics-IV	CO2
5097 B.Sc.-SMCs	M4T	Mathematics-IV	CO3
5097 B.Sc.-SMCs	M4T	Mathematics-IV	CO4
5097 B.Sc.-SMCs	M4T	Mathematics-IV	CO5
5097 B.Sc.-SMCs	M5T	Mathematics-V	CO4
5097 B.Sc.-SMCs	M5T	Mathematics-V	CO5
5097 B.Sc.-SMCs	M5T	Mathematics-V	CO6
5097 B.Sc.-SMCs	M6T	Mathematics-VI	CO1
5097 B.Sc.-SMCs	M6T	Mathematics-VI	CO2
5097 B.Sc.-SMCs	M6T	Mathematics-VI	CO3
5097 B.Sc.-SMCs	M7T	Mathematics-VII	CO1
5097 B.Sc.-SMCs	M7T	Mathematics-VII	CO2
5097 B.Sc.-SMCs	M7T	Mathematics-VII	CO3
5097 B.Sc.-SMCs	M8T	Mathematics-VIII	CO1
5097 B.Sc.-SMCs	M8T	Mathematics-VIII	CO2
5097 B.Sc.-SMCs	M8T	Mathematics-VIII	CO3
5097 B.Sc.-SMCs	ST-101	Basic Statistics-I	CO2
5097 B.Sc.-SMCs	ST-101	Basic Statistics-I	CO3
5097 B.Sc.-SMCs	ST-101	Basic Statistics-I	CO4
5097 B.Sc.-SMCs	ST-101	Basic Statistics-I	CO5

5097 B.Sc.-SMCs	ST-101	Basic Statistics-I	CO1
5097 B.Sc.-SMCs	ST-201	Basic Statistics-II	CO1
5097 B.Sc.-SMCs	ST-201	Basic Statistics-II	CO2
5097 B.Sc.-SMCs	ST-201	Basic Statistics-II	CO3
5097 B.Sc.-SMCs	ST-201	Basic Statistics-II	CO4
5097 B.Sc.-SMCs	ST-201	Basic Statistics-II	CO5
5097 B.Sc.-SMCs	ST-301	Statistical Inference-I	CO1
5097 B.Sc.-SMCs	ST-301	Statistical Inference-I	CO2
5097 B.Sc.-SMCs	ST-301	Statistical Inference-I	CO3
5097 B.Sc.-SMCs	ST-301	Statistical Inference-I	CO4
5097 B.Sc.-SMCs	ST-301	Statistical Inference-I	CO5
5097 B.Sc.-SMCs	ST-401	Statistical Inference-II	CO1
5097 B.Sc.-SMCs	ST-401	Statistical Inference-II	CO2
5097 B.Sc.-SMCs	ST-401	Statistical Inference-II	CO3
5097 B.Sc.-SMCs	ST-401	Statistical Inference-II	CO4
5097 B.Sc.-SMCs	ST-401	Statistical Inference-II	CO5
5097 B.Sc.-SMCs	ST-501	Sampling Theory and Statistical Quality Control	CO1
5097 B.Sc.-SMCs	ST-501	Sampling Theory and Statistical Quality Control	CO2
5097 B.Sc.-SMCs	ST-501	Sampling Theory and Statistical Quality Control	CO3
5097 B.Sc.-SMCs	ST-501	Sampling Theory and Statistical Quality Control	CO4
5097 B.Sc.-SMCs	ST-501	Sampling Theory and Statistical Quality Control	CO5
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO1

5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO2
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO3
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO4
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO5
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO6
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO7
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO8
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO9
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO10
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO11
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO12
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO13
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO14
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO15
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO16
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO17
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO18
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO19
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO20
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO21
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO22

5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO23
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO24
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO25
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO26
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO27
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO28
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO29
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO30
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO31
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO32
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO33
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO34
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO35
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO36
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO37
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO38
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO39
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO40
5097 B.Sc.-SMCs	CS4T	Operating System and UNIX	CO41

5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO1
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO2
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO3
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO4
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO5
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO6
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO7
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO8
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO9
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO10
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO11
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO12
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO13
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO14
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO15
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO16
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO17
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO18
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO19
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO20
5097 B.Sc.-SMCs	CS6T2	Computer Networks	CO21
5098 B.Sc.-CZMb	ZT101	Non- chordata: Part 1	CO1
5098 B.Sc.-CZMb	ZT101	Non- chordata: Part 1	CO2

5098 B.Sc.-CZMb	ZT101	Non- chordata: Part 1	CO3
5098 B.Sc.-CZMb	ZT101	Non- chordata: Part 1	CO4
5098 B.Sc.-CZMb	ZP101	Non- chordata: Part 1	CO1
5098 B.Sc.-CZMb	ZP101	Non- chordata: Part 1	CO2
5098 B.Sc.-CZMb	ZP101	Non- chordata: Part 1	CO3
5098 B.Sc.-CZMb	ZP101	Non- chordata: Part 1	CO5
5098 B.Sc.-CZMb	ZT102	Non- chordata: Part 2	CO4
5098 B.Sc.-CZMb	ZT102	Non- chordata: Part 2	CO3
5098 B.Sc.-CZMb	ZT102	Non- chordata: Part 2	CO2
5098 B.Sc.-CZMb	ZT102	Non- chordata: Part 2	CO1
5098 B.Sc.-CZMb	ZT103	Chordata	CO1
5098 B.Sc.-CZMb	ZT103	Chordata	CO2
5098 B.Sc.-CZMb	ZT103	Chordata	CO3
5098 B.Sc.-CZMb	ZT103	Chordata	CO4
5098 B.Sc.-CZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO1
5098 B.Sc.-CZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO2
5098 B.Sc.-CZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO3
5098 B.Sc.-CZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO4
5098 B.Sc.-CZMb	Theory Paper-II	Chemistry-II	CO1
5098 B.Sc.-CZMb	Theory Paper-II	Chemistry-II	CO2

5098 B.Sc.-CZMb	Theory Paper-II	Chemistry-II	CO3
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5098 B.Sc.-CZMb	Theory Paper-II	Chemistry-II	CO4
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5098 B.Sc.-CZMb	Theory Paper-II	Chemistry-II	CO5
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5098 B.Sc.-CZMb	MBT 101	Basic Microbiology	CO1
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5098 B.Sc.-CZMb	MBT 101	Basic Microbiology	CO2
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5098 B.Sc.-CZMb	MBT 101	Basic Microbiology	CO3
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5098 B.Sc.-CZMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO1
5098 B.Sc.-CZMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO2
5098 B.Sc.-CZMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO3
5098 B.Sc.-CZMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO3
5098 B.Sc.-CZMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO1
5098 B.Sc.-CZMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO2
5099 B.Sc.-BcZMb	MBT 101	Basic Microbiology	CO1
5099 B.Sc.-BcZMb	MBT 101	Basic Microbiology	CO2
5099 B.Sc.-BcZMb	MBT 101	Basic Microbiology	CO3
5099 B.Sc.-BcZMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO1

5099 B.Sc.-BcZMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO2
5099 B.Sc.-BcZMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO3
5099 B.Sc.-BcZMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO1
5099 B.Sc.-BcZMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO2
5099 B.Sc.-BcZMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO3
5099 B.Sc.-BcZMb	ZT101	Non- chordata: Part 1	CO1
5099 B.Sc.-BcZMb	ZT101	Non- chordata: Part 1	CO2
5099 B.Sc.-BcZMb	ZT101	Non- chordata: Part 1	CO3
5099 B.Sc.-BcZMb	ZT101	Non- chordata: Part 1	CO4
5099 B.Sc.-BcZMb	ZP101	Non- chordata: Part 1	CO1
5099 B.Sc.-BcZMb	ZP101	Non- chordata: Part 1	CO2
5099 B.Sc.-BcZMb	ZP101	Non- chordata: Part 1	CO3
5099 B.Sc.-BcZMb	ZP101	Non- chordata: Part 1	CO4
5099 B.Sc.-BcZMb	ZP101	Non- chordata: Part 1	CO5
5099 B.Sc.-BcZMb	ZT102	Non- chordata: Part 2	CO1
5099 B.Sc.-BcZMb	ZT102	Non- chordata: Part 2	CO2
5099 B.Sc.-BcZMb	ZT102	Non- chordata: Part 2	CO3
5099 B.Sc.-BcZMb	ZT102	Non- chordata: Part 2	CO4

5099 B.Sc.-BcZMb	ZT103	Chordata	CO1
5099 B.Sc.-BcZMb	ZT103	Chordata	CO2
5099 B.Sc.-BcZMb	ZT103	Chordata	CO3
5099 B.Sc.-BcZMb	ZT103	Chordata	CO4
5099 B.Sc.-BcZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO1
5099 B.Sc.-BcZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO2
5099 B.Sc.-BcZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO3
5099 B.Sc.-BcZMb	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO4
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO1
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO2
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO3
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO4
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO5
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO6
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO7
5099 B.Sc.-BcZMb	BCT-1	Biochemistry-I	CO8
5099 B.Sc.-BcZMb	BCT-2	Biochemistry-II	CO1
5099 B.Sc.-BcZMb	BCT-2	Biochemistry-II	CO2
5099 B.Sc.-BcZMb	BCT-2	Biochemistry-II	CO3
5099 B.Sc.-BcZMb	BCT-2	Biochemistry-II	CO4
5099 B.Sc.-BcZMb	BCT-2	Biochemistry-II	CO6
5099 B.Sc.-BcZMb	BCT-2	Biochemistry-II	CO5
5099 B.Sc.-BcZMb	BCT-2	Biochemistry-II	CO7
5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO3
5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO4
5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO5
5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO6

5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO7
5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO8
5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO1
5100 B.Sc.-BcGtMb	BCT-1	Biochemistry-I	CO2
5100 B.Sc.-BcGtMb	BCT-2	Biochemistry-II	CO2
5100 B.Sc.-BcGtMb	BCT-2	Biochemistry-II	CO1
5100 B.Sc.-BcGtMb	BCT-2	Biochemistry-II	CO7
5100 B.Sc.-BcGtMb	BCT-2	Biochemistry-II	CO5
5100 B.Sc.-BcGtMb	BCT-2	Biochemistry-II	CO3
5100 B.Sc.-BcGtMb	BCT-2	Biochemistry-II	CO4
5100 B.Sc.-BcGtMb	BCT-2	Biochemistry-II	CO6
5100 B.Sc.-BcGtMb	GNT101	Fundamentals of cell biology	CO1
5100 B.Sc.-BcGtMb	GNT101	Fundamentals of cell biology	CO2
5100 B.Sc.-BcGtMb	GNT101	Fundamentals of cell biology	CO3
5100 B.Sc.-BcGtMb	GNT101	Fundamentals of cell biology	CO4
5100 B.Sc.-BcGtMb	GNP101	Fundamentals of cell biology	CO1
5100 B.Sc.-BcGtMb	GNP101	Fundamentals of cell biology	CO2
5100 B.Sc.-BcGtMb	GNT201	Principles of Genetics	CO5
5100 B.Sc.-BcGtMb	GNT201	Principles of Genetics	CO6
5100 B.Sc.-BcGtMb	GNT201	Principles of Genetics	CO4
5100 B.Sc.-BcGtMb	GNT201	Principles of Genetics	CO7
5100 B.Sc.-BcGtMb	GNT201	Principles of Genetics	CO1
5100 B.Sc.-BcGtMb	GNT201	Principles of Genetics	CO2
5100 B.Sc.-BcGtMb	GNT201	Principles of Genetics	CO3
5100 B.Sc.-BcGtMb	GNP201	Principles of Genetics	CO1

5100 B.Sc.-BcGtMb	GNP201	Principles of Genetics	CO2
5100 B.Sc.-BcGtMb	GNP201	Principles of Genetics	CO3
5100 B.Sc.-BcGtMb	GNP201	Principles of Genetics	CO4
5100 B.Sc.-BcGtMb	GNP201	Principles of Genetics	CO5
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO4
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO3
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO2
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO1
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO5
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO6
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO7
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO8
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO9
5100 B.Sc.-BcGtMb	GNT301	Cytogenetics	CO10
5100 B.Sc.-BcGtMb	GNP301	Cytogenetics	CO3
5100 B.Sc.-BcGtMb	GNP301	Cytogenetics	CO1
5100 B.Sc.-BcGtMb	GNP301	Cytogenetics	CO2
5100 B.Sc.-BcGtMb	GNP301	Cytogenetics	CO4
5100 B.Sc.-BcGtMb	GNP301	Cytogenetics	CO5
5100 B.Sc.-BcGtMb	GNP301	Cytogenetics	CO6
5100 B.Sc.-BcGtMb	GNT401	Molecular Genetics	CO1
5100 B.Sc.-BcGtMb	GNT401	Molecular Genetics	CO2
5100 B.Sc.-BcGtMb	GNT401	Molecular Genetics	CO3
5100 B.Sc.-BcGtMb	GNT401	Molecular Genetics	CO4
5100 B.Sc.-BcGtMb	GNT401	Molecular Genetics	CO5
5100 B.Sc.-BcGtMb	GNT401	Molecular Genetics	CO6
5100 B.Sc.-BcGtMb	GNT401	Molecular Genetics	CO7
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO5

5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO6
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO7
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO8
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO9
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO10
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO11
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO12
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO4
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO3
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO2
5100 B.Sc.-BcGtMb	GNP401	Molecular Genetics	CO1
5100 B.Sc.-BcGtMb	MBT 101	Basic Microbiology	CO1
5100 B.Sc.-BcGtMb	MBT 101	Basic Microbiology	CO2
5100 B.Sc.-BcGtMb	MBT 101	Basic Microbiology	CO3
5100 B.Sc.-BcGtMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO1
5100 B.Sc.-BcGtMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO2
5100 B.Sc.-BcGtMb	MBT 201	Microbial Taxonomy and Culture Techniques	CO3

5100 B.Sc.-BcGtMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO1
5100 B.Sc.-BcGtMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO2
5100 B.Sc.-BcGtMb	MBP 202	Microbial Taxonomy and Culture Techniques Practical	CO3
5100 B.Sc.-BcGtMb	MBP 504	Food and Dairy Microbiology Practical	CO1
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO1
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO2
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO3
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO4
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO5
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO6
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO7
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO8
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO9
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO10
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO11
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO12

5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO13
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO14
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO15
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO16
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO17
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO18
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO19
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO20
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO21
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO22
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO23
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO24
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO25
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO26
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO27
5101 B.Sc.-CZBt	BTT-101	Cell Biology & Genetics	CO28
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO1
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO2
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO3
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO4
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO5
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO6

5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO7
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO8
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO9
5101 B.Sc.-CZBt	BTT-201	General Microbiology & Biostatistics	CO11
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO2
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO2
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO3
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO4
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO5
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO6
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO9
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO10
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO11
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO12
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO13
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO7
5101 B.Sc.-CZBt	BTT-301	Biochemistry&Biophysics	CO8
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO13
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO14
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO12
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO4
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO2

5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO2
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO10
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO11
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO6
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO3
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO5
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO7
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO8
5101 B.Sc.-CZBt	BTP-302	Bio chemistry &Biophysics	CO9
5101 B.Sc.-CZBt	BTT-401	Molecular biology	CO1
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO1
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO2
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO3
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO4
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO5
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO6
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO7
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO8
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO9
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO10
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO11
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO12
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO13
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO14
5101 B.Sc.-CZBt	BTP-402	Molecular biology	CO15
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO1

5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO2
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO3
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO4
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO5
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO6
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO7
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO8
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO9
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO10
5101 B.Sc.-CZBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO11
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO1
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO2
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO3
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO4
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO5
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO6
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO7
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO8
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO9
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO10
5101 B.Sc.-CZBt	BTT-502	Immunology & Animal Biotechnology	CO11
5101 B.Sc.-CZBt	BTT-601	Plant Biotechnology	CO1
5101 B.Sc.-CZBt	BTT-601	Plant Biotechnology	CO2

5101 B.Sc.-CZBt	BTT-601	Plant Biotechnology	CO3
5101 B.Sc.-CZBt	BTT-601	Plant Biotechnology	CO4
5101 B.Sc.-CZBt	BTT-601	Plant Biotechnology	CO5
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO1
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO2
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO3
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO4
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO5
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO6
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO7
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO8
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO9
5101 B.Sc.-CZBt	BTT-602	Industrial Biotechnology	CO10
5101 B.Sc.-CZBt	ZT101	Non- chordata: Part 1	CO1
5101 B.Sc.-CZBt	ZT101	Non- chordata: Part 1	CO2
5101 B.Sc.-CZBt	ZT101	Non- chordata: Part 1	CO3
5101 B.Sc.-CZBt	ZT101	Non- chordata: Part 1	CO4
5101 B.Sc.-CZBt	ZP101	Non- chordata: Part 1	CO1
5101 B.Sc.-CZBt	ZP101	Non- chordata: Part 1	CO2
5101 B.Sc.-CZBt	ZP101	Non- chordata: Part 1	CO3
5101 B.Sc.-CZBt	ZP101	Non- chordata: Part 1	CO4
5101 B.Sc.-CZBt	ZT102	Non- chordata: Part 2	CO3
5101 B.Sc.-CZBt	ZT102	Non- chordata: Part 2	CO4
5101 B.Sc.-CZBt	ZT102	Non- chordata: Part 2	CO1
5101 B.Sc.-CZBt	ZT102	Non- chordata: Part 2	CO2

5101 B.Sc.-CZBt	ZT103	Chordata	CO1
5101 B.Sc.-CZBt	ZT103	Chordata	CO2
5101 B.Sc.-CZBt	ZT103	Chordata	CO3
5101 B.Sc.-CZBt	ZT103	Chordata	CO4
5101 B.Sc.-CZBt	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO1
5101 B.Sc.-CZBt	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO2
5101 B.Sc.-CZBt	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO3
5101 B.Sc.-CZBt	ZT104	Comparative Anatomy,Cell Biology and Immunologyand Histology	CO4
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO1
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO2
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO3
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO4
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO5
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO6
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO7
5101 B.Sc.-CZBt	Theory Paper-I	Chemistry-I	CO8
5101 B.Sc.-CZBt	Theory Paper-II	Chemistry-II	CO1
5101 B.Sc.-CZBt	Theory Paper-II	Chemistry-II	CO2

5103 B.Sc.-CGtBt

Theory Paper-I

Chemistry-I

CO1

5103 B.Sc.-CGtBt

Theory Paper-I

Chemistry-I

CO2

5103 B.Sc.-CGtBt

Theory Paper-I

Chemistry-I

CO3

5103 B.Sc.-CGtBt	Theory Paper-I	Chemistry-I	CO4
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5103 B.Sc.-CGtBt	Theory Paper-I	Chemistry-I	CO5
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5103 B.Sc.-CGtBt	Theory Paper-II	Chemistry-II	CO2
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5103 B.Sc.-CGtBt	Theory Paper-II	Chemistry-II	CO3
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5103 B.Sc.-CGtBt	Theory Paper-II	Chemistry-II	CO4
5103 B.Sc.-CGtBt	Theory Paper-II	Chemistry-II	CO5
5103 B.Sc.-CGtBt	Theory Paper-II	Chemistry-II	CO1
5103 B.Sc.-CGtBt	Theory Paper-III	Chemistry-III	CO1
5103 B.Sc.-CGtBt	Theory Paper-III	Chemistry-III	CO2
5103 B.Sc.-CGtBt	Theory Paper-III	Chemistry-III	CO3
5103 B.Sc.-CGtBt	Theory Paper-III	Chemistry-III	CO4
5103 B.Sc.-CGtBt	Theory Paper-III	Chemistry-III	CO5
5103 B.Sc.-CGtBt	Theory Paper-III	Chemistry-III	CO6
5103 B.Sc.-CGtBt	Theory Paper-IV	Chemistry-IV	CO1
5103 B.Sc.-CGtBt	Practical Paper-IV	Chemistry Practical-IV	CO1
5103 B.Sc.-CGtBt	GNT101	Fundamentals of cell biology	CO1
5103 B.Sc.-CGtBt	GNT101	Fundamentals of cell biology	CO2
5103 B.Sc.-CGtBt	GNT101	Fundamentals of cell biology	CO3
5103 B.Sc.-CGtBt	GNT101	Fundamentals of cell biology	CO4
5103 B.Sc.-CGtBt	GNP101	Fundamentals of cell biology	CO1
5103 B.Sc.-CGtBt	GNP101	Fundamentals of cell biology	CO2

5103 B.Sc.-CGtBt	GNT201	Principles of Genetics	CO1
5103 B.Sc.-CGtBt	GNT201	Principles of Genetics	CO2
5103 B.Sc.-CGtBt	GNT201	Principles of Genetics	CO3
5103 B.Sc.-CGtBt	GNT201	Principles of Genetics	CO4
5103 B.Sc.-CGtBt	GNT201	Principles of Genetics	CO5
5103 B.Sc.-CGtBt	GNT201	Principles of Genetics	CO6
5103 B.Sc.-CGtBt	GNT201	Principles of Genetics	CO7
5103 B.Sc.-CGtBt	GNP201	Principles of Genetics	CO1
5103 B.Sc.-CGtBt	GNP201	Principles of Genetics	CO2
5103 B.Sc.-CGtBt	GNP201	Principles of Genetics	CO3
5103 B.Sc.-CGtBt	GNP201	Principles of Genetics	CO4
5103 B.Sc.-CGtBt	GNP201	Principles of Genetics	CO5
5103 B.Sc.-CGtBt	GNT301	Cytogenetics	CO1
5103 B.Sc.-CGtBt	GNT301	Cytogenetics	CO2
5103 B.Sc.-CGtBt	GNT301	Cytogenetics	CO3
5103 B.Sc.-CGtBt	GNT301	Cytogenetics	CO4
5103 B.Sc.-CGtBt	GNT301	Cytogenetics	CO5

5103 B.Sc.-CGtBt	GNT301	Cytogenetics	CO6
5103 B.Sc.-CGtBt	GNP301	Cytogenetics	CO1
5103 B.Sc.-CGtBt	GNP301	Cytogenetics	CO2
5103 B.Sc.-CGtBt	GNP301	Cytogenetics	CO3
5103 B.Sc.-CGtBt	GNP301	Cytogenetics	CO4
5103 B.Sc.-CGtBt	GNP301	Cytogenetics	CO5
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO1
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO2
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO3
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO4
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO5
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO6
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO7
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO8
5103 B.Sc.-CGtBt	GNT401	Molecular Genetics	CO9
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO1
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO2
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO3
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO4
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO5
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO6
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO7

5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO8
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO9
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO10
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO11
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO12
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO13
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO14
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO15
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO16
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO17
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO18
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO19
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO20
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO21
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO22
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO23
5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO24

5103 B.Sc.-CGtBt	BTT-101	Cell Biology & Genetics	CO25
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO1
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO2
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO3
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO4
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO5
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO6
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO7
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO8
5103 B.Sc.-CGtBt	BTT-201	General Microbiology & Biostatistics	CO9
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO14
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO14
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO15
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO1
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO2
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO3
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO4
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO5
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO6
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO7
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO8
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO9
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO10
5103 B.Sc.-CGtBt	BTT-301	Biochemistry&Biophysics	CO11
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO2
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO3
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO3

5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO4
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO5
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO6
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO7
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO8
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO9
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO10
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO11
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO12
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO13
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO14
5103 B.Sc.-CGtBt	BTP-402	Molecular biology	CO15
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO1
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO2
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO3
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO4
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO5
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO6
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO7
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO8
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO9
5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO10

5103 B.Sc.-CGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO11
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO1
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO2
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO3
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO4
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO5
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO6
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO7
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO8
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO9
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO10
5103 B.Sc.-CGtBt	BTT-502	Immunology & Animal Biotechnology	CO11
5103 B.Sc.-CGtBt	BTT-601	Plant Biotechnology	CO1
5103 B.Sc.-CGtBt	BTT-601	Plant Biotechnology	CO2
5103 B.Sc.-CGtBt	BTT-601	Plant Biotechnology	CO3
5103 B.Sc.-CGtBt	BTT-601	Plant Biotechnology	CO4
5103 B.Sc.-CGtBt	BTT-601	Plant Biotechnology	CO5
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO1
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO2
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO3
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO4

5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO5
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO6
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO7
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO8
5103 B.Sc.-CGtBt	BTT-602	Industrial Biotechnology	CO9
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO1
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO2
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO3
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO4
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO5
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO6
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO8
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO8
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO9
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO10
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO11
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO12
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO13

5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO14
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO15
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5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO24
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO25
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO26
5107 B.Sc.-BcGtBt	BTT-101	Cell Biology & Genetics	CO27
5107 B.Sc.-BcGtBt	BTT-301	Biochemistry&Biophysics	CO1
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO1
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO2
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO3
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO4

5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO5
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO6
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO7
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO8
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO9
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO10
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO11
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO12
5107 B.Sc.-BcGtBt	BTP-302	Bio chemistry &Biophysics	CO13
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO15
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO16
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO17
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO18
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5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO11
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO12
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO13
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO14
5107 B.Sc.-BcGtBt	BTT-401	Molecular biology	CO15
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO1
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO2

5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO3
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO4
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO5
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO6
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO7
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO8
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO9
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO10
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO11
5107 B.Sc.-BcGtBt	BTT-501	Genetic Engineering & Environ. Biotechnology	CO12
5107 B.Sc.-BcGtBt	BTP-503	Genetic Engineering & Environ. Biotechnology	CO1
5107 B.Sc.-BcGtBt	BTP-503	Genetic Engineering & Environ. Biotechnology	CO2
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5107 B.Sc.-BcGtBt	BTP-503	Genetic Engineering & Environ. Biotechnology	CO5
5107 B.Sc.-BcGtBt	BTP-503	Genetic Engineering & Environ. Biotechnology	CO6
5107 B.Sc.-BcGtBt	BTP-503	Genetic Engineering & Environ. Biotechnology	CO7
5107 B.Sc.-BcGtBt	BTP-503	Genetic Engineering & Environ. Biotechnology	CO8
5107 B.Sc.-BcGtBt	BTT-502	Immunology & Animal Biotechnology	CO1
5107 B.Sc.-BcGtBt	BTT-502	Immunology & Animal Biotechnology	CO2
5107 B.Sc.-BcGtBt	BTT-502	Immunology & Animal Biotechnology	CO3
5107 B.Sc.-BcGtBt	BTT-502	Immunology & Animal Biotechnology	CO4

5107 B.Sc.-BcGtBt	BTT-502	Immunology & Animal Biotechnology	CO5
5107 B.Sc.-BcGtBt	BTT-502	Immunology & Animal Biotechnology	CO6
5107 B.Sc.-BcGtBt	BTT-502	Immunology & Animal Biotechnology	CO7
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5107 B.Sc.-BcGtBt	BTT-601	Plant Biotechnology	CO3
5107 B.Sc.-BcGtBt	BTT-601	Plant Biotechnology	CO4
5107 B.Sc.-BcGtBt	BTT-601	Plant Biotechnology	CO5
5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO1
5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO2
5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO3
5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO4
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5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO6
5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO7
5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO8
5107 B.Sc.-BcGtBt	BTT-602	Industrial Biotechnology	CO9
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5107 B.Sc.-BcGtBt	BCT-1	Biochemistry-I	CO4
5107 B.Sc.-BcGtBt	BCT-1	Biochemistry-I	CO5
5107 B.Sc.-BcGtBt	BCT-1	Biochemistry-I	CO6

5107 B.Sc.-BcGtBt	BCT-1	Biochemistry-I	CO7
5107 B.Sc.-BcGtBt	BCT-1	Biochemistry-I	CO8
5107 B.Sc.-BcGtBt	BCT-1	Biochemistry-I	CO1
5107 B.Sc.-BcGtBt	BCT-1	Biochemistry-I	CO2
5107 B.Sc.-BcGtBt	BCT-2	Biochemistry-II	CO1
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5107 B.Sc.-BcGtBt	BCT-2	Biochemistry-II	CO4
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5107 B.Sc.-BcGtBt	BCT-3	Biochemistry-III	CO2
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5107 B.Sc.-BcGtBt	BCT-4	Biochemistry-IV	CO3
5107 B.Sc.-BcGtBt	BCT-4	Biochemistry-IV	CO4
5107 B.Sc.-BcGtBt	BCT-4	Biochemistry-IV	CO5
5107 B.Sc.-BcGtBt	BCT-4	Biochemistry-IV	CO6
5107 B.Sc.-BcGtBt	BCT-4	Biochemistry-IV	CO7
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5107 B.Sc.-BcGtBt	GNT101	Fundamentals of cell biology	CO2
5107 B.Sc.-BcGtBt	GNT101	Fundamentals of cell biology	CO3

5107 B.Sc.-BcGtBt	GNT101	Fundamentals of cell biology	CO4
5107 B.Sc.-BcGtBt	GNP101	Fundamentals of cell biology	CO2
5107 B.Sc.-BcGtBt	GNP101	Fundamentals of cell biology	CO1
5107 B.Sc.-BcGtBt	GNT201	Principles of Genetics	CO7
5107 B.Sc.-BcGtBt	GNT201	Principles of Genetics	CO1
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5107 B.Sc.-BcGtBt	GNP301	Cytogenetics	CO7
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5107 B.Sc.-BcGtBt	GNT401	Molecular Genetics	CO8
5107 B.Sc.-BcGtBt	GNT401	Molecular Genetics	CO9
5119 BCA	BCA103T	Problem Solving Techniques using C	CO1
5119 BCA	BCA103T	Problem Solving Techniques using C	CO2
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5119 BCA	BCA104T	Digital Electronics	CO121
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5119 BCA	BCA104T	Digital Electronics	CO133

5119 BCA	BCA104T	Digital Electronics	CO134
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5119 BCA	BCA104T	Digital Electronics	CO152
5119 BCA	BCA104T	Digital Electronics	CO153
5119 BCA	BCA104T	Digital Electronics	CO154
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5119 BCA	BCA104T	Digital Electronics	CO149
5119 BCA	BCA104T	Digital Electronics	CO99
5119 BCA	BCA104T	Digital Electronics	CO98
5119 BCA	BCA104T	Digital Electronics	CO94

5119 BCA	BCA104T	Digital Electronics	CO95
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5119 BCA	BCA104T	Digital Electronics	CO97
5119 BCA	BCA104T	Digital Electronics	CO106
5119 BCA	BCA104T	Digital Electronics	CO101
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5119 BCA	BCA104T	Digital Electronics	CO93
5119 BCA	BCA104T	Digital Electronics	CO85
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5119 BCA	BCA104T	Digital Electronics	CO88
5119 BCA	BCA104T	Digital Electronics	CO89

5119 BCA	BCA104T	Digital Electronics	C090
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5119 BCA	BCA104T	Digital Electronics	CO162
5119 BCA	BCA104T	Digital Electronics	CO163
5119 BCA	BCA104T	Digital Electronics	CO164

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5119 BCA	BCA104T	Digital Electronics	CO166
5119 BCA	BCA104T	Digital Electronics	CO167
5119 BCA	BCA104T	Digital Electronics	CO168
5119 BCA	BCA104T	Digital Electronics	CO169
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5119 BCA	BCA104T	Digital Electronics	CO171
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5119 BCA	BCA105T	Discrete Mathematics	CO2
5119 BCA	BCA105T	Discrete Mathematics	CO3
5119 BCA	BCA105T	Discrete Mathematics	CO4
5119 BCA	BCA105T	Discrete Mathematics	CO5
5119 BCA	BCA105T	Discrete Mathematics	CO6
5119 BCA	BCA103P	C Programming Lab	CO9
5119 BCA	BCA103P	C Programming Lab	CO10
5119 BCA	BCA103P	C Programming Lab	CO7
5119 BCA	BCA103P	C Programming Lab	CO8
5119 BCA	BCA103P	C Programming Lab	CO6
5119 BCA	BCA103P	C Programming Lab	CO5

5119 BCA	BCA103P	C Programming Lab	CO2
5119 BCA	BCA103P	C Programming Lab	CO3
5119 BCA	BCA103P	C Programming Lab	CO4
5119 BCA	BCA103P	C Programming Lab	CO1
5119 BCA	BCA104P	Digital Electronics Lab	CO5
5119 BCA	BCA104P	Digital Electronics Lab	CO6
5119 BCA	BCA104P	Digital Electronics Lab	CO7
5119 BCA	BCA104P	Digital Electronics Lab	CO2
5119 BCA	BCA104P	Digital Electronics Lab	CO3
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5119 BCA	BCA203T	Data structures	CO59
5119 BCA	BCA203T	Data structures	CO60
5119 BCA	BCA203T	Data structures	CO62

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5119 BCA	BCA203T	Data structures	C02

5119 BCA	BCA203T	Data structures	CO3
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5119 BCA	BCA203P	Data Structures Lab	CO4
5119 BCA	BCA203P	Data Structures Lab	CO2
5119 BCA	BCA203P	Data Structures Lab	CO3
5119 BCA	BCA203P	Data Structures Lab	CO1

5119 BCA

BCA204T

DBMS Lab

CO4

5119 BCA

BCA204T

DBMS Lab

CO3

5119 BCA

BCA204T

DBMS Lab

CO1

5119 BCA

BCA204T

DBMS Lab

CO2

5119 BCA

BCA204T

DBMS Lab

CO5

5119 BCA

BCA204T

DBMS Lab

CO7

5119 BCA	BCA204T	DBMS Lab	CO8
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5119 BCA	BCA204T	DBMS Lab	CO6
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO71
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO69
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO70
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO66
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO65
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO67
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO68
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO60
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5119 BCA	BCA303T	Object Oriented Programming using C++	CO64
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5119 BCA	BCA303T	Object Oriented Programming using C++	C053
5119 BCA	BCA303T	Object Oriented Programming using C++	C052
5119 BCA	BCA303T	Object Oriented Programming using C++	C01
5119 BCA	BCA305T	Operating System	C023
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5119 BCA	BCA305T	Operating System	C055
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5119 BCA	BCA305T	Operating System	C033
5119 BCA	BCA305T	Operating System	C034

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5119 BCA	BCA305T	Operating System	CO21
5119 BCA	BCA305T	Operating System	CO22
5119 BCA	BCA305T	Operating System	CO36
5119 BCA	BCA305T	Operating System	CO37
5119 BCA	BCA305T	Operating System	CO38
5119 BCA	BCA305T	Operating System	CO39
5119 BCA	BCA305T	Operating System	CO40
5119 BCA	BCA305T	Operating System	CO41
5119 BCA	BCA305T	Operating System	CO42
5119 BCA	BCA305T	Operating System	CO43
5119 BCA	BCA305T	Operating System	CO44
5119 BCA	BCA305T	Operating System	CO45
5119 BCA	BCA305T	Operating System	CO46
5119 BCA	BCA305T	Operating System	CO47
5119 BCA	BCA305T	Operating System	CO48
5119 BCA	BCA305T	Operating System	CO49

5119 BCA	BCA305T	Operating System	C050
5119 BCA	BCA305T	Operating System	C051
5119 BCA	BCA305T	Operating System	C052
5119 BCA	BCA305T	Operating System	C053
5119 BCA	BCA305T	Operating System	C054
5119 BCA	BCA305T	Operating System	C011
5119 BCA	BCA305T	Operating System	C010
5119 BCA	BCA305T	Operating System	C06
5119 BCA	BCA305T	Operating System	C07
5119 BCA	BCA305T	Operating System	C08
5119 BCA	BCA305T	Operating System	C09
5119 BCA	BCA305T	Operating System	C04
5119 BCA	BCA305T	Operating System	C05
5119 BCA	BCA305T	Operating System	C01
5119 BCA	BCA305T	Operating System	C02
5119 BCA	BCA305T	Operating System	C03
5119 BCA	BCA305T	Operating System	C067
5119 BCA	BCA305T	Operating System	C068
5119 BCA	BCA305T	Operating System	C069
5119 BCA	BCA305T	Operating System	C070
5119 BCA	BCA305T	Operating System	C071
5119 BCA	BCA305T	Operating System	C072
5119 BCA	BCA305T	Operating System	C073
5119 BCA	BCA303P	C++ Lab	C01

5119 BCA	BCA303P	C++ Lab	CO2
5119 BCA	BCA303P	C++ Lab	CO3
5119 BCA	BCA303P	C++ Lab	CO4
5119 BCA	BCA303P	C++ Lab	CO5
5119 BCA	BCA303P	C++ Lab	CO6
5119 BCA	BCA303P	C++ Lab	CO7
5119 BCA	BCA303P	C++ Lab	CO8
5119 BCA	BCA303P	C++ Lab	CO9
5119 BCA	BCA303P	C++ Lab	CO10
5119 BCA	BCA403T	Visual Programing	CO1
5119 BCA	BCA403T	Visual Programing	CO2
5119 BCA	BCA403T	Visual Programing	CO3
5119 BCA	BCA403T	Visual Programing	CO4
5119 BCA	BCA403T	Visual Programing	CO5

5119 BCA	BCA403T	Visual Programing	CO6
5119 BCA	BCA403T	Visual Programing	CO7
5119 BCA	BCA403T	Visual Programing	CO8
5119 BCA	BCA403T	Visual Programing	CO9
5119 BCA	BCA403T	Visual Programing	CO10
5119 BCA	BCA403T	Visual Programing	CO11
5119 BCA	BCA403T	Visual Programing	CO12
5119 BCA	BCA403T	Visual Programing	CO13
5119 BCA	BCA403T	Visual Programing	CO14
5119 BCA	BCA403T	Visual Programing	CO15
5119 BCA	BCA403T	Visual Programing	CO16
5119 BCA	BCA403T	Visual Programing	CO17
5119 BCA	BCA403T	Visual Programing	CO18
5119 BCA	BCA403T	Visual Programing	CO19
5119 BCA	BCA403T	Visual Programing	CO20
5119 BCA	BCA403T	Visual Programing	CO21
5119 BCA	BCA403T	Visual Programing	CO22

5119 BCA	BCA403T	Visual Programing	CO23
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5119 BCA	BCA403T	Visual Programing	CO25
5119 BCA	BCA403T	Visual Programing	CO26
5119 BCA	BCA403T	Visual Programing	CO27
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5119 BCA	BCA403T	Visual Programing	CO29
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5119 BCA	BCA403T	Visual Programing	CO31
5119 BCA	BCA403T	Visual Programing	CO32
5119 BCA	BCA403T	Visual Programing	CO33
5119 BCA	BCA403T	Visual Programing	CO34
5119 BCA	BCA403T	Visual Programing	CO35
5119 BCA	BCA404T	Unix Shell programming	CO1
5119 BCA	BCA404T	Unix Shell programming	CO2
5119 BCA	BCA404T	Unix Shell programming	CO3
5119 BCA	BCA404T	Unix Shell programming	CO4

5119 BCA	BCA404T	Unix Shell programming	CO5
5119 BCA	BCA404T	Unix Shell programming	CO6
5119 BCA	BCA404T	Unix Shell programming	CO7
5119 BCA	BCA404T	Unix Shell programming	CO8
5119 BCA	BCA404T	Unix Shell programming	CO9
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5119 BCA	BCA404T	Unix Shell programming	CO11
5119 BCA	BCA404T	Unix Shell programming	CO12
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5119 BCA	BCA404T	Unix Shell programming	CO15
5119 BCA	BCA404T	Unix Shell programming	CO16
5119 BCA	BCA404T	Unix Shell programming	CO17
5119 BCA	BCA404T	Unix Shell programming	CO18
5119 BCA	BCA404T	Unix Shell programming	CO19
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5119 BCA	BCA404T	Unix Shell programming	CO26

5119 BCA	BCA404T	Unix Shell programming	CO27
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5119 BCA	BCA404T	Unix Shell programming	CO29
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5119 BCA	BCA404T	Unix Shell programming	CO32
5119 BCA	BCA404T	Unix Shell programming	CO33
5119 BCA	BCA404T	Unix Shell programming	CO34
5119 BCA	BCA404T	Unix Shell programming	CO35
5119 BCA	BCA405T	Operation Research	CO1
5119 BCA	BCA405T	Operation Research	CO2
5119 BCA	BCA405T	Operation Research	CO3
5119 BCA	BCA405T	Operation Research	CO4
5119 BCA	BCA405T	Operation Research	CO5
5119 BCA	BCA405T	Operation Research	CO6
5119 BCA	BCA405T	Operation Research	CO7
5119 BCA	BCA405T	Operation Research	CO8
5119 BCA	BCA405T	Operation Research	CO9
5119 BCA	BCA405T	Operation Research	CO10
5119 BCA	BCA405T	Operation Research	CO11
5119 BCA	BCA405T	Operation Research	CO12
5119 BCA	BCA405T	Operation Research	CO13

5119 BCA	BCA405T	Operation Research	CO14
5119 BCA	BCA405T	Operation Research	CO15
5119 BCA	BCA405T	Operation Research	CO16
5119 BCA	BCA405T	Operation Research	CO17
5119 BCA	BCA405T	Operation Research	CO18
5119 BCA	BCA405T	Operation Research	CO19
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5119 BCA	BCA405T	Operation Research	CO22
5119 BCA	BCA405T	Operation Research	CO23
5119 BCA	BCA405T	Operation Research	CO24
5119 BCA	BCA405T	Operation Research	CO25
5119 BCA	BCA404T	UNIX Lab	CO1
5119 BCA	BCA404T	UNIX Lab	CO2
5119 BCA	BCA601T	Theory of Computation	CO6
5119 BCA	BCA601T	Theory of Computation	CO5
5119 BCA	BCA601T	Theory of Computation	CO4
5119 BCA	BCA601T	Theory of Computation	CO3
5119 BCA	BCA601T	Theory of Computation	CO1
5119 BCA	BCA601T	Theory of Computation	CO2
5119 BCA	BCA601T	Theory of Computation	CO7
5119 BCA	BCA601T	Theory of Computation	CO8
5119 BCA	BCA601T	Theory of Computation	CO9

5119 BCA	BCA601T	Theory of Computation	CO10
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5119 BCA	BCA601T	Theory of Computation	CO12
5119 BCA	BCA601T	Theory of Computation	CO13
5119 BCA	BCA601T	Theory of Computation	CO14
5119 BCA	BCA601T	Theory of Computation	CO15
5119 BCA	BCA601T	Theory of Computation	CO16
5119 BCA	BCA601T	Theory of Computation	CO17
5119 BCA	BCA601T	Theory of Computation	CO18
5119 BCA	BCA601T	Theory of Computation	CO19
5119 BCA	BCA601T	Theory of Computation	CO20
5119 BCA	BCA601T	Theory of Computation	CO21
5119 BCA	BCA601T	Theory of Computation	CO22
5119 BCA	BCA601T	Theory of Computation	CO23
5119 BCA	BCA601T	Theory of Computation	CO24
5119 BCA	BCA601T	Theory of Computation	CO25
5119 BCA	BCA601T	Theory of Computation	CO26
5119 BCA	BCA601T	Theory of Computation	CO27
5119 BCA	BCA601T	Theory of Computation	CO28
5119 BCA	BCA601T	Theory of Computation	CO29
5119 BCA	BCA601T	Theory of Computation	CO30
5119 BCA	BCA601T	Theory of Computation	CO32
5119 BCA	BCA601T	Theory of Computation	CO31
5119 BCA	BCA602T	System Programming	CO53

5119 BCA	BCA602T	System Programming	CO51
5119 BCA	BCA602T	System Programming	CO52
5119 BCA	BCA602T	System Programming	CO50
5119 BCA	BCA602T	System Programming	CO49
5119 BCA	BCA602T	System Programming	CO48
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5119 BCA	BCA602T	System Programming	CO45
5119 BCA	BCA602T	System Programming	CO43
5119 BCA	BCA602T	System Programming	CO44
5119 BCA	BCA602T	System Programming	CO42
5119 BCA	BCA602T	System Programming	CO41
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5119 BCA	BCA602T	System Programming	CO37
5119 BCA	BCA602T	System Programming	CO36
5119 BCA	BCA602T	System Programming	CO1
5119 BCA	BCA602T	System Programming	CO2
5119 BCA	BCA602T	System Programming	CO3

5119 BCA	BCA602T	System Programming	CO4
5119 BCA	BCA602T	System Programming	CO5
5119 BCA	BCA602T	System Programming	CO6
5119 BCA	BCA602T	System Programming	CO7
5119 BCA	BCA602T	System Programming	CO8
5119 BCA	BCA602T	System Programming	CO9
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5119 BCA	BCA602T	System Programming	CO11
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5119 BCA	BCA602T	System Programming	CO18
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5119 BCA	BCA602T	System Programming	CO34
5119 BCA	BCA602T	System Programming	CO35
5119 BCA	BCA603T	Cryptography and Network Security	CO1
5119 BCA	BCA603T	Cryptography and Network Security	CO2
5119 BCA	BCA603T	Cryptography and Network Security	CO3
5119 BCA	BCA603T	Cryptography and Network Security	CO4
5119 BCA	BCA603T	Cryptography and Network Security	CO5
5119 BCA	BCA603T	Cryptography and Network Security	CO6
5119 BCA	BCA603T	Cryptography and Network Security	CO7
5119 BCA	BCA603T	Cryptography and Network Security	CO10
5119 BCA	BCA603T	Cryptography and Network Security	CO11
5119 BCA	BCA603T	Cryptography and Network Security	CO12
5119 BCA	BCA603T	Cryptography and Network Security	CO13
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5119 BCA	BCA603T	Cryptography and Network Security	CO15
5119 BCA	BCA603T	Cryptography and Network Security	CO16
5119 BCA	BCA603T	Cryptography and Network Security	CO8
5119 BCA	BCA603T	Cryptography and Network Security	CO9
5119 BCA	BCA603T	Cryptography and Network Security	CO17
5119 BCA	BCA603T	Cryptography and Network Security	CO18
5119 BCA	BCA603T	Cryptography and Network Security	CO19

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5119 BCA	BCA603T	Cryptography and Network Security	CO31
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5119 BCA	BCA603T	Cryptography and Network Security	CO26
5119 BCA	BCA603T	Cryptography and Network Security	CO34
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5119 BCA	BCA603T	Cryptography and Network Security	CO41

5119 BCA	BCA603T	Cryptography and Network Security	CO42
5119 BCA	BCA603T	Cryptography and Network Security	CO36
5119 BCA	BCA603T	Cryptography and Network Security	CO43
5119 BCA	BCA603T	Cryptography and Network Security	CO44
5119 BCA	BCA603T	Cryptography and Network Security	CO45
5119 BCA	BCA603T	Cryptography and Network Security	CO46
5119 BCA	BCA603T	Cryptography and Network Security	CO47
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5119 BCA	BCA603T	Cryptography and Network Security	CO49
5119 BCA	BCA603T	Cryptography and Network Security	CO52
5119 BCA	BCA603T	Cryptography and Network Security	CO50
5119 BCA	BCA603T	Cryptography and Network Security	CO51
5119 BCA	BCA604T	Web Programming	CO56
5119 BCA	BCA604T	Web Programming	CO57
5119 BCA	BCA604T	Web Programming	CO58
5119 BCA	BCA604T	Web Programming	CO49
5119 BCA	BCA604T	Web Programming	CO50
5119 BCA	BCA604T	Web Programming	CO51
5119 BCA	BCA604T	Web Programming	CO52
5119 BCA	BCA604T	Web Programming	CO53
5119 BCA	BCA604T	Web Programming	CO54
5119 BCA	BCA604T	Web Programming	CO55
5119 BCA	BCA604T	Web Programming	CO11
5119 BCA	BCA604T	Web Programming	CO10

5119 BCA	BCA604T	Web Programming	CO12
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5119 BCA	BCA604T	Web Programming	CO15
5119 BCA	BCA604T	Web Programming	CO16
5119 BCA	BCA604T	Web Programming	CO17
5119 BCA	BCA604T	Web Programming	CO18
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5119 BCA	BCA604T	Web Programming	CO33
5119 BCA	BCA604T	Web Programming	CO34
5119 BCA	BCA604T	Web Programming	CO26
5119 BCA	BCA604T	Web Programming	CO27
5119 BCA	BCA604T	Web Programming	CO35

5119 BCA	BCA604T	Web Programming	CO36
5119 BCA	BCA604T	Web Programming	CO36
5119 BCA	BCA604T	Web Programming	CO38
5119 BCA	BCA604T	Web Programming	CO39
5119 BCA	BCA604T	Web Programming	CO40
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5119 BCA	BCA604T	Web Programming	CO44
5119 BCA	BCA604T	Web Programming	CO45
5119 BCA	BCA604T	Web Programming	CO46
5119 BCA	BCA604T	Web Programming	CO47
5119 BCA	BCA604T	Web Programming	CO48
5119 BCA	BCA604T	Web Programming	CO1
5119 BCA	BCA604T	Web Programming	CO2
5119 BCA	BCA604T	Web Programming	CO3
5119 BCA	BCA604T	Web Programming	CO4
5119 BCA	BCA604T	Web Programming	CO5
5119 BCA	BCA604T	Web Programming	CO6
5119 BCA	BCA604T	Web Programming	CO7
5119 BCA	BCA604T	Web Programming	CO8
5119 BCA	BCA604T	Web Programming	CO9
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO1
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO2
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO3

5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO4
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO5
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO6
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO7
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO8
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO9
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO10
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO11
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO12
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO13
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO14
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO15
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO16
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO17
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO18
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO19
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO20
5123 B.Sc.-FAD	FAD 103A	Fiber and Yarn Science	CO21
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO13
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO14
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO15
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO11

5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO9
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO7
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO10
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO8
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO12
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO16
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO4
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO2
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO3
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO5
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO6
5123 B.Sc.-FAD	FAD 104A	Elements of Fashion and Design	CO1
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO1
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO2
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO5
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO4
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO3
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO15
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO16
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO14
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO13
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO6
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO7
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO8
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO9

5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO10
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO12
5123 B.Sc.-FAD	FAD 105A	Pattern Making and Garment Construction I	CO11
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO1
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO2
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO3
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO4
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO5
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO6
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO7
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO8
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO9
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO10
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO11
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO12
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO13
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO14
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO15
5123 B.Sc.-FAD	FAD 203A	Fabric Science and Analysis	CO16
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO1
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO2
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO3
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO4
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO5

5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO6
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO7
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO8
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO9
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO10
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO11
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO12
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO13
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO14
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO15
5123 B.Sc.-FAD	FAD 204A	Fashion Illustration and Design	CO16
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO1
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO3
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO4
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO2
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO5
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO6
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO7
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO8
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO9
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO10
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO11
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO12
5123 B.Sc.-FAD	FAD 205A	Pattern Making and Garment Construction II	CO13
5123 B.Sc.-FAD	FAD 502 A	Apparel Computer Aided Design I	CO1
5123 B.Sc.-FAD	FAD 502 A	Apparel Computer Aided Design I	CO2
5125 MCA	MCA101T	Problem Solving Techniques using C	CO101

5125 MCA	MCA101T	Problem Solving Techniques using C	CO102
5125 MCA	MCA101T	Problem Solving Techniques using C	CO104
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5125 MCA	MCA503T	Artificial Intelligence	CO1
5125 MCA	MCA503T	Artificial Intelligence	CO2
5125 MCA	MCA503T	Artificial Intelligence	CO3
5125 MCA	MCA503T	Artificial Intelligence	CO5
5125 MCA	MCA503T	Artificial Intelligence	CO5
5125 MCA	MCA503T	Artificial Intelligence	CO9
5125 MCA	MCA503T	Artificial Intelligence	CO8
5125 MCA	MCA503T	Artificial Intelligence	CO6
5125 MCA	MCA503T	Artificial Intelligence	CO7
5125 MCA	MCA503T	Artificial Intelligence	CO11

5125 MCA	MCA503T	Artificial Intelligence	CO12
5125 MCA	MCA503T	Artificial Intelligence	CO10
5125 MCA	MCA503T	Artificial Intelligence	CO14
5125 MCA	MCA503T	Artificial Intelligence	CO13
5125 MCA	MCA503T	Artificial Intelligence	CO15
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5125 MCA	MCA503T	Artificial Intelligence	CO22
5125 MCA	MCA503T	Artificial Intelligence	CO21
5125 MCA	MCA503T	Artificial Intelligence	CO20
5125 MCA	MCA503T	Artificial Intelligence	CO23
5125 MCA	MCA503T	Artificial Intelligence	CO25
5125 MCA	MCA503T	Artificial Intelligence	CO24
5125 MCA	MCA503T	Artificial Intelligence	CO26
5125 MCA	MCA503T	Artificial Intelligence	CO27
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5125 MCA	MCA503T	Artificial Intelligence	CO32
5125 MCA	MCA503T	Artificial Intelligence	CO30
5125 MCA	MCA503T	Artificial Intelligence	CO29
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5125 MCA	MCA503T	Artificial Intelligence	CO34
5125 MCA	MCA503T	Artificial Intelligence	CO36
5125 MCA	MCA503T	Artificial Intelligence	CO35
5125 MCA	MCA503T	Artificial Intelligence	CO37
5125 MCA	MCA503T	Artificial Intelligence	CO38
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5126 M.Sc.-STATISTICS	STA 101	Sampling Theory-I	CO5
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5126 M.Sc.-STATISTICS	STA 201	Statistical Inference-I	CO2
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5126 M.Sc.-STATISTICS	STA 201	Statistical Inference-I	CO1

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5126 M.Sc.-STATISTICS	STA 202	Probability Theory-II	CO2
5126 M.Sc.-STATISTICS	STA 202	Probability Theory-II	CO3
5126 M.Sc.-STATISTICS	STA 202	Probability Theory-II	CO5
5126 M.Sc.-STATISTICS	STA 202	Probability Theory-II	CO4
5126 M.Sc.-STATISTICS	STA 203	Distribution Theory-II	CO1
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5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO13
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO14
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO15
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO16
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO17
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO18
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO3
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO4
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO5

5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO6
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO7
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO8
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO9
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO1
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO2
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO19
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5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO22
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5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO26
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO20
5127 M.Sc.-PHYSICS	P101	Classical Mechanics	CO28
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5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO21
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO22
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO23
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO24
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5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO26
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO27
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO28
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO29
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5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO32
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO33
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO34
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO35
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5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO4
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO5
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO6
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO7
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO8
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO9
5127 M.Sc.-PHYSICS	P102	Electronic Circuits and Devices	CO1
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5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO21
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO22
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO23
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO24
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO25
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO26

5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO27
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO28
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO29
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO30
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO31
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO32
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO33
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO34
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO35
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO36
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO37
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO11
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO12
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO13
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO14
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO15
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO16
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO17
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO18
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO19
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO1

5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO3
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO4
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO5
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO6
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO7
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO2
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO10
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO8
5127 M.Sc.-PHYSICS	P103	Quantum Mechanics I	CO9
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5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO13
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO14
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO15
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO16
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO17
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO18
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO8
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO9
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO10
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO4
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO5

5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO6
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO7
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO1
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5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics and C-programming	CO3
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5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO10
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO11
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO12
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO14
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO15
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO1
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO5
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO6
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO7
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO8
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO2
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO3
5127 M.Sc.-PHYSICS	P105	Soft Core: Atmospheric and Astro Physics	CO4
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5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO13
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO14
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO15

5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO16
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO17
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO18
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO19
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO20
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO1
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO2
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO3
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO4
5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO5
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5127 M.Sc.-PHYSICS	P201	Statistical Mechanics	CO9
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5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO7
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO8
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO9
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO10
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO11

5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO12
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO13
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO14
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO15
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO16
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO17
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5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO19
5127 M.Sc.-PHYSICS	P202	Electrodynamics	CO20
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO1
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO2
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO3
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO4
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO5
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO6
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO7
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO8
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO9
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO11
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO12
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO13
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO10
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO14

5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO15
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO16
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO17
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO18
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO19
5127 M.Sc.-PHYSICS	P203	Quantum Mechanics-II	CO20
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5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO2
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO3
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO4
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO5
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO6
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO7
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO8
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO9
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5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO11
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5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO14
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO15
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO16

5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO17
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO18
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO19
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO20
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO21
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO22
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO23
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO24
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO25
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO26
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO27
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO28
5127	M.Sc.-PHYSICS	P204	Mathematical Methods of Physics and Numerical Techniques	CO29
5127	M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO1
5127	M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO2
5127	M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO3
5127	M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO4
5127	M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO5
5127	M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO6

5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO7
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO8
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO9
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO10
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO11
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO12
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO13
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO14
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO15
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO16
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO17
5127 M.Sc.-PHYSICS	P105	Soft Core Experimental Techniques in Physics	CO18
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO1
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO2
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO3
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO4
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO5
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO6
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO7

5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO8
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO9
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO10
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO11
5127 M.Sc.-PHYSICS	P205	Soft Core Elementary Biophysics	CO12
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO3
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO4
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO5
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO6
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO7
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO8
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO9
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO10
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO17
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO18
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO19
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO15
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO16
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO14
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO11
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO12
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO13
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO1
5127 M.Sc.-PHYSICS	P204	Mathematical Methods of Physics-II	CO2
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO1

5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO2
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO3
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO4
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO5
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO6
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO7
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO8
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO9
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO10
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO11
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO12
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO13
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO14
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO15
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO16
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO17
5127 M.Sc.-PHYSICS	P104	Mathematical Methods of Physics- I	CO18
5128 M.Sc.-MATHEMATICS	M101T	Algebra-I	CO1

5128 M.Sc.-MATHEMATICS	M101T	Algebra-I	CO2
5128 M.Sc.-MATHEMATICS	M101T	Algebra-I	CO3
5128 M.Sc.-MATHEMATICS	M101T	Algebra-I	CO4
5128 M.Sc.-MATHEMATICS	M101T	Algebra-I	CO5
5128 M.Sc.-MATHEMATICS	M102T	Real Analysis	CO1
5128 M.Sc.-MATHEMATICS	M102T	Real Analysis	CO2
5128 M.Sc.-MATHEMATICS	M102T	Real Analysis	CO3
5128 M.Sc.-MATHEMATICS	M102T	Real Analysis	CO4
5128 M.Sc.-MATHEMATICS	M102T	Real Analysis	CO5
5128 M.Sc.-MATHEMATICS	M102T	Real Analysis	CO6
5128 M.Sc.-MATHEMATICS	M103T	Topology-I	CO1
5128 M.Sc.-MATHEMATICS	M103T	Topology-I	CO2
5128 M.Sc.-MATHEMATICS	M103T	Topology-I	CO3
5128 M.Sc.-MATHEMATICS	M103T	Topology-I	CO4
5128 M.Sc.-MATHEMATICS	M103T	Topology-I	CO5
5128 M.Sc.-MATHEMATICS	M103T	Topology-I	CO6
5128 M.Sc.-MATHEMATICS	M104T	Ordinary Differential Equations	CO1
5128 M.Sc.-MATHEMATICS	M104T	Ordinary Differential Equations	CO2
5128 M.Sc.-MATHEMATICS	M104T	Ordinary Differential Equations	CO3
5128 M.Sc.-MATHEMATICS	M104T	Ordinary Differential Equations	CO4
5128 M.Sc.-MATHEMATICS	M104T	Ordinary Differential Equations	CO5
5128 M.Sc.-MATHEMATICS	M104T	Ordinary Differential Equations	CO6
5128 M.Sc.-MATHEMATICS	M105T	Discrete Mathematics	CO1
5128 M.Sc.-MATHEMATICS	M105T	Discrete Mathematics	CO2
5128 M.Sc.-MATHEMATICS	M105T	Discrete Mathematics	CO3
5128 M.Sc.-MATHEMATICS	M105T	Discrete Mathematics	CO4
5128 M.Sc.-MATHEMATICS	M105T	Discrete Mathematics	CO5
5128 M.Sc.-MATHEMATICS	M105T	Discrete Mathematics	CO6
5128 M.Sc.-MATHEMATICS	M105T	Discrete Mathematics	CO7
5128 M.Sc.-MATHEMATICS	M106P	Maxima Practicals based on paper M105T	CO1
5128 M.Sc.-MATHEMATICS	M106P	Maxima Practicals based on paper M105T	CO2
5128 M.Sc.-MATHEMATICS	M106P	Maxima Practicals based on paper M105T	CO3

5128 M.Sc.-MATHEMATICS	M106P	Maxima Practicals based on paper M105T	CO4
5128 M.Sc.-MATHEMATICS	M106P	Maxima Practicals based on paper M105T	CO5
5128 M.Sc.-MATHEMATICS	M106P	Maxima Practicals based on paper M105T	CO6
5128 M.Sc.-MATHEMATICS	M107SC	Mathematical Analysis	CO1
5128 M.Sc.-MATHEMATICS	M107SC	Mathematical Analysis	CO2
5128 M.Sc.-MATHEMATICS	M107SC	Mathematical Analysis	CO3
5128 M.Sc.-MATHEMATICS	M107SC	Mathematical Analysis	CO4
5128 M.Sc.-MATHEMATICS	M107SC	Mathematical Analysis	CO5
5128 M.Sc.-MATHEMATICS	M107SC	Mathematical Analysis	CO6
5128 M.Sc.-MATHEMATICS	M201T	Algebra-II	CO1
5128 M.Sc.-MATHEMATICS	M201T	Algebra-II	CO2
5128 M.Sc.-MATHEMATICS	M201T	Algebra-II	CO3
5128 M.Sc.-MATHEMATICS	M201T	Algebra-II	CO4
5128 M.Sc.-MATHEMATICS	M201T	Algebra-II	CO5
5128 M.Sc.-MATHEMATICS	M201T	Algebra-II	CO6
5128 M.Sc.-MATHEMATICS	M201T	Algebra-II	CO7
5128 M.Sc.-MATHEMATICS	M202T	Complex Analysis	CO1
5128 M.Sc.-MATHEMATICS	M202T	Complex Analysis	CO2
5128 M.Sc.-MATHEMATICS	M202T	Complex Analysis	CO3
5128 M.Sc.-MATHEMATICS	M202T	Complex Analysis	CO4
5128 M.Sc.-MATHEMATICS	M202T	Complex Analysis	CO5
5128 M.Sc.-MATHEMATICS	M202T	Complex Analysis	CO6
5128 M.Sc.-MATHEMATICS	M203T	Topology-II	CO1
5128 M.Sc.-MATHEMATICS	M203T	Topology-II	CO2
5128 M.Sc.-MATHEMATICS	M203T	Topology-II	CO3
5128 M.Sc.-MATHEMATICS	M203T	Topology-II	CO4
5128 M.Sc.-MATHEMATICS	M203T	Topology-II	CO5
5128 M.Sc.-MATHEMATICS	M203T	Topology-II	CO6
5128 M.Sc.-MATHEMATICS	M204T	Partial Differential Equations	CO1
5128 M.Sc.-MATHEMATICS	M204T	Partial Differential Equations	CO2
5128 M.Sc.-MATHEMATICS	M204T	Partial Differential Equations	CO3
5128 M.Sc.-MATHEMATICS	M204T	Partial Differential Equations	CO4

5128	M.Sc.-MATHEMATICS	M204T	Partial Differential Equations	CO5
5128	M.Sc.-MATHEMATICS	M204T	Partial Differential Equations	CO6
5128	M.Sc.-MATHEMATICS	M204T	Partial Differential Equations	CO7
5128	M.Sc.-MATHEMATICS	M205T	Numerical Analysis-I	CO1
5128	M.Sc.-MATHEMATICS	M205T	Numerical Analysis-I	CO2
5128	M.Sc.-MATHEMATICS	M205T	Numerical Analysis-I	CO3
5128	M.Sc.-MATHEMATICS	M205T	Numerical Analysis-I	CO4
5128	M.Sc.-MATHEMATICS	M205T	Numerical Analysis-I	CO5
5128	M.Sc.-MATHEMATICS	M205T	Numerical Analysis-I	CO6
5128	M.Sc.-MATHEMATICS	M206P	Scilab Practicals based on paper M205T	CO1
5128	M.Sc.-MATHEMATICS	M206P	Scilab Practicals based on paper M205T	CO2
5128	M.Sc.-MATHEMATICS	M206P	Scilab Practicals based on paper M205T	CO3
5128	M.Sc.-MATHEMATICS	M206P	Scilab Practicals based on paper M205T	CO4
5128	M.Sc.-MATHEMATICS	M206P	Scilab Practicals based on paper M205T	CO5
5128	M.Sc.-MATHEMATICS	M206P	Scilab Practicals based on paper M205T	CO6
5128	M.Sc.-MATHEMATICS	M207SC	Elementary Number Theory	CO3
5128	M.Sc.-MATHEMATICS	M207SC	Elementary Number Theory	CO4
5128	M.Sc.-MATHEMATICS	M207SC	Elementary Number Theory	CO5
5128	M.Sc.-MATHEMATICS	M207SC	Elementary Number Theory	CO6
5128	M.Sc.-MATHEMATICS	M207SC	Elementary Number Theory	CO1
5128	M.Sc.-MATHEMATICS	M207SC	Elementary Number Theory	CO2
5129	M.Sc.-ELECTRONICS SCIENCE	ELC 101	Physics of Semiconductor Devices	CO19
5129	M.Sc.-ELECTRONICS SCIENCE	ELC 101	Physics of Semiconductor Devices	CO20
5129	M.Sc.-ELECTRONICS SCIENCE	ELC 101	Physics of Semiconductor Devices	CO1
5129	M.Sc.-ELECTRONICS SCIENCE	ELC 101	Physics of Semiconductor Devices	CO2

5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO3
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO4
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO5
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO6
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO7
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO8
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO9
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO10
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO11
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO12
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO13
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO14
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO15
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO16
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO17
5129	M.Sc.-ELECTRONICS	ELC 101	Physics of Semiconductor Devices	CO18
5129	M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO9
5129	M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO8
5129	M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO3
5129	M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO4
5129	M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO5
5129	M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO6
5129	M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO7

5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO1
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO2
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO10
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO11
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO12
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO13
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO14
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO15
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO16
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO17
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO18
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO19
5129 M.Sc.-ELECTRONICS	ELC 102	Network Analysis and Synthesis	CO20
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO1
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO2
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO3
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO4
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO5
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO6
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO7
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO8
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO9
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO10
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO11
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO12
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO13
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO14
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO15

5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO16
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO17
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO18
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO19
5129 M.Sc.-ELECTRONICS	ELC 103	Power Electronics	CO20
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO1
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO2
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO3
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO4
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO5
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO6
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO7
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO8
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO9
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO10
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO11
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO12
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO13
5129 M.Sc.-ELECTRONICS	ELC 104	Programming in C++	CO14
5129 M.Sc.-ELECTRONICS	ELC 104P	C++ Programming Lab	CO1
5129 M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO2
5129 M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO3
5129 M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO4
5129 M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO5
5129 M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO6
5129 M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO7

5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO8
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO9
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO10
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO11
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO12
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO13
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO14
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO15
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO16
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO17
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO18
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO19
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO20
5129	M.Sc.-ELECTRONICS	ELS 107	Signals and Systems	CO21
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO8
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO9
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO10
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO11
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO12
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO13
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO1
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO2

5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO3
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO4
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO5
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO6
5129	M.Sc.-ELECTRONICS	ELC 201	Advanced Microprocessors & Assembly Language Programming	CO7
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO1
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO2
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO3
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO4
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO5
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO6
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO7
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO8
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO9
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO10
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO11
5129	M.Sc.-ELECTRONICS	ELC 202	Microwave Devices and Circuits	CO12
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO1
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO2
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO3
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO4
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO5
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO6
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO7
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO8
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO9
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO10
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO11

5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO12
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO13
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO14
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO15
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO16
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO17
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO18
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO19
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO20
5129	M.Sc.-ELECTRONICS	ELC 203	Digital Electronics and VHDL	CO21
5129	M.Sc.-ELECTRONICS	ELC 205P	Assembly Language Programming(8086) and Interfacing with PIC Microcontroller Lab	CO1
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO1
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO2
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO3
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO4
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO5
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO6
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO7
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO8
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO9
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO10
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO11
5129	M.Sc.-ELECTRONICS	ELS 207	VLSI Technology	CO12

5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO1
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO2
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO3
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO4
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO5
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO6
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO7
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO8
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO9
5129	M.Sc.-ELECTRONICS	ELC 301	Digital Signal Processing	CO10
5129	M.Sc.-ELECTRONICS	ELC 302	Advanced Communication System	CO1
5129	M.Sc.-ELECTRONICS	ELC 306B-P	Microwave and Communication Simulation Lab	CO1
5132	M.Sc.-COMPUTER	MSC102T	Advanced Database Management Systems	CO1
5132	M.Sc.-COMPUTER	MSC102T	Advanced Database Management Systems	CO2
5132	M.Sc.-COMPUTER	MSC102T	Advanced Database Management Systems	CO3
5132	M.Sc.-COMPUTER	MSC102T	Advanced Database Management Systems	CO4
5132	M.Sc.-COMPUTER	MSC102T	Advanced Database Management Systems	CO5
5132	M.Sc.-COMPUTER	MSC102T	Advanced Database Management Systems	CO6

5132	M.Sc.-COMPUTERSCIENCE	MSC102T	Advanced Database Management Systems	CO7
5132	M.Sc.-COMPUTERSCIENCE	MSC102T	Advanced Database Management Systems	CO8
5132	M.Sc.-COMPUTERSCIENCE	MSC102T	Advanced Database Management Systems	CO9
5132	M.Sc.-COMPUTERSCIENCE	MSC102T	Advanced Database Management Systems	CO10
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO9
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO10
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO11
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO12
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO13
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO14
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO15
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO16
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO17
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO18
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO19
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO20
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO21
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO22
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO23
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO24
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO25
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO26
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO27
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO28
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO29

5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO30
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO31
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO32
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO33
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO34
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO35
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO36
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO37
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO38
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO39
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO40
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO41
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO42
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO43
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO44
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO45
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO46
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO7
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO8
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO5
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO4
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO6
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO3
5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO1

5132	M.Sc.-COMPUTERSCIENCE	MSC103T	Theory of Computation	CO2
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO1
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO2
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO3
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO4
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO5
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO6
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO7
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO8
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO9
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO10
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO11
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO12
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO13
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO14
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO15
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO16
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5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO18
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5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO20
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO21

5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO22
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO23
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO24
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5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO31
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5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO33
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5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO36
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5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO38
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO39
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO40
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO41
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5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO43
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO44
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO45
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO46

5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO47
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO48
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO49
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO50
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO51
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO52
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO53
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO54
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO55
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO56
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO57
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO58
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO59
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO60
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO61
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO62
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO69
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO70
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO71
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO64
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO63
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO65
5132 M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO66

5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO68
5132	M.Sc.-COMPUTERSCIENCE	MSC104T	Advanced Architecture	CO67
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO66
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO67
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO68
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO2
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO21
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO22
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO3
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO1
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO4
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO5
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO6
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO7
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO8
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO9
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO10
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO11
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO12
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO13

5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO14
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO15
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO16
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO17
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO18
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO19
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO20
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO49
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO47
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO48
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO46
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO41
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO42
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO52
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO50
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO51
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO54
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO55
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO56

5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO57
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO58
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO53
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO61
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO59
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO60
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO62
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO63
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO65
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO64
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO43
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO44
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO45
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO39
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO40
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO38
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO37
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO36
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO35
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO34

5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO33
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO32
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO28
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO29
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO30
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO31
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO25
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO26
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO27
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO24
5132	M.Sc.-COMPUTERSCIENCE	MSC201T	Object Oriented Analysis and Design using UML	CO23
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO7
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO6
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO5
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO3
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO4
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO1
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO2
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO8
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO9
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO10
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO11
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO12
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO13
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO14
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO15
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO16

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5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO26
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO27
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5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO32
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO33
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO34
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5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO44
5132	M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO45

5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO46
5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO47
5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO48
5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO49
5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO50
5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO51
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5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO59
5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO60
5132 M.Sc.-COMPUTERSCIENCE	MSC202T	Advanced Java Programming	CO61
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO1
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO2
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO3
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5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO6
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5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO8

5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO9
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5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO28

5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO29
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO30
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO31
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO32
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO33
5132 M.Sc.-COMPUTERSCIENCE	MSC203T	Artificial Intelligence	CO34
5132 M.Sc.-COMPUTERSCIENCE	MSC301T	Advanced WEB Programming	CO5
5132 M.Sc.-COMPUTERSCIENCE	MSC301T	Advanced WEB Programming	CO4
5132 M.Sc.-COMPUTERSCIENCE	MSC301T	Advanced WEB Programming	CO1
5132 M.Sc.-COMPUTERSCIENCE	MSC301T	Advanced WEB Programming	CO3
5132 M.Sc.-COMPUTERSCIENCE	MSC301T	Advanced WEB Programming	CO2
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO1
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO2
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO3
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO4
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO5
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO6
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO7
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5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO9
5132 M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO10

5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO11
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5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO17
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO18
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO19
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO20
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO21
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO22
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO23
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO24
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO25
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO26
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO27
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO28
5132	M.Sc.-COMPUTERSCIENCE	MSC302T	Advanced Algorithms	CO29
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO3
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO2
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO8
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO9

5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO7
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO4
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO5
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO6
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO1
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO28
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO24
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO25
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO26
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO27
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO23
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO22
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO21
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO20
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO19
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO18
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO15
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO16
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO17
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO14
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO10
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO11

5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO12
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO13
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO39
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO38
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO35
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO36
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO37
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO32
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO33
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO34
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO30
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO31
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO29
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO45
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO44
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO43
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO42
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO40
5132	M.Sc.-COMPUTERSCIENCE	MSC303T	Cryptography and Network Security	CO41
5135	M.Sc.-MICROBIOLOGY	MBH 101	Bacteriology and Virology	CO1

5135 M.Sc.-MICROBIOLOGY	MBH 101	Bacteriology and Virology	CO2
5135 M.Sc.-MICROBIOLOGY	MBH 101	Bacteriology and Virology	CO3
5135 M.Sc.-MICROBIOLOGY	MBH 102	Eukaryotic Microbiology	CO1
5135 M.Sc.-MICROBIOLOGY	MBH 102	Eukaryotic Microbiology	CO2
5135 M.Sc.-MICROBIOLOGY	MBH 102	Eukaryotic Microbiology	CO3
5135 M.Sc.-MICROBIOLOGY	MBH 102	Microbial Physiology and Biochemistry	CO1
5135 M.Sc.-MICROBIOLOGY	MBH 102	Microbial Physiology and Biochemistry	CO2
5135 M.Sc.-MICROBIOLOGY	MBH 104	Microbial and Biochemical Techniques	CO5

5135 M.Sc.-MICROBIOLOGY	MBH 104	Microbial and Biochemical Techniques	CO4
5135 M.Sc.-MICROBIOLOGY	MBH 104	Microbial and Biochemical Techniques	CO1
5135 M.Sc.-MICROBIOLOGY	MBH 104	Microbial and Biochemical Techniques	CO2
5135 M.Sc.-MICROBIOLOGY	MBH 104	Microbial and Biochemical Techniques	CO3
5135 M.Sc.-MICROBIOLOGY	MBH 202	Molecular Biology	CO2
5135 M.Sc.-MICROBIOLOGY	MBH 202	Molecular Biology	CO1
5135 M.Sc.-MICROBIOLOGY	MBH 202	Molecular Biology	CO3
5135 M.Sc.-MICROBIOLOGY	MBP 207	Environmental Microbiology & Food Microbiology	CO1
5135 M.Sc.-MICROBIOLOGY	MBH 301	Medical Microbiology	CO1

5135 M.Sc.-MICROBIOLOGY	MBH 301	Medical Microbiology	CO2
5135 M.Sc.-MICROBIOLOGY	MBH 301	Medical Microbiology	CO3
5135 M.Sc.-MICROBIOLOGY	MBH 302	Immunology	CO3
5135 M.Sc.-MICROBIOLOGY	MBH 302	Immunology	CO1
5135 M.Sc.-MICROBIOLOGY	MBH 302	Immunology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO10

5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO27

5138 M.Sc.-BIOTECHNOLOGY	BTH-101	Cell Biology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO26

5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO34
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH-102	Molecular Genetics	CO10

5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO19

5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO34
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO36
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO37
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO38
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO41

5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO42
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO39
5138 M.Sc.-BIOTECHNOLOGY	BTH-103	General Microbiology	CO40
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH-104	Biochemistry	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO1

5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH-105	Biostatistics	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO4

5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH-106	Cell Biology and Molecular Genetics	CO26

5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO5

5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 201	Enzymology and Biochemical techniques	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO7

5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO21

5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 202	Immunology and Immunotechnology	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO6

5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO25

5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO34
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH- 203	Molecular Biology	CO36
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO6

5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO22

5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 204	Environmental Biotechnology	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO15

5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 205	Bioinformatics	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO7

5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO26

5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO34
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO36
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO37
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO38
5138 M.Sc.-BIOTECHNOLOGY	BTH- 301	Plant and Agricultural Biotechnology	CO39
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO8

5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO19
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5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO25

5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO34
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO36
5138 M.Sc.-BIOTECHNOLOGY	BTH- 302	Animal Biotechnology	CO37
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO3

5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO24

5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO34
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO36
5138 M.Sc.-BIOTECHNOLOGY	BTH- 303	Genetic Engineering	CO37
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO3

5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO24

5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 304	Open Elective : Applied Biotechnology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 305	Plant, Agricultural and Animal Biotechnology	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 307	Industrial and Institutional Visit	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 307	Industrial and Institutional Visit	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 307	Industrial and Institutional Visit	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 307	Industrial and Institutional Visit	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 307	Industrial and Institutional Visit	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO10

5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO29

5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO34
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO36
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO37
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO38
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO39
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO40
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO41
5138 M.Sc.-BIOTECHNOLOGY	BTH- 401	Bioprocess Engineering	CO42
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO1

5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO11
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO19

5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO24
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5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO29
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO30
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO33
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO34

5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO35
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO36
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO37
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO38
5138 M.Sc.-BIOTECHNOLOGY	BTH- 402	Medical Biotechnology	CO39
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO1
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO2
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO3
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO4
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO5
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO6
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO7
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO8
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO9
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO10
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO11

5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO12
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO13
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO14
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO15
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO16
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO17
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO18
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO19
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO20
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO21
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO22
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO23
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO30

5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO31
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO32
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO24
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO25
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO26
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO27
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO28
5138 M.Sc.-BIOTECHNOLOGY	BTH- 403	Genomics and Proteomics	CO29
5141 M.Sc.-APPLIEDGENETICS	HCT101	CELL BIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT101	CELL BIOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT101	CELL BIOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT101	CELL BIOLOGY	CO5
5141 M.Sc.-APPLIEDGENETICS	HCT101	CELL BIOLOGY	CO1
5141 M.Sc.-APPLIEDGENETICS	HCT102	BASIC GENETICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCT102	BASIC GENETICS	CO2

5141 M.Sc.-APPLIEDGENETICS	HCT102	BASIC GENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT102	BASIC GENETICS	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT103	ESSENTIALS OF CYTOGENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT103	ESSENTIALS OF CYTOGENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT103	ESSENTIALS OF CYTOGENETICS	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT103	ESSENTIALS OF CYTOGENETICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCT104	BIOLOGICAL CHEMISRY	CO1
5141 M.Sc.-APPLIEDGENETICS	HCT104	BIOLOGICAL CHEMISRY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT104	BIOLOGICAL CHEMISRY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT104	BIOLOGICAL CHEMISRY	CO4
5141 M.Sc.-APPLIEDGENETICS	SCT105	CELLULAR PHYSIOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	SCT105	CELLULAR PHYSIOLOGY	CO6
5141 M.Sc.-APPLIEDGENETICS	SCT105	CELLULAR PHYSIOLOGY	CO5
5141 M.Sc.-APPLIEDGENETICS	SCT105	CELLULAR PHYSIOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	SCT105	CELLULAR PHYSIOLOGY	CO1
5141 M.Sc.-APPLIEDGENETICS	SCT105	CELLULAR PHYSIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP101	CELL BIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP101	CELL BIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP101	CELL BIOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP101	CELL BIOLOGY	CO4

5141 M.Sc.-APPLIEDGENETICS	HCP101	CELL BIOLOGY	CO5
5141 M.Sc.-APPLIEDGENETICS	HCP102	BASIC GENETICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP102	BASIC GENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP102	BASIC GENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP102	BASIC GENETICS	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP102	BASIC GENETICS	CO5
5141 M.Sc.-APPLIEDGENETICS	HCP102	BASIC GENETICS	CO6
5141 M.Sc.-APPLIEDGENETICS	HCP103	ESSENTIALS OF CYTOGENETICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP103	ESSENTIALS OF CYTOGENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP103	ESSENTIALS OF CYTOGENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP103	ESSENTIALS OF CYTOGENETICS	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP104	BIOLOGICAL CHEMISRY	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP104	BIOLOGICAL CHEMISRY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP104	BIOLOGICAL CHEMISRY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP104	BIOLOGICAL CHEMISRY	CO6
5141 M.Sc.-APPLIEDGENETICS	HCP104	BIOLOGICAL CHEMISRY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP104	BIOLOGICAL CHEMISRY	CO5
5141 M.Sc.-APPLIEDGENETICS	HCT201	MOLECULAR BIOLOGY	CO1

5141 M.Sc.-APPLIEDGENETICS	HCT201	MOLECULAR BIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT201	MOLECULAR BIOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT201	MOLECULAR BIOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT202	GENETICS OF DEVELOPMENT	CO1
5141 M.Sc.-APPLIEDGENETICS	HCT202	GENETICS OF DEVELOPMENT	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT202	GENETICS OF DEVELOPMENT	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT202	GENETICS OF DEVELOPMENT	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT203	MUTATION AND CANCER BIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT203	MUTATION AND CANCER BIOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT203	MUTATION AND CANCER BIOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT203	MUTATION AND CANCER BIOLOGY	CO5
5141 M.Sc.-APPLIEDGENETICS	HCT203	MUTATION AND CANCER BIOLOGY	CO6
5141 M.Sc.-APPLIEDGENETICS	HCT203	MUTATION AND CANCER BIOLOGY	CO1
5141 M.Sc.-APPLIEDGENETICS	HCT204	EVOLUTIONARY GENETICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCT204	EVOLUTIONARY GENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT204	EVOLUTIONARY GENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT204	EVOLUTIONARY GENETICS	CO4
5141 M.Sc.-APPLIEDGENETICS	SCT205	BIOINFORMATICS	CO2
5141 M.Sc.-APPLIEDGENETICS	SCT205	BIOINFORMATICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP201	MOLECULAR BIOLOGY	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP201	MOLECULAR BIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP201	MOLECULAR BIOLOGY	CO3

5141 M.Sc.-APPLIEDGENETICS	HCP201	MOLECULAR BIOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP201	MOLECULAR BIOLOGY	CO5
5141 M.Sc.-APPLIEDGENETICS	HCP201	MOLECULAR BIOLOGY	CO6
5141 M.Sc.-APPLIEDGENETICS	HCP202	GENETICS OF DEVELOPMENT	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP202	GENETICS OF DEVELOPMENT	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP202	GENETICS OF DEVELOPMENT	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP202	GENETICS OF DEVELOPMENT	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP202	GENETICS OF DEVELOPMENT	CO5
5141 M.Sc.-APPLIEDGENETICS	HCP203	MUTATION AND CANCER BIOLOGY	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP203	MUTATION AND CANCER BIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP203	MUTATION AND CANCER BIOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP203	MUTATION AND CANCER BIOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP203	MUTATION AND CANCER BIOLOGY	CO5
5141 M.Sc.-APPLIEDGENETICS	HCP203	MUTATION AND CANCER BIOLOGY	CO6
5141 M.Sc.-APPLIEDGENETICS	HCP204	EVOLUTIONARY GENETICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP204	EVOLUTIONARY GENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP204	EVOLUTIONARY GENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP204	EVOLUTIONARY GENETICS	CO4

5141 M.Sc.-APPLIEDGENETICS	HCP204	EVOLUTIONARY GENETICS	C05
5141 M.Sc.-APPLIEDGENETICS	HCT301	GENETIC ENGINEERING	C01
5141 M.Sc.-APPLIEDGENETICS	HCT301	GENETIC ENGINEERING	C02
5141 M.Sc.-APPLIEDGENETICS	HCT301	GENETIC ENGINEERING	C03
5141 M.Sc.-APPLIEDGENETICS	HCT301	GENETIC ENGINEERING	C04
5141 M.Sc.-APPLIEDGENETICS	HCT302	MICROBIAL AND PLANT GENETICS	C01
5141 M.Sc.-APPLIEDGENETICS	HCT302	MICROBIAL AND PLANT GENETICS	C02
5141 M.Sc.-APPLIEDGENETICS	HCT302	MICROBIAL AND PLANT GENETICS	C03
5141 M.Sc.-APPLIEDGENETICS	HCT302	MICROBIAL AND PLANT GENETICS	C04
5141 M.Sc.-APPLIEDGENETICS	HCT302	MICROBIAL AND PLANT GENETICS	C05
5141 M.Sc.-APPLIEDGENETICS	HCT303	HUMAN GENETICS	C01
5141 M.Sc.-APPLIEDGENETICS	HCT303	HUMAN GENETICS	C02
5141 M.Sc.-APPLIEDGENETICS	HCT303	HUMAN GENETICS	C03
5141 M.Sc.-APPLIEDGENETICS	HCT303	HUMAN GENETICS	C04
5141 M.Sc.-APPLIEDGENETICS	HCP301	GENETIC ENGINEERING	C01
5141 M.Sc.-APPLIEDGENETICS	HCP301	GENETIC ENGINEERING	C02
5141 M.Sc.-APPLIEDGENETICS	HCP301	GENETIC ENGINEERING	C03
5141 M.Sc.-APPLIEDGENETICS	HCP301	GENETIC ENGINEERING	C04
5141 M.Sc.-APPLIEDGENETICS	HCP302	MICROBIAL AND PLANT GENETICS	C01
5141 M.Sc.-APPLIEDGENETICS	HCP302	MICROBIAL AND PLANT GENETICS	C02
5141 M.Sc.-APPLIEDGENETICS	HCP302	MICROBIAL AND PLANT GENETICS	C03
5141 M.Sc.-APPLIEDGENETICS	HCP302	MICROBIAL AND PLANT GENETICS	C04
5141 M.Sc.-APPLIEDGENETICS	HCP302	MICROBIAL AND PLANT GENETICS	C05

5141 M.Sc.-APPLIEDGENETICS	HCP303	HUMAN GENETICS	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP303	HUMAN GENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP303	HUMAN GENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP303	HUMAN GENETICS	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP303	HUMAN GENETICS	CO5
5141 M.Sc.-APPLIEDGENETICS	HCP303	HUMAN GENETICS	CO6
5141 M.Sc.-APPLIEDGENETICS	HCP304	CELLULAR PHYSIOLOGY	CO1
5141 M.Sc.-APPLIEDGENETICS	HCP304	CELLULAR PHYSIOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCP304	CELLULAR PHYSIOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCP304	CELLULAR PHYSIOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCP304	CELLULAR PHYSIOLOGY	CO6
5141 M.Sc.-APPLIEDGENETICS	HCP304	CELLULAR PHYSIOLOGY	CO7
5141 M.Sc.-APPLIEDGENETICS	HCT401	GENOMICS AND PROTEOMICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT401	GENOMICS AND PROTEOMICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT401	GENOMICS AND PROTEOMICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT401	GENOMICS AND PROTEOMICS	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT402	IMMUNOLOGY AND HEMATOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT402	IMMUNOLOGY AND HEMATOLOGY	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT402	IMMUNOLOGY AND HEMATOLOGY	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT402	IMMUNOLOGY AND HEMATOLOGY	CO4
5141 M.Sc.-APPLIEDGENETICS	HCT403	BIOMEDICAL GENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT403	BIOMEDICAL GENETICS	CO2
5141 M.Sc.-APPLIEDGENETICS	HCT403	BIOMEDICAL GENETICS	CO3
5141 M.Sc.-APPLIEDGENETICS	HCT403	BIOMEDICAL GENETICS	CO4

5141	M.Sc.-APPLIEDGENETICS	HCT404	PLANT AND ANIMAL BIOTECHNOLOGY	CO2
5141	M.Sc.-APPLIEDGENETICS	HCT404	PLANT AND ANIMAL BIOTECHNOLOGY	CO2
5141	M.Sc.-APPLIEDGENETICS	HCT404	PLANT AND ANIMAL BIOTECHNOLOGY	CO3
5141	M.Sc.-APPLIEDGENETICS	HCT404	PLANT AND ANIMAL BIOTECHNOLOGY	CO4
5141	M.Sc.-APPLIEDGENETICS	HCT401&402	PRACTICAL 401&402	CO4
5141	M.Sc.-APPLIEDGENETICS	HCT401&402	PRACTICAL 401&402	CO5
5141	M.Sc.-APPLIEDGENETICS	HCT401&402	PRACTICAL 401&402	CO6
5141	M.Sc.-APPLIEDGENETICS	HCT401&402	PRACTICAL 401&402	CO1
5141	M.Sc.-APPLIEDGENETICS	HCT401&402	PRACTICAL 401&402	CO2
5141	M.Sc.-APPLIEDGENETICS	HCT401&402	PRACTICAL 401&402	CO3
5141	M.Sc.-APPLIEDGENETICS	HCT401&402	PRACTICAL 401&402	CO7
5143	M.Sc.-CHEMISTRY	C101	Basic Inorganic Chemistry-I	CO6
5143	M.Sc.-CHEMISTRY	C101	Basic Inorganic Chemistry-I	CO2
5143	M.Sc.-CHEMISTRY	C101	Basic Inorganic Chemistry-I	CO3
5143	M.Sc.-CHEMISTRY	C101	Basic Inorganic Chemistry-I	CO4
5143	M.Sc.-CHEMISTRY	C102	Basic Organic Chemistry	CO1
5143	M.Sc.-CHEMISTRY	C102	Basic Organic Chemistry	CO2
5143	M.Sc.-CHEMISTRY	C102	Basic Organic Chemistry	CO3
5143	M.Sc.-CHEMISTRY	C102	Basic Organic Chemistry	CO4
5143	M.Sc.-CHEMISTRY	C102	Basic Organic Chemistry	CO5

5143 M.Sc.-CHEMISTRY	C102	Basic Organic Chemistry	CO6
5143 M.Sc.-CHEMISTRY	C102	Basic Organic Chemistry	CO7
5143 M.Sc.-CHEMISTRY	C103	Quantum Mechanics & Chemical kinetics	CO4
5143 M.Sc.-CHEMISTRY	C103	Quantum Mechanics & Chemical kinetics	CO5
5143 M.Sc.-CHEMISTRY	C103	Quantum Mechanics & Chemical kinetics	CO1
5143 M.Sc.-CHEMISTRY	C103	Quantum Mechanics & Chemical kinetics	CO2
5143 M.Sc.-CHEMISTRY	C103	Quantum Mechanics & Chemical kinetics	CO3
5143 M.Sc.-CHEMISTRY	C104	Biophysical, Bioorganic and Medicinal Chemistry	CO3
5143 M.Sc.-CHEMISTRY	C104	Biophysical, Bioorganic and Medicinal Chemistry	CO4
5143 M.Sc.-CHEMISTRY	C104	Biophysical, Bioorganic and Medicinal Chemistry	CO5
5143 M.Sc.-CHEMISTRY	C104	Biophysical, Bioorganic and Medicinal Chemistry	CO6
5143 M.Sc.-CHEMISTRY	C104	Biophysical, Bioorganic and Medicinal Chemistry	CO2
5143 M.Sc.-CHEMISTRY	C104	Biophysical, Bioorganic and Medicinal Chemistry	CO1

5143 M.Sc.-CHEMISTRY	C105	Green Synthesis	CO1
5143 M.Sc.-CHEMISTRY	C105	Green Synthesis	CO2
5143 M.Sc.-CHEMISTRY	C105	Green Synthesis	CO3
5143 M.Sc.-CHEMISTRY	C105	Green Synthesis	CO4
5143 M.Sc.-CHEMISTRY	C106	Semimicro Qualitative analysis of Salt Mixture	CO1
5143 M.Sc.-CHEMISTRY	C107	Preparation and Qualitative analysis of inorganic complexes	CO1
5143 M.Sc.-CHEMISTRY	C107	Preparation and Qualitative analysis of inorganic complexes	CO2
5143 M.Sc.-CHEMISTRY	C108	Chemical Kinetics-I	CO3
5143 M.Sc.-CHEMISTRY	C108	Chemical Kinetics-I	CO2
5143 M.Sc.-CHEMISTRY	C108	Chemical Kinetics-I	CO4
5143 M.Sc.-CHEMISTRY	C108	Chemical Kinetics-I	CO5
5143 M.Sc.-CHEMISTRY	C108	Chemical Kinetics-I	CO3
5143 M.Sc.-CHEMISTRY	C109	Electrochemistry-I	CO1
5143 M.Sc.-CHEMISTRY	C109	Electrochemistry-I	CO2
5143 M.Sc.-CHEMISTRY	C109	Electrochemistry-I	CO3
5143 M.Sc.-CHEMISTRY	C109	Electrochemistry-I	CO4
5143 M.Sc.-CHEMISTRY	C109	Electrochemistry-I	CO5

5143 M.Sc.-CHEMISTRY	C109	Electrochemistry-I	CO6
5143 M.Sc.-CHEMISTRY	C201	Basic Inorganic Chemistry-II	CO2
5143 M.Sc.-CHEMISTRY	C201	Basic Inorganic Chemistry-II	CO3
5143 M.Sc.-CHEMISTRY	C201	Basic Inorganic Chemistry-II	CO4
5143 M.Sc.-CHEMISTRY	C201	Basic Inorganic Chemistry-II	CO5
5143 M.Sc.-CHEMISTRY	C201	Basic Inorganic Chemistry-II	CO1
5143 M.Sc.-CHEMISTRY	C202	Basic Organic Chemistry-II	CO1
5143 M.Sc.-CHEMISTRY	C202	Basic Organic Chemistry-II	CO2
5143 M.Sc.-CHEMISTRY	C202	Basic Organic Chemistry-II	CO3
5143 M.Sc.-CHEMISTRY	C202	Basic Organic Chemistry-II	CO4
5143 M.Sc.-CHEMISTRY	C202	Basic Organic Chemistry-II	CO5
5143 M.Sc.-CHEMISTRY	C203	Thermodynamics and Electrochemistry	CO1
5143 M.Sc.-CHEMISTRY	C203	Thermodynamics and Electrochemistry	CO2
5143 M.Sc.-CHEMISTRY	C203	Thermodynamics and Electrochemistry	CO3
5143 M.Sc.-CHEMISTRY	C203	Thermodynamics and Electrochemistry	CO4

5143 M.Sc.-CHEMISTRY	C203	Thermodynamics and Electrochemistry	CO5
5143 M.Sc.-CHEMISTRY	C203	Thermodynamics and Electrochemistry	CO6
5143 M.Sc.-CHEMISTRY	C203	Thermodynamics and Electrochemistry	CO7
5143 M.Sc.-CHEMISTRY	C204	Chemical Spectroscopy-I	CO1
5143 M.Sc.-CHEMISTRY	C204	Chemical Spectroscopy-I	CO2
5143 M.Sc.-CHEMISTRY	C204	Chemical Spectroscopy-I	CO3
5143 M.Sc.-CHEMISTRY	C204	Chemical Spectroscopy-I	CO4
5143 M.Sc.-CHEMISTRY	C204	Chemical Spectroscopy-I	CO5
5143 M.Sc.-CHEMISTRY	C204	Chemical Spectroscopy-I	CO6
5143 M.Sc.-CHEMISTRY	C204	Chemical Spectroscopy-I	CO7
5143 M.Sc.-CHEMISTRY	C205	Soft Core: Mathematics for chemists	CO1
5143 M.Sc.-CHEMISTRY	C205	Soft Core: Mathematics for chemists	CO2
5143 M.Sc.-CHEMISTRY	C205	Soft Core: Mathematics for chemists	CO3
5143 M.Sc.-CHEMISTRY	C205	Soft Core: Mathematics for chemists	CO4
5143 M.Sc.-CHEMISTRY	C206	Gravimetric Analysis	CO1
5143 M.Sc.-CHEMISTRY	C207	Volumetric Analysis	CO1

5143 M.Sc.-CHEMISTRY	C208	Chemical Kinetics-II	CO4
5143 M.Sc.-CHEMISTRY	C208	Chemical Kinetics-II	CO1
5143 M.Sc.-CHEMISTRY	C208	Chemical Kinetics-II	CO2
5143 M.Sc.-CHEMISTRY	C208	Chemical Kinetics-II	CO3
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO1
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO3
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO4
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO5
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO6
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO7
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO2
5143 M.Sc.-CHEMISTRY	C209	Electrochemistry-II	CO8
5143 M.Sc.-CHEMISTRY	C-301- OC	Organic Reaction Mechanisms	CO1
5143 M.Sc.-CHEMISTRY	C-301- OC	Organic Reaction Mechanisms	CO2
5143 M.Sc.-CHEMISTRY	C-301- OC	Organic Reaction Mechanisms	CO3
5143 M.Sc.-CHEMISTRY	C-301- OC	Organic Reaction Mechanisms	CO4
5143 M.Sc.-CHEMISTRY	C-301- OC	Organic Reaction Mechanisms	CO5

5143 M.Sc.-CHEMISTRY	C-302- OC	Chemistry of Natural Products	CO6
5143 M.Sc.-CHEMISTRY	C-302- OC	Chemistry of Natural Products	CO1
5143 M.Sc.-CHEMISTRY	C-302- OC	Chemistry of Natural Products	CO2
5143 M.Sc.-CHEMISTRY	C-302- OC	Chemistry of Natural Products	CO3
5143 M.Sc.-CHEMISTRY	C-302- OC	Chemistry of Natural Products	CO4
5143 M.Sc.-CHEMISTRY	C-302- OC	Chemistry of Natural Products	CO5
5143 M.Sc.-CHEMISTRY	C-305- OC	Organic Preparations (one stage)	CO1
5143 M.Sc.-CHEMISTRY	C-305- OC	Organic Preparations (one stage)	CO2
5143 M.Sc.-CHEMISTRY	C-305- OC	Organic Preparations (one stage)	CO4
5143 M.Sc.-CHEMISTRY	C-305- OC	Organic Preparations (one stage)	CO5
5143 M.Sc.-CHEMISTRY	C-305- OC	Organic Preparations (one stage)	CO3
5143 M.Sc.-CHEMISTRY	C-306- OC	Qualitative analysis of bifunctional organic compounds	CO1
5143 M.Sc.-CHEMISTRY	C-306- OC	Qualitative analysis of bifunctional organic compounds	CO2
5143 M.Sc.-CHEMISTRY	C-306- OC	Qualitative analysis of bifunctional organic compounds	CO3
5143 M.Sc.-CHEMISTRY	C-306- OC	Qualitative analysis of bifunctional organic compounds	CO4
5143 M.Sc.-CHEMISTRY	C-307- OC	Organic Preparations (two & three stage)	CO2
5143 M.Sc.-CHEMISTRY	C-307- OC	Organic Preparations (two & three stage)	CO3
5143 M.Sc.-CHEMISTRY	C-307- OC	Organic Preparations (two & three stage)	CO4
5143 M.Sc.-CHEMISTRY	C-307- OC	Organic Preparations (two & three stage)	CO1
5143 M.Sc.-CHEMISTRY	C-308- OC	Quantitative Analysis of organic compounds	CO1
5143 M.Sc.-CHEMISTRY	C-308- OC	Quantitative Analysis of organic compounds	CO2
5143 M.Sc.-CHEMISTRY	C-308- OC	Quantitative Analysis of organic compounds	CO3

5143 M.Sc.-CHEMISTRY	C-308- OC	Quantitative Analysis of organic compounds	CO4
5143 M.Sc.-CHEMISTRY	C-308- OC	Quantitative Analysis of organic compounds	CO5
5143 M.Sc.-CHEMISTRY	C-308- OC	Quantitative Analysis of organic compounds	CO6
5143 M.Sc.-CHEMISTRY	C-401- OC	Organometallic and Heterocyclic Chemistry	CO1
5143 M.Sc.-CHEMISTRY	C-401- OC	Organometallic and Heterocyclic Chemistry	CO2
5143 M.Sc.-CHEMISTRY	C-401- OC	Organometallic and Heterocyclic Chemistry	CO3
5143 M.Sc.-CHEMISTRY	C-401- OC	Organometallic and Heterocyclic Chemistry	CO4
5143 M.Sc.-CHEMISTRY	C-401- OC	Organometallic and Heterocyclic Chemistry	CO5
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO7
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO8
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO2
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO1
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO3
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO4
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO5
5143 M.Sc.-CHEMISTRY	C-402- OC	Stereochemistry and Retrosynthetic Analysis	CO6
5143 M.Sc.-CHEMISTRY	C-403- OC	Organic Synthesis	CO1

5143 M.Sc.-CHEMISTRY	C-403- OC	Organic Synthesis	CO2
5143 M.Sc.-CHEMISTRY	C-403- OC	Organic Synthesis	CO3
5143 M.Sc.-CHEMISTRY	C-403- OC	Organic Synthesis	CO4
5143 M.Sc.-CHEMISTRY	C-403- OC	Organic Synthesis	CO5
5143 M.Sc.-CHEMISTRY	C-404- OC	Medicinal Organic Chemistry	CO3
5143 M.Sc.-CHEMISTRY	C-404- OC	Medicinal Organic Chemistry	CO4
5143 M.Sc.-CHEMISTRY	C-404- OC	Medicinal Organic Chemistry	CO5
5143 M.Sc.-CHEMISTRY	C-404- OC	Medicinal Organic Chemistry	CO2
5143 M.Sc.-CHEMISTRY	C-404- OC	Medicinal Organic Chemistry	CO1
5143 M.Sc.-CHEMISTRY	C-404- OC	Medicinal Organic Chemistry	CO6
5143 M.Sc.-CHEMISTRY	C-405- OC	Organic Preparations (multi-step)	CO1
5143 M.Sc.-CHEMISTRY	C-405- OC	Organic Preparations (multi-step)	CO2
5143 M.Sc.-CHEMISTRY	C-405- OC	Organic Preparations (multi-step)	CO3
5143 M.Sc.-CHEMISTRY	C-405- OC	Organic Preparations (multi-step)	CO4
5143 M.Sc.-CHEMISTRY	C-405- OC	Organic Preparations (multi-step)	CO5
5143 M.Sc.-CHEMISTRY	C-407- OC	Instrumental methods in organic analysis and quantitative analysis	CO1

5143 M.Sc.-CHEMISTRY	C-407- OC	Instrumental methods in organic analysis and quantitative analysis	CO2
5143 M.Sc.-CHEMISTRY	C-407- OC	Instrumental methods in organic analysis and quantitative analysis	CO3
5143 M.Sc.-CHEMISTRY	C-407- OC	Instrumental methods in organic analysis and quantitative analysis	CO4
5143 M.Sc.-CHEMISTRY	C-407- OC	Instrumental methods in organic analysis and quantitative analysis	CO5
5143 M.Sc.-CHEMISTRY	C-407- OC	Instrumental methods in organic analysis and quantitative analysis	CO6
5143 M.Sc.-CHEMISTRY	C-408- OC	Separation and Qualitative analysis of organic compound mixtures	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 101	Biophysical and Bio – organic chemistry	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 101	Biophysical and Bio – organic chemistry	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 101	Biophysical and Bio – organic chemistry	CO5
5147 M.Sc.-BIOCHEMISTRY	BCT – 101	Biophysical and Bio – organic chemistry	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 101	Biophysical and Bio – organic chemistry	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 102	Biomolecules	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 102	Biomolecules	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 102	Biomolecules	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 102	Biomolecules	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 102	Biomolecules	CO5
5147 M.Sc.-BIOCHEMISTRY	BCT – 103	Analytical Biochemistry – I	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 103	Analytical Biochemistry – I	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 103	Analytical Biochemistry – I	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 103	Analytical Biochemistry – I	CO5
5147 M.Sc.-BIOCHEMISTRY	BCT – 103	Analytical Biochemistry – I	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 104	General Physiology	CO1

5147 M.Sc.-BIOCHEMISTRY	BCT – 104	General Physiology	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 104	General Physiology	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 104	General Physiology	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 104	General Physiology	CO5
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 105	Nutrition	CO5
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 105	Nutrition	CO3
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 105	Nutrition	CO4
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 105	Nutrition	CO1
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 105	Nutrition	CO2
5147 M.Sc.-BIOCHEMISTRY	BCP – 106	Gen. Biochemistry – I	CO2
5147 M.Sc.-BIOCHEMISTRY	BCP – 106	Gen. Biochemistry – I	CO2
5147 M.Sc.-BIOCHEMISTRY	BCP – 106	Gen. Biochemistry – I	CO3
5147 M.Sc.-BIOCHEMISTRY	BCP – 106	Gen. Biochemistry – I	CO4
5147 M.Sc.-BIOCHEMISTRY	BCP – 106	Gen. Biochemistry – I	CO5
5147 M.Sc.-BIOCHEMISTRY	BCP – 107	Gen. Biochemistry – II	CO4
5147 M.Sc.-BIOCHEMISTRY	BCP – 107	Gen. Biochemistry – II	CO1
5147 M.Sc.-BIOCHEMISTRY	BCP – 107	Gen. Biochemistry – II	CO2
5147 M.Sc.-BIOCHEMISTRY	BCP – 107	Gen. Biochemistry – II	CO3

5147 M.Sc.-BIOCHEMISTRY	BCP – 107	Gen. Biochemistry – II	CO5
5147 M.Sc.-BIOCHEMISTRY	BCT – 201	Enzymology	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 201	Enzymology	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 201	Enzymology	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 201	Enzymology	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 201	Enzymology	CO5
5147 M.Sc.-BIOCHEMISTRY	BCT – 202	Analytical Biochemistry – II	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 202	Analytical Biochemistry – II	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 202	Analytical Biochemistry – II	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 202	Analytical Biochemistry – II	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 202	Analytical Biochemistry – II	CO5
5147 M.Sc.-BIOCHEMISTRY	BCT – 203	Metabolism – I	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 203	Metabolism – I	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 203	Metabolism – I	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 203	Metabolism – I	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 204	Membrane Biochemistry	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 204	Membrane Biochemistry	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 204	Membrane Biochemistry	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 204	Membrane Biochemistry	CO4
5147 M.Sc.-BIOCHEMISTRY	BCT – 204	Membrane Biochemistry	CO5
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 205	Microbiology	CO1
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 205	Microbiology	CO2
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 205	Microbiology	CO3

5147 M.Sc.-BIOCHEMISTRY	BCSCT – 205	Microbiology	CO4
5147 M.Sc.-BIOCHEMISTRY	BCSCT – 205	Microbiology	CO5
5147 M.Sc.-BIOCHEMISTRY	BCT – 402	Biochemical Genetics	CO1
5147 M.Sc.-BIOCHEMISTRY	BCT – 402	Biochemical Genetics	CO2
5147 M.Sc.-BIOCHEMISTRY	BCT – 402	Biochemical Genetics	CO3
5147 M.Sc.-BIOCHEMISTRY	BCT – 402	Biochemical Genetics	CO4

CO

Learn in details with examples Algebra
Write down the classification and characteristics of integral calculus

Learn in details with examples differential calculus

Deliberate in details with examples Analytical geometry

Specify in details with examples Algebra II

Specify in depth differential calculus

Identify in details with application, if applicable, integral calculus

Understand the classification and characteristics of differential equation

Write down the classification and characteristics of Sequence

Deliberate the characteristics of Series

Understand in details with application, if applicable, differential calculus

Learn the characteristics of Algebra III

Understand the classification and characteristics of Differential equation II

Deliberate in details with examples

Mathematical methods

Write down the classification and characteristics of Calculus IV

Identify the characteristics of Analysis II

Identify the details of Algebra IV

Understand the details of Numerical methods V

Identify the characteristics of Differential calculus V

Specify the classification and characteristics of Algebra V

Learn the characteristics of Integral theorems

Learn the characteristics of Line and Multiple integrals

Learn the details of Calculus of variation

Specify the details of Partial Differential equation

Specify in details with application, if applicable, Differential equation VII

Deliberate in details with examples Algebra VII

Identify the classification and characteristics of Numerical methods VIII

Identify in details with examples Complex Analysis
Specify the classification and characteristics of Complex Analysis
Deliberate in details with examples Definition, Types of Operating Systems
Identify in details with application, if applicable, Functions of Operating System
Specify the characteristics of services, system components System call
Identify the details of Process Concept, Process Scheduling
Understand the details of Inter process communication
Identify in depth CPU Scheduling Criteria
Learn the characteristics of Scheduling algorithm, Multiple Processor Scheduling, Real time Scheduling, Algorithm evolution
Specify in details with examples The Critical Section Problem

Identify in details with application, if applicable, Synchronization hardware, Semaphores
Deliberate the details of Classical problems of synchronization
Understand the details of Critical regions, monitors
Deliberate in details with examples Dead locks – system model, Characterization
Understand the classification and characteristics of Dead lock prevention

Deliberate in details with examples avoidance and detection, Recovery from dead lock
Specify the details of Combined approach to deadlock handling
Write down the characteristics of Memory management: Functions, single contiguous
Deliberate the details of Partitioned memory management: multiple relocatable partitioned memory management

Deliberate in depth paging segmentation, demand paging virtual memory management
Write down the details of File Management: Concept, access methods
Learn in depth directory structures, allocation methods
Write down the classification and characteristics of ree space management, secondary storage structure

Write down in depth Disk Management: Disk Structure & Scheduling methods
Deliberate in details with examples Disk management, Swap – Space management.
Deliberate the details of History of Unix, salient features
Write down in details with application, if applicable, Unix Components, types of shell

Deliberate the classification and characteristics of Internal and External commands
Learn the details of Files and File Organization- Categories of files

Specify the details of Unix file system, directories
Identify the characteristics of file related commands, Directory related commands
Learn in details with examples wild cards, Printing and Comparing files
Deliberate in details with application, if applicable, Ownership of files

Identify in details with examples File attributes
File permissions and Manipulations

Identify the classification and characteristics of Standard I/O, Redirection, pipe, filter
Specify in depth Introduction to vi editor, The three modes of the vi editor

Learn the characteristics of Invoking vi editor
Understand in details with application, if applicable, Configuring the vi environment, Regular expressions
Deliberate in depth the grep command, The process - parent and child process
Write down the details of process creation, process related commands
Deliberate the details of Shell Programming - shell script features
Specify in depth shell variables, writing and executing a shell script
Understand the characteristics of positional parameters

Identify the characteristics of Branching control structures- if, case etc., Loop control structures

Understand in depth while, until, for, etc.,
Jumping control structures – break, continue,
exit, etc., Integer and Real arithmetic in shell
programs, Debugging scripts

Specify in depth Growth of computer networking
Identify the details of Complexity in network
system
Specify in details with application, if applicable,
Transmission Media

Write down the characteristics of Copper wires

Identify the characteristics of glass fibers, radio,
satellite, Geosynchronous satellites, low earth
orbit satellites, Low earth orbit satellite arrays,
Microwave, Infrared, Light from a laser

Specify the classification and characteristics of
Asynchronous Communications

Deliberate in details with examples baud rate
Specify in details with examples Half and Full
duplex asynchronous communication
Identify the characteristics of Modems,

Write down the characteristics of Multiplexing,
Identify the characteristics of baseband and
bradband technologies
Identify in depth wave length division
multiplexing
Learn the characteristics of spread spectrum,
time division multiplexing
Understand in depth Packets

Deliberate in depth Time-division Multiplexing,
Deliberate in depth Packets and Hardware
Frames,

Deliberate in details with examples byte Stuffing
Write down the classification and characteristics
of transmission errors,
Identify the characteristics of Parity bits and
Parity checking,
Deliberate in depth error detection
Write down the details of the relations for the
acceleration and tension in the case of motion of
two bodies connected by strings.

identify the characteristics of an expression for work done by gas during isothermal expansion. Mention and explain the different transport phenomenon of a gas.
deduce the expression for coefficient of viscosity on the basis of kinetic theory.
Specify the details of conservative and non conservative forces.
Specify in details of an expression for work done by gravitational force.

Specify in brief about Kirchoff's law of radiation. Write down the details of Plank's Quantum hypothesis
Learn in depth on numerical problems on rms velocity

Solve numerical problems on kinetic energy

Specify in depth static and dynamic friction
Understand in details with examples Stefan-boltzmann law
Identify in details with application, if applicable, Plank's radiation law
Specify in details with application, if applicable, solar constant and Stefan's law.

Specify in depth adiabatic process
Write down in details with examples Mayer's relation

solve numerical problems on stefan constant
solve numerical problems on temperature,pressure relations
Specify in details with examples drag force with v^2 - dependence.
Specify in details with application, if applicable, Simple harmonic motion
Write down the characteristics of Oscillation with conservation of energy

Learn the characteristics of bar pendulum

Understand in depth MOMENT OF INERTIA
Learn the classification and characteristics of Maxwell's thermodynamic relations.
Solve numerical problems using SHM formulae and find velocity and KE 7.

Learn Tds Equations

Write down the significance of Gibb's free energy and Helmholtz free energy.

Specify in details about torque

Write down the heat capacities

Identify in depth for the expression for force on a current element

Deliberate the characteristics of Thevenin's theorem.

Elaborate rms value of alternating current and derive an expression for it

State Gauss divergence theorem

Deliberate the characteristics of expression for continuity

learn details with examples When a current carrying wire is placed in uniform magnetic field show that torque acting on it is $\tau = m \times B$

Solve the numerical problems of Kirchoff's law

Solve numerical problems of LCR circuit

Write down the details of Lorentz force

Write down in depth average value of ac current and give an expression for it

Identify in details with examples What is displacement current.

solve numerical problems on kinetic energy

Learn in depth on numerical problems on rms velocity

Write down the details of the Plank's Quantum hypothesis

deduce the expression for coefficient of viscosity on the basis of kinetic theory.

Specify the details of Distinguish between conservative and non conservative forces

Specify in details of the expression for work done by gravitational force

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Mention and explain the different transport phenomenon of a gas

Identify the characteristics of an expression for work done by gas during isothermal expansion

Write down the details of relations for the acceleration and tension in the case of motion of two bodies connected by strings.

Solve numerical problems on Stefan constant
Deliberate in depth Solve numerical problems on temperature, pressure relation

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Understand in detail with examples Stefan-boltzmann law.
Write down in details with examples Mayer's relation
Specify in detail with examples drag force with v^2 -dependence
Identify in details with application, if applicable, Planck's radiation law.
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solve the numerical problems of LCR circuit

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Elaborate rms value of alternating current by
deriving expression for it

state Gauss divergence theorem

Deliberate the characteristics of expression for
continuity

Learn the details of integral calculus

Identify in details with examples algebra

Deliberate in depth differential calculus

Understand the details of Analytical geometry
Specify in details with application, if applicable,
Algebra II

Deliberate in details with examples differential
calculus

Deliberate the details of integral calculus

Deliberate the characteristics of differential
equation

Deliberate the details of Algebra III

Identify in details with examples differential
calculus

Understand in details with examples Series

Identify the details of Sequence

Deliberate the details of Algebra IV

Identify in depth Analysis II

Deliberate in depth Calculus IV

Learn in depth Mathematical methods

Identify the classification and characteristics of
Differential equation II

Learn in details with application, if applicable,
Algebra V

Learn the details of Differential calculus V

Learn in depth Numerical methods V

Understand the classification and characteristics
of Calculus of variation

Write down in details with examples Line and
Multiple integrals

Understand in details with examples Integral
theorems

Learn the classification and characteristics of
Algebra VII

Understand in depth Differential equation VII

Understand the characteristics of Partial
Differential equation

Write down the classification and characteristics of Complex Analysis

Deliberate in depth Complex Analysis

Learn in details with application, if applicable,

Numerical methods VIII

Learn in details with examples Review of Passive components

Learn the characteristics of Characteristics of AC signal and AC Circuits : capacitive & inductive reactance

Specify in depth RC-Circuit charging and discharging of a capacitor through resistor and RC time constant

Write down in details with application, if applicable, Kirchhoffs law-statement and problems related to current and voltage divider

Write down in depth Thevenin's, maximum power transfer,superposition and Norton's

Theorems -statement and problems

Learn in details with application, if applicable,

Review of P type , N type semiconductor and PN junction

Learn in depth Diode V-I characteristics ,Zener diode-characteristics & Break down mechanisms and Number system and codes

Deliberate the classification and characteristics of Rectifiers -HWR, FWR derivation for ripple factor ,efficiency(for FWR only)

Understand the details of Filters -Explanation of shunt capacitor filter .Zener diode

regulator,Fixed and variable regulator and

clippers and clampers-shunt type & problems

Understand the characteristics of Tunnel

diode,varactor diode,photodiode &LED -

construction,characteristics &Applications

Deliberate in details with examples BJT

:construction ,working &

terminologies.configuration- CE, CB, CC.

Write down the classification and characteristics of Defination of Alpha,Beta, Gamma-Relationship between them. Leakage currents

Learn in details with application, if applicable,

Study of CE-Characteristics -different regions,DC load line,selection of Q point,Hybrid parameters

Understand the details of Number systems:
Binary, Hexa decimal-conversion from binary to decimal and vice-versa, Binary to hex and vice versa.

Understand the details of Addition and subtraction of binary numbers and hex numbers. Subtraction using 2's complement, signed number arithmetic - addition .
Specify the details of Mentioning of different types of codes-BCD Code , Gray code, Excess 3 code, ASCII and EBCDIC codes
Specify in depth Classification of amplifiers, small signal CE-amplifiers-Circuit, study of frequency response.
Write down in details with application, if applicable, Transistor as a switch. transistor - need for biasing, stability, Different types of biasing - mention only , Voltage divider biasing with problems.

Understand in details with examples Re model for CE-configuration , derivation for A_i & Expression & significance of Z_{in} and Z_{out}
Write down the characteristics of CC amplifier circuit & application . Multistage amplifiers(mention only)

Deliberate the classification and characteristics of working and VI characteristics of SCR

Understand the classification and characteristics of Application of Varactor diode, Tunnel diode, photo diode, photo transistor, solar cell
Specify in details with application, if applicable, Working characteristics of UJT relaxation oscillator

Understand the classification and characteristics of multivibrator-types

Identify the classification and characteristics of block diagram of astable, monostable and bistable multivibrator

Write down in details with examples Working of astable multivibrator using transistor
Specify in details with examples Working and characteristics curves of N-channel enhancement type mosfet
Write down in depth Equivalent circuit of a piezo electric crystal and working of colpitt crystal oscillator

Understand the details of Define oscillations
Understand in details with examples Difference
between damped ,undamped and sustained
oscillation
Write down in details with examples Principle of
LC tank circuit

Understand the classification and characteristics
of Working of colpitts and hartley oscillator
Write down the details of block diagram of types
of negative feedback
Write down the characteristics of Barkhausen
criteria
Learn in depth Difference between positive and
negative feedback
Specify the details of definition of feedback
amplifier
Learn the classification and characteristics of
Types of negative feedback and thie block
diagram

Identify the classification and characteristics of
Current mirror- circuit diagram and working

Deliberate the classification and characteristics
of Classification of Power Amplifier
Understand in details with application, if
applicable, Class A amplifier working
Learn in details with examples Class B Push Pull
amplifier working
Learn the classification and characteristics of
Differential amplifier circuit
Deliberate in details with application, if
applicable, classification of amplifiers based on
different criteria
Understand in details with examples Small signal
CE amplifier circuit and its working
Identify in details with examples re model for CE
configuration
Specify the details of Swamped amplifier & CC
amplifier

Learn the details of Multistage amplifier

Understand the classification and characteristics
of Types of coupling-RC and Direct Coupled

Learn the characteristics of Darlington amplifier
Specify the characteristics of Differences
between voltage and power amplifier

Deliberate the classification and characteristics of classification of amplifiers based on different criteria

Identify in depth Small signal CE amplifier circuit and its working

Write down the characteristics of Frequency response of CE amplifier

Specify the details of re model for CE configuration

Write down in depth re model for CE configuration

Specify in depth Swamped amplifier & CC amplifier

Specify in details with examples Multistage amplifier

Learn the classification and characteristics of

Types of coupling-RC and Direct Coupled

Understand the classification and characteristics of Darlington amplifier

Understand in details with examples Differences between voltage and power amplifier

Write down in details with application, if applicable, Class A amplifier working

Write down the characteristics of Class B push pull power amplifier

Write down in details with application, if applicable, crossover distortion

Deliberate the details of Current mirror- circuit diagram and working

Deliberate in details with application, if applicable, definition of feedback amplifier

Understand the characteristics of Types of negative feedback and thie block diagram

Understand the classification and characteristics of Define oscillation

Deliberate the classification and characteristics of Difference between damped, undamped and sustained oscillations

Learn the classification and characteristics of Barkhausen criteria

Deliberate the classification and characteristics of Principle of LC tank circuit

Write down in details with examples Working of colpitts and hartley oscillator

Specify in depth Equivalent circuit of a piezo electric crystal and working of colpitt crystal oscillator

Write down the classification and characteristics of Types of multivibrator

Learn in details with examples block diagram of astable, monostable and bistable multivibrator

Deliberate in details with application, if applicable, Working of astable multivibrator using transistor

Learn the characteristics of Working and characteristics curves of N-channel enhancement type mosfet

Deliberate in details with application, if applicable, Working characteristics of UJT relaxation oscillator

Write down the details of Application of Varactor diode, Tunnel diode, photo diode, photo transistor, solar cell

Understand the characteristics of advantages of LCD over LED

Specify in details with examples Linear Integrated circuits and C programming

Learn the details of op-amp

Learn in details with application, if applicable, Analytical geometry

Identify the details of integral calculus

Identify the details of differential calculus

Identify the details of algebra

Specify the details of differential equation

Deliberate the classification and characteristics of Algebra II

Understand in details with examples differential calculus

Write down in depth integral calculus

Specify in depth Algebra III

Learn in depth Sequence

Deliberate in details with application, if applicable, Series

Deliberate in details with examples differential calculus

Specify the classification and characteristics of Algebra IV

Specify the details of Analysis II

Specify in depth Calculus IV

Identify the characteristics of Mathematical methods

Specify the classification and characteristics of Differential equation II

Specify in details with application, if applicable,
Algebra V
Write down the classification and characteristics
of Differential calculus V
Specify in details with application, if applicable,
Numerical methods V
Deliberate in details with examples Calculus of
variation
Identify the characteristics of Line and Multiple
integrals
Understand in details with examples Integral
theorems
Identify in details with application, if applicable,
Algebra VII
Learn in details with application, if applicable,
Differential equation VII
Learn in depth Partial Differential equation
Learn the details of Complex Analysis
Deliberate in details with examples Complex
Analysis

Identify the details of Numerical methods VIII
Identify in details with examples Multiple
Processor Scheduling,
Specify the characteristics of Scheduling
algorithm,

Understand in depth CPU Scheduling Criteria
Identify in details with application, if applicable,
Inter process communication,
Identify the classification and characteristics of
Process Scheduling,

Learn the characteristics of Process Concept,
Deliberate in details with application, if
applicable, Types of Operating Systems,
Understand in details with examples Functions of
Operating System

Deliberate in details with examples Definition,

Learn the characteristics of Real time Scheduling
Deliberate the characteristics of Algorithm
evolution.

Understand in depth The Critical Section Problem

Deliberate in depth Synchronization hardware,
Learn the characteristics of Semaphores,

Specify the classification and characteristics of
Classical problems of synchronization
Deliberate in depth monitors,
Understand in details with application, if
applicable, Dead locks – system model,
Learn the classification and characteristics of
Characterization
Specify in details with examples Dead lock
prevention
Write down in details with examples avoidance
and detection,
Deliberate in details with application, if
applicable, Recovery from dead lock
Understand in details with examples Combined
approach to deadlock handling
Understand in details with examples Memory
management: Functions,
Identify the details of single contiguous,
Identify the details of Partitioned memory
management: multiple relocatable partitioned
memory management
Write down the characteristics of paging
segmentation,
Identify in depth demand paging virtual memory
management
Write down in details with examples File
Management: Concept,
Learn the classification and characteristics of
access methods
Deliberate in details with examples access
methods
Write down in details with examples allocation
methods,
Deliberate the classification and characteristics
of free space management
Learn in details with examples secondary storage
structure.
Deliberate the characteristics of Disk
Management: Disk Structure & Scheduling
methods,
Specify the details of Disk management,
Understand the characteristics of Swap – Space
management.
Identify in details with application, if applicable,
History of Unix,
Learn the characteristics of salient features,
Understand in depth Unix Components
Write down in details with application, if
applicable, types of shell

Write down in depth Internal and External commands,

Specify in details with application, if applicable, Files and File Organization- Categories of files, Understand in depth Unix file system

Write down the characteristics of directories, Learn the characteristics of file related commands,

Learn in depth Directory related commands

Understand in details with application, if applicable, wild cards

Write down in depth Printing and Comparing files.

Specify the classification and characteristics of Printing and Comparing files.

Write down in details with examples Ownership of files,

Write down in details with application, if applicable, File attributes File permissions and Manipulations,

Learn the characteristics of Standard I/O, Redirection, p

Understand in details with examples pipe, filter.

Understand the details of Introduction to vi editor,

Learn the characteristics of The three modes of the vi editor

Understand the details of Invoking vi editor,

Deliberate the characteristics of Configuring the vi environment,

Write down in details with application, if applicable, Regular expressions,

Understand in details with application, if applicable, the grep command,

Write down the classification and characteristics of parent and child process,

Deliberate the characteristics of process creation,

Identify the details of process related commands,

Write down the details of Shell Programming - shell script features,

Identify the characteristics of shell variables,

Learn the classification and characteristics of writing and executing a shell script,

Specify the classification and characteristics of positional parameters,
Learn the characteristics of Branching control structures- if, case etc.,
Identify in details with application, if applicable, while, until, for, etc.,
Identify in depth break, continue, exit,.,
Learn in details with examples Integer and Real arithmetic in shell programs,
Identify the classification and characteristics of Debugging scripts.
Understand in details with application, if applicable, XSLT style sheets; XML Processors; Web services
Identify the details of The Box model,
Background images,
Write down the details of XML: Introduction; Syntax; Document structure
Deliberate the characteristics of Document Type definitions; Namespaces; XML schemas;
Displaying raw XML documents
Identify the characteristics of Displaying XML documents with CSS

Write down the details of CSS: Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms

Deliberate in details with application, if applicable, Introduction to dynamic documents; Positioning elements; Moving elements; Element visibility; Changing colors and fonts
Understand the details of Dynamic content; Stacking elements; Locating the mouse cursor; Reacting to a mouse click; Slow movement of elements;
Specify the details of Dragging and dropping elements
Identify in depth Arrays; Functions; Constructor; Pattern matching using expressions; Errors in scripts; Examples.

Understand in depth The JavaScript execution environment; The Document Object Model

Learn in depth Java Script and HTML Documents, Dynamic Documents with JavaScript,
Write down in details with application, if applicable, Control statements; Object creation and Modification

Understand the characteristics of The DOM 2 event model; The navigator object; DOM tree traversal and modification

Understand in depth The JavaScript execution environment; The Document Object Model

Identify the details of Element access in JavaScript; Events and event handling; Handling events from the Body elements, Button elements, Text box and Password elements
Understand the characteristics of Internet, WWW, Web Browsers, and Web Servers, URLs, MIME, HTTP, Security, The Web Programmers Toolbox.
Deliberate the details of XHTML: Origins and evolution of HTML

Deliberate the classification and characteristics of Primitives, Operations, and expressions; Screen output and keyboard input; Identify in details with application, if applicable, Overview of JavaScript

Deliberate the classification and characteristics of Object orientation and JavaScript; General syntactic characteristics

Understand the classification and characteristics of Object orientation and JavaScript; General syntactic characteristics
Understand the characteristics of differences between HTML and XHTML.

Specify the characteristics of XHTML document structure, Basic text markup, Images, Hypertext Links, Lists, Tables, Forms, Frames

Learn in depth XHTML, Basic syntax, Standard

Write down in details with examples algebra

Learn the characteristics of differential calculus
Deliberate the details of integral calculus
Write down in depth Analytical geometry
Specify in details with examples Algebra II
Deliberate in details with application, if applicable, differential calculus
Deliberate in details with application, if applicable, integral calculus

Learn the classification and characteristics of differential equation

Understand the details of Algebra III

Learn the classification and characteristics of differential calculus

Specify in details with application, if applicable, Sequence

Understand the classification and characteristics of Series

Understand the characteristics of Differential equation II

Understand the details of Mathematical methods

Learn in details with application, if applicable,

Calculus IV

Identify the classification and characteristics of Analysis II

Learn in details with examples Algebra IV

Learn the characteristics of Numerical methods V

Write down the details of Differential calculus V

Deliberate in details with examples Algebra V

Deliberate in depth Integral theorems

Learn in details with application, if applicable,

Line and Multiple integrals

Understand in depth Calculus of variation

Specify the classification and characteristics of Partial Differential equation

Specify the details of Differential equation VII

Learn the characteristics of Algebra VII

Identify the characteristics of Numerical methods VIII

Specify the classification and characteristics of Complex Analysis

Understand in details with application, if applicable, Complex Analysis

Understand in depth Univariate data analysis

Specify the details of Bivariate data analysis

Deliberate in depth Multivariate data analysis

Understand the characteristics of Elements of probability

Understand the classification and characteristics of Organization and presentation of data
Write down in details with application, if applicable, Random variables and expectation (Univariate)

Write down the classification and characteristics of Discrete probability distributions

Write down in details with application, if applicable, Continuous probability distributions

Learn in details with application, if applicable, Random variables and expectation (Bivariate)
Deliberate in details with application, if applicable, Limit theorems

Specify the details of Sampling distributions
Learn in details with application, if applicable, Point estimation
Deliberate the characteristics of Methods of point estimation

Learn the characteristics of Interval estimation

Deliberate in details with examples Simulation

Identify in details with application, if applicable, Introduction to tests of hypotheses
Identify the classification and characteristics of Tests of significance I

Identify the details of Tests of significance II

Identify the details of Nonparametric tests
Learn the classification and characteristics of Sequential tests

Understand the details of Introduction to sampling theory

Identify the classification and characteristics of Simple random sampling (SRS)

Specify the classification and characteristics of Stratified and systematic sampling
Specify in details with application, if applicable, Process control

Identify the characteristics of Product control
Learn in depth Definition, Types of Operating Systems

Understand in details with application, if applicable, Functions of Operating System
Identify the characteristics of services, system components System call
Deliberate in details with examples Process Management: Process Concept
Write down in details with application, if applicable, Process Scheduling, Inter process communication
Specify in details with application, if applicable, CPU Scheduling Criteria
Understand the details of Scheduling algorithm, Multiple Processor Scheduling
Write down the details of Real time Scheduling, Algorithm evolution.
Deliberate the details of The Critical Section Problem
Understand in details with application, if applicable, Synchronization hardware, Semaphores
Deliberate the details of Classical problems of synchronization
Deliberate the characteristics of Critical regions, monitors
Specify the details of Dead locks – system model, Characterization

Understand the classification and characteristics of Dead lock prevention, avoidance and detection
Deliberate in details with application, if applicable, Recovery from dead lock, Combined approach to deadlock handling.
Specify in details with examples Memory management: Functions, single contiguous
Identify in depth Partitioned memory management: multiple relocatable partitioned memory management
Learn in details with examples paging segmentation, demand paging virtual memory management
Write down in details with examples File Management: Concept, access methods
Learn the characteristics of directory structures, allocation methods
Identify in details with application, if applicable, free space management, secondary storage structure
Understand in details with application, if applicable, Disk Management: Disk Structure & Scheduling methods

Deliberate in details with application, if applicable, Disk management, Swap – Space management
Deliberate the characteristics of History of Unix, salient features, Unix Components
Deliberate in details with examples types of shell, Internal and External commands
Deliberate in details with application, if applicable, Files and File Organization- Categories of files

Specify the classification and characteristics of Unix file system, directories

Identify in details with examples file related commands, Directory related commands
Specify the characteristics of wild cards, Printing and Comparing files

Write down the classification and characteristics of Ownership of files, File attributes File permissions and Manipulations

Identify in details with application, if applicable, Standard I/O, Redirection, pipe, filter.
Understand in details with application, if applicable, Introduction to vi editor, The three modes of the vi editor
Understand the details of Invoking vi editor, Configuring the vi environment
Understand in depth Regular expressions, the grep command
Learn the details of The process - parent and child process
Learn the details of process creation, process related commands
Deliberate the details of Shell Programming - shell script features, shell variables
Understand the characteristics of writing and executing a shell script
Understand the characteristics of positional parameters
Specify in details with examples Branching control structures- if, case etc., Loop control structures

Specify in details with examples – while, until, for, etc., Jumping control structures – break, continue, exit, etc., Integer and Real arithmetic in shell programs, Debugging scripts. [12

Deliberate in details with examples error detection

Identify in details with application, if applicable, Growth of computer networking

Specify in details with examples Complexity in network system

Write down the classification and characteristics of Transmission Media:

Identify the classification and characteristics of Copper wires

Specify in details with application, if applicable, glass fibers, radio, satellite, Geosynchronous satellites, low earth orbit satellites, Low earth orbit satellite arrays, Microwave, Infrared, Light from a laser. L

Identify in details with examples Local

Asynchronous Communication

Write down the characteristics of Half and Full duplex asynchronous communication,

Understand in details with application, if applicable, hardware used for Modulations and Demodulation

Deliberate the classification and characteristics of Modems

Specify in depth wave length division multiplexing

Identify in details with examples time division multiplexing

Deliberate the characteristics of time division multiplexing

Specify in depth Concept of Packets,

Write down the classification and characteristics of Time-division Multiplexing,

Understand the classification and characteristics of Packets and Hardware Frames

Identify in depth byte Stuffing

Deliberate in details with application, if applicable, transmission errors,

Deliberate the classification and characteristics of Parity bits and Parity checking,

Identify in details with examples error detection

Deliberate in details with application, if applicable, Detecting errors with checksum

Identify in depth animal architecture

Identify the classification and characteristics of porifera and coelenterata

Learn in details with examples planaria and annelida

Identify the characteristics of Economic zoology

Write down the details of Use of microscopes

Specify the characteristics of Protozoa

Specify in depth Porifera

Deliberate the details of Helminthes and Annelida

Understand in depth Economic zoology

Identify in details with examples Echinodermata and Hemichordata

Understand the classification and characteristics of Mollusca

Understand in details with application, if applicable, Arthropoda

Learn the characteristics of Protochordata,

Agnatha and Pisces

Specify in depth Amphibia, Reptilia and Aves

Identify the details of Mammalia

Write down the characteristics of Economic zoology

Identify the details of Comparative anatomy of integuments, respiratory organs and circulatory organs

Write down in details with examples

Comparative anatomy of excretory system, brain, eye and ear

Specify in details with application, if applicable,

Cell biology and Immunology

Identify the characteristics of Histology

Deliberate in depth quantum mechanics and atomic structure,

Learn in details with examples Learn the

characteristics of chemical bonding:lattice energy,born haber cycle,born lande equation, covalent bond-valence bond

approach,hybridisation and directional

characteristics,shapes of BeCl_2 , BF_3 , SiCl_4 , PCl_5 .

VSEPR theory,MOT,weak interactions.

Understand the characteristics of Silicates

Identify in details with examples Specify in details with application, if applicable, Noble gases:
introduction, isolation, application, preparation, properties and structure of fluorides and oxides of xenon Identify the details of general study of d and f block elements: transition elements, electronic configuration, atomic and ionic radii, ionisation energy, oxidation states, redox potential, various properties and interstitial compound formation, lanthanides and actinides properties, complex formation and its consequences.

Identify in details with examples Identify the details of general study of d and f block elements: transition elements, electronic configuration, atomic and ionic radii, ionisation energy, oxidation states, redox potential, various properties and interstitial compound formation, lanthanides and actinides properties, complex formation and its consequence

Deliberate in details with examples Specify in depth Aromatic hydrocarbons: aromaticity, electrophilic substitution, nucleophilic substitution, nitration reaction, diels alder reaction Alkenyl benzenes, Biphenyls. Deliberate in depth Organic halogen compounds: Alkyl halides-SN1, SN2 reaction and mechanism with energy profile diagram and effects of solvent. alkyl group, leaving group, nucleophiles, E1 and E2 mechanisms, saytzeff and hofmann eliminations with mechanisms, aryl halides

To understand the evolution of Microbiology and to gain theoretical knowledge on microscopes and instruments its advancements
Elucidate the physical and chemical theories of staining to study the morphological aspects of microorganisms

To understand the importance of sterilization and to describe the classification, characteristics and mode of action of important antibacterial, antifungal and antiviral antibiotics

Acquire knowledge on properties, structure, assay and reproduction of viruses emphasising on important bacteriophages, plant and animal viruses and fungi

Compare the three domains of organisms, understand the shape and structure of prokaryotic cell and to Elucidate and differentiate various classes of organisms based on its characteristics and significance

Elaborate on the growth requirement, growth pattern and enumeration of microorganism with the knowledge on media preparation, methods to isolate and maintenance of pure cultures Identify important fungi samples by wet mount method and scrutinize significant algal and protozoa specimens

Learn the significance and prepare bacterial and fungal culture media and use it to isolate microorganisms from native environment and study its colony characteristics by performing serial dilution, streaking, pour plate and spread plate

Measure the size and number of microbial cell using hemocytometry and micrometry and perform hanging drop method to differentiate motile and non-motile microorganisms

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Deliberate the details of porifera and coelenterata

Write down the characteristics of planaria and annelida

Specify in details with application, if applicable, economic zoology

Learn the characteristics of microscopes

Identify in depth protozoa and porifera

Specify in details with examples coelenterata and ctenophora

Understand the details of helminthes and annelida

Specify the details of parasitology

Specify in details with application, if applicable, Arthropoda

Write down in details with examples Mollusca

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Write down in depth Comparative anatomy of excretory system, brain, eye and ear

Learn the classification and characteristics of Cell biology and Immunology

Understand the characteristics of Histology

Learn in depth Significant figures

Specify the characteristics of Quantum numbers

Understand the details of Chemical bonding

Learn the characteristics of Radioactivity

Specify the characteristics of Colligative properties

Understand the details of Electrodes

Learn in depth acid, bases & buffers

Specify in depth Viscosity and surface tension

Understand in details with application, if applicable, SOLIDS

Learn the details of Phase Rule

Write down in details with examples Chemical Equilibrium & Reaction Kinetics

Identify the classification and characteristics of Catalysis

Specify in details with application, if applicable, Alkylhalides and organometallic reactions &

Specify in details with application, if applicable, Hydrocarbons, Cycloalkanes & Arenes

Identify in depth

alcohols, phenols, carbonyl compounds

Deliberate in depth Chemical bonding

Understand in details with application, if applicable, Radioactivity

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Write down the characteristics of Electrodes

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Write down in details with examples Alkylhalides and organometallic reactions &

Deliberate the characteristics of Scope of genetics

Write down the characteristics of Ultra structure of cell and cell organelles

Learn in depth Ultra structure of cell and cell organelles

Specify in depth Cell cycle and cell division

Temporary squash preparation of given material and identification of meiotic stages

Deliberate in details with application, if applicable, Spotter identification

Understand the details of study of allelic and non allelic gene interactions

Write down the characteristics of study of sex differentiation

Write down in details with examples multiple allelism and blood grouping

details of biometry with problems

Identify the details of History and scope of genetics,terminologies used in genetics

Understand the details of biography of Mendel and his experiments with pea plants

Write down in details with application, if applicable, mendels law of segregation and independent assortment

Study of the floral sttructure of pea/maize/Arabidopsis

Identification of meiotic stages in onion flower buds and grasshopper testis

Study of various gene interaction and genetic problems

Multiple allelism and blood typing

Computation of biometrical problems

Learn the characteristics of extra chromosomal inheritance

Deliberate in details with application, if applicable, sex linkage

Deliberate in depth special types of chromosome

Understand the characteristics of physical basis of inheritance

Identify in details with examples linkage AND

Crossing over

Specify the classification and characteristics of chromosomal aberrations

Specify the characteristics of culturing and handling of Drosophila

Write down in details with examples types of Drosophila

Understand the classification and characteristics of types of Drosophila

Understand the classification and characteristics of types of Drosophila

sex comb of drosophila

culturing and handling of drosophila

study of five types of drosophila

salivary gland chromosomes

study of chromosomal abberations

genetic problems on linkage and crossing over

Write down the classification and characteristics of chemical basis of heredity

Understand in depth nucleic acids

Understand the classification and characteristics of DNA and its replication

Specify the details of genome organisation and fine structure of gene

Deliberate the details of gene expression

Deliberate the characteristics of Gene Regulation

Specify the classification and characteristics of bacterial genetics

Write down in depth physical basis of inheritance

Identify in depth special types of chromosomes

Deliberate in details with examples sex linkage

Understand in details with examples extra chromosomal inheritance

Understand the characteristics of cytoplasmic inheritance

Deliberate in details with examples linkage

Deliberate in depth crossing over

Specify in depth chromosomal aberrations

Deliberate the classification and characteristics of gene expression

Specify the details of DNA and its replication. semi conservative model

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Write down the classification and characteristics of chemical basis of heredity

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Measure the size and number of microbial cell using hemocytometry and micrometry and perform hanging drop method to differentiate motile and non-motile microorganisms. Identify important fungi samples by wet mount method and scrutinize significant algal and protozoa specimens

Specify in details with application, if applicable, determine the microbial quality of milk

Deliberate the characteristics of Discovery of cell, The Cell theory Ultrastructure of an eukaryotic cell – (both plant and animal cell)
Specify in depth Structure and functions of cell organelles
Deliberate in details with examples Cell cycle, mitosis and meiosis

Write down the classification and characteristics of Amoeboid, ciliary and flagellar movements
Specify the details of Cell Senescence and Programmed Cell Death

Deliberate in details with examples Salivary gland and Lampbrush chromosomes

Understand the characteristics of Single-stranded hypotheses, folded-fibre and nucleosome models
Learn in details with application, if applicable, centromere, secondary construction, telomere, chromonema, euchromatin and heterochromatin, chemical composition and karyotype.
Understand in details with examples Structure of DNA and RNA
Identify the details of Mendel's work, laws of heredity
Write down the details of Test cross, Incomplete dominance

Learn the classification and characteristics of Supplementary factors; Comb pattern in fowls

Deliberate in depth Complementary genes;
Flower colour in sweet peas
Deliberate in details with application, if applicable, Multiple factors – Skin colour in human beings
Understand in depth Epistasis: Plumage colour in poultry
Write down the characteristics of Multiple allelism: Blood groups in human beings
Specify in depth Concepts of autosomes and autosomes
Understand the details of XX-XY, XX-XO, ZW-ZZ, ZO-ZZ system of sex determination
Write down in details with application, if applicable, Linkage and Crossing Over

Write down in details with examples A General account of structural and numerical aberrations
Deliberate in details with application, if applicable, Chromosomal evolution of wheat and cotton
Understand the characteristics of Cytoplasmic Inheritance
Deliberate the characteristics of spontaneous; and induced mutations
Learn the classification and characteristics of Mutagens: Physical and chemical

Specify the classification and characteristics of Mutation at the molecular level
Deliberate in details with examples Mutations in plants, animals, and microbes for economic benefit of man

Learn the characteristics of Karyotype in man
Learn in depth Inherited disorders
Identify the details of Definition and history of microbiology
Identify in depth Construction and working principles of different types of microscopes
Write down the characteristics of Sterilization: Principles and Applications
Learn in depth STAINS AND STAINING TECHNIQUES
Write down the characteristics of Concept of microbial species and strains, classification of bacteria
Deliberate in details with examples Viruses – Structure and classification

Learn in details with application, if applicable, classification and reproduction of eukaryotic microorganisms

Identify the details of Pathogenic Microorganisms
Write down the characteristics of Microbial Metabolism
Learn the details of Importance and application of biostatistics

Specify the classification and characteristics of
Classification and properties of amino acids
Write down the characteristics of Classification and properties of proteins

Deliberate the classification and characteristics of Introduction, classification, enzyme kinetics, factors influencing enzyme activity
Learn the classification and characteristics of Structure, properties and classification of carbohydrates

Learn the classification and characteristics of Structure, properties and classification of lipids
Write down in details with application, if applicable, Water Soluble and fat-soluble vitamins
Specify the characteristics of concepts of pH and buffer
Write down the characteristics of Chemical bonding
Learn the classification and characteristics of Analytical techniques ; Chromatography and centrifugation
Write down in depth Principles and applications of chromatography

Deliberate the characteristics of Isotopes:
Types, their importance in biological studies
Learn in depth Steroid hormones – structure and importance
Understand in details with examples
Introduction and scope of Biophysics
Principle and application of spectroscopic techniques
Importance of isotopes in biological studies
Analytical techniques: Chromatography and Centrifugation
Introduction and classification of enzymes

classification and properties of amino acids

structure and classification of proteins
concepts of pH and buffer
Types of chemical bonding

Structures, properties and classification of lipids
Deliberate the details of classification and
properties of amino acids structure and
classification of proteins
Structures, properties and classification of
carbohydrates
types of vitamins: Water soluble and fat-soluble
vitamins

structure and importance of steroid hormones
Scope and development of Biophysics

DNA AND RNA STRUCTURE WITH FUNCTIONS
Experimental Proof for DNA and RNA as genetic
material

Watson and crick model of DNA
Understand in details Forms of DNA
Types of Enzymes and proteins involved in
replication
modes of DNA replication- Theta model and
Rolling circle model

Identify the classification and characteristics of
photoreactivation, excision repair, mismatch
repair, SOS repair

The types of recombination in prokaryotes:
Transformation, Conjunction and Transduction

Specify the details of Properties of genetic code

Specify the classification and characteristics of
Wobble hypothesis with an example

Transcription in prokaryotes and Eukaryotes
translation in Prokaryotes and Eukaryotes
Regulation of Gene expression in prokaryotes
and eukaryotes

Learn in details the Gene organization and
expression in Mitochondria and Chloroplasts
Insertional elements and transposons

Understand the classification and characteristics
of Tools and technique for genetic engineering

Write down in details with examples Screening and selection of recombinant host cells – Immunological screening and colony hybridization.

Deliberate in details with examples Gene Libraries
Specify in details with examples Expression of cloned DNA in E.coli
Understand in details with application, if applicable, Molecular biology techniques
Learn in details with examples Application of r-DNA technique in human health
Understand the classification and characteristics of Renewable and Non-Renewable resources of energy

Learn the classification and characteristics of Modern fuels and their environmental impact
Learn in details with examples Bioremediation and its application
Specify in depth Biofertilizers and bioleaching and its application
Deliberate in details with examples Environmental significance of Genetically modified organisms
Understand in depth immunology and immune system
Learn in details with application, if applicable, Antigen Antibody reaction
Understand in depth Hypersensitivity and Allergic reactions
Specify the characteristics of Blood cell components, ABO blood grouping RH typing
Deliberate in details with application, if applicable, vaccines and immunization
Specify the details of Animal Tissue Culture types and components
Identify the characteristics of transfection of animal cell lines
Learn the details of Expression of Cloned proteins in animal cell
Learn the details of Production of Vaccines and monoclonal antibodies
Specify in depth Growth factors in animal biotechnology
Understand in details with application, if applicable, Transgenic Animals
Write down in depth In-vitro Methods in plant tissue culture
Write down the characteristics of Somaclonal Variation and their significance

Write down the classification and characteristics of In-Vitro production of secondary metabolites
Learn in details with examples Transgenic plants and its application

Deliberate in details with examples Biotechnology and Intellectual property rights
Identify the details of basic principles of fermentation technology
Specify in details with examples Screening and Isolation of Microorganisms, maintenance and strains improvement
Deliberate the details of Fermentation Media and Sterilization techniques
Learn the classification and characteristics of Fermenters and Type of Fermentation
Deliberate the classification and characteristics of Down stream processing
Identify the details of Production of Microbial products and Fermented Foods

Specify the characteristics of Enzyme Biotechnology

Learn the characteristics of Plant cell suspension culture for the production of food additives
Deliberate the details of Technique of mass culture of Algae
Learn the characteristics of Microbial polysaccharides and polyesters production
Learn in depth animal architecture
Learn the characteristics of porifera and coelenterata
Deliberate the classification and characteristics of planaria and annelida
Identify the classification and characteristics of Economic zoology
Learn in depth protozoa and porifera

Learn the details of coelenterata and ctenophora
Write down the details of helminthes and annelida
Identify the characteristics of parasitology
Write down the characteristics of Echinodermata and Hemichordata
Understand the characteristics of Economic zoology
Deliberate the details of Arthropoda
Write down in details with application, if applicable, Mollusca

Understand in details with examples
Protochordata, Agnatha and Pisces
Learn the characteristics of Amphibia, Reptilia
and Aves
Understand the classification and characteristics
of Mammalia

Identify the characteristics of Economic zoology

Identify in details with application, if applicable,
Comparative anatomy of integuments,
respiratory organs and circulatory organs
Deliberate the classification and characteristics
of Comparative anatomy of excretory system,
brain, eye and ear

Learn in depth Cell biology and Immunology

Understand the details of Histology
Specify in depth Mathematical Concepts for
Chemistry

Learn the characteristics of Gaseous state
Understand in details with application, if
applicable, Liquids and Solutions

Write down the classification and characteristics
of Beckmann's method (ii) and (iii)

Landsberger's method. Numerical problems.
Deliberate in details with examples Periodic
Table and Periodic properties

Write down the characteristics of Analytical
Chemistry

Write down in depth Basic concepts in organic
chemistry

Identify the classification and characteristics of
Aliphatic Hydrocarbons

Identify in details with examples quantum
mechanics and atomic structure,

Identify the classification and characteristics of

Learn the characteristics of chemical
bonding: lattice energy, born haber cycle, born
lande equation, covalent bond-valence bond
approach, hybridisation and directional
characteristics, shapes of BeCl_2 , BF_3 , SiCl_4 , PCl_5 .
VSEPR theory, MOT, weak interactions.

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Understand the classification and characteristics of Specify in depth Aromatic hydrocarbons: aromaticity, electrophilic substitution, nucleophilic substitution, nitration reaction, diels alder reaction Alkenyl benzenes, Biphenyls. Deliberate in depth Organic halogen compounds: Alkyl halides-SN1, SN2 reaction and mechanism with energy profile diagram and effects of solvent. alkyl group, leaving group, nucleophiles, E1 and E2 mechanisms, saytzeff and hofmann eliminations with mechanisms, aryl halides.

Write down the details of Mathematical Concepts for Chemistry 4 hours Logarithmic relations: Definition, some important relations like $\log(m+n)$, $\log \frac{m}{n}$, $\log m$, $\log mn$, change of base ($\log_2 \rightarrow \log_x$). Application in the calculation of pH. Curve sketching: How a curve is sketched with a set of points: linear and non-linear (asymptotic) with a set of points, sketching both linear and non-linear curves. Calculation of slope in the case of linear curve. Extrapolation of linear curve and arriving at a limiting value. Parabolic curve- maximum and minimum. Differentiation: Meaning and derivative of functions like e^x , $\log x$, $\sin x$, $\cos x$, x^1 , x^2 , x^n and $n, 0$ $\frac{dx}{dy}$ at maximum and minimum.

Deliberate in depth Gaseous state 9 hours Introduction: Need for Maxwell-Boltzmann distribution law, mathematical expression for both mole and molecule-explanation of the terms only. Explanation of velocity distribution curves based on this law (no derivation). Mean free path, collision frequency and collision number. Definition and expressions using SI units (no derivations). Derivation of expression for most probable speed from Maxwell-Boltzmann equation Definitions and expressions for rms velocity and average velocity, relationships between them. Problem

Specify in details with application, if applicable, Photochemistry 4 hours Laws of photochemistry. Grotthuss-Draper law, Stark-Einstein law, differences between photophysical and photochemical processes with examples. Comparison of photochemical and thermal reactions. Quantum yield of photochemical combination of (i) H_2 and Cl_2 (ii) H_2 and Br_2 (iii) dissociation of HI (iv) dimerisation of anthracene. Photosensitization, photostationary

Learn in depth Liquids and Solutions 9 hours
Properties of liquids-Viscosity, Surface tension and Parachor-Definition, mathematical expression, numerical problems and factors affecting them. Viscosity- Definition, mathematical expression, Coefficient of viscosity, effect of temperature, size, weight, shape of molecules and intermolecular forces on it. Surface Tension-Definition, mathematical expression, effect of temperature and solute on it Parachor-Definition, Sugden equation, calculation and applications. Numerical problems. Liquid Mixture: Review of Raoult's law, ideal and non-ideal solutions. Completely miscible liquids-Fractional distillation Tc curves for all the three types, azeotropic

Understand the classification and characteristics of Periodic Table and Periodic properties 9 hours
Review of the modern periodic table (with respect to classification of elements based on outer electronic configuration) Periodic properties: Atomic and ionic radii, ionisation energy, electron affinity and electronegativity. Trends in the periodic properties. Applications in predicting and explaining chemical behaviour. Factors affecting the values of ionisation energy. Determination of electronegativity by Pauling's method. Diagonal relationship between beryllium and aluminium. Comparative study of elements of alkali and alkaline earth metals, chalcogens and halogens with respect to electronic configuration, atomic and ionic radii, ionisation energy, and electronegativity

Learn the characteristics of chemical bonding:lattice energy,born haber cycle,born lande equation, covalent bond-valence bond approach,hybridisation and directional characteristics,shapes of BeCl_2 , BF_3 , SiCl_4 , PCl_5 . VSEPR theory,MOT,weak interactions. Understand the characteristics of Silicates structure ,classification,zeolites and application CO

Specify in details with application, Noble gases: introduction,isolation,application,preparation , properties and structure of fluorides and oxides of xenon

Identify the details of general study of d and f block elements: transition elements, electronic configuration, atomic and ionic radii, ionisation energy, oxidation states, redox potential, various properties and interstitial compound formation, lanthanides and actinides properties, complex formation and its consequences

Specify in depth Aromatic hydrocarbons: aromaticity, electrophilic substitution, nucleophilic substitution, nitration reaction, diels alder reaction Alkenyl benzenes, Biphenyls. Deliberate in depth Organic halogen compounds: Alkyl halides-SN1, SN2 reaction and mechanism with energy profile diagram and effects of solvent. alkyl group, leaving group, nucleophiles, E1 and E2 mechanisms, saytzeff and hofmann eliminations with mechanisms, aryl halides.

Learn in depth quantum mechanics and atomic structure,

Write down in details with application, if applicable, Chemical Kinetics

Learn the classification and characteristics of Thermodynamics I

Learn in details with application, if applicable, Thermodynamics II

Write down in depth Surface chemistry

Specify in details with examples Metallurgy

Learn in depth Alcohols and Thiols

Identify in depth phase equilibria

Understand the characteristics of Salt Analysis

deliberate the scope of genetics, various microscopic techniques and model organisms

study in detail about the ultrastructure of cell

learn in depth Ultra structure of cell organelles

Specify in depth Cell cycle and Cell division

Write down in details with examples Temporary squash preparation of given material for the identification of various meiotic stages

Write down the details of Identification of the given spotter

Write down the classification and characteristics of Learn the details of history and scope of genetics , terminologies in genetics
Specify the characteristics of Understand in depth biography of mendel and his experiments with pea plants

Specify the details of Specify the classification and characteristics of Mendels law of segregation and independent assortment

Understand in details with examples Identify the details of multiple and ABO blood group system

Learn in details with application, if applicable, Learn the characteristics of study of allelic and non allelic gene interaction

Identify in details with examples Write down the characteristics of sex differentiation
Understand in details with application, if applicable, Specify in details with application, if applicable, biometry
Learn in depth Study of floral structure of pea/maize/Arabidopsis

Specify the details of Identification of meiotic stages in onion flower bud and grasshopper testis

Understand in details with examples study of various gene interactions and genetic problems
Learn the characteristics of Multiple allelism and Blood typing

Learn in details with application, if applicable, Computation of biometrical problems
Deliberate the details of Specify the classification and characterization of physical basis of inheritance

Write down in details with examples Learn the characteristics of special types of chromosomes
Understand the classification and characteristics of Specify the classification and characterization of sex linkage
Specify in details with application, if applicable, Specify the characterization of extra chromosomal inheritance
Specify in depth Identify in detail with example linkage and crossing over

Write down the characteristics of Write down the classification, characterization and evolutionary significance of chromosomal aberrations

Specify in details with application, if applicable, Culturing and handling of Drosophila and study of Drosophila mutants
Deliberate the classification and characteristics of Mounting of sex comb

Deliberate the details of Dissection of salivary gland and polytene chromosome preparation
Write down the details of study of chromosomal aberration
Deliberate the characteristics of Genetic problems on linkage and crossing over
Understand the characteristics of chemical basis of hereditary
Write down the classification and characteristics of nucleic acids

Learn in details with examples DNA replication
Write down in details with application, if applicable, gene expression
Deliberate the characteristics of genome organization and fine structure of gene
Understand the details of bacterial genetics

Deliberate the classification and characteristics of introduction to genomics and proteomics
Identify in depth transposable elements
Identify in depth mutations
Learn in details with examples Discovery of cell, The Cell theory
Learn the classification and characteristics of Ultrastructure of an eukaryotic cell
Write down the details of Structure and functions of cell organelles

Specify the details of Discovery, morphology and structural Organization - centromere, secondary construction, telomere, chromonema, euchromatin and heterochromatin

Write down the characteristics of Single-stranded hypotheses, folded-fibre and nucleosome models
Identify the details of Salivary gland and Lampbrush chromosomes
Learn in details with examples Cell Division

Identify in details with examples Amoeboid, ciliary and flagellar movements

Deliberate the classification and characteristics of Cell Senescence and Programmed Cell Death
Learn the characteristics of Structure of DNA and RNA

Learn the classification and characteristics of Mendel's work, laws of heredity, Test cross, Incomplete dominance
Learn in details with application, if applicable, Supplementary factors; Comb pattern in fowls
Complementary genes; Flower colour in sweet peas

Deliberate the details of Multiple factors – Skin colour in human beings
Epistasis: Plumage colour in poultry
Multiple allelism: Blood groups in human beings
Multiple factors – Skin colour in human beings
Epistasis: Plumage colour in poultry
Multiple allelism: Blood groups in human beings
Understand in details with examples Concepts of chromosomes and autosomes

Specify in details with examples XX-XY, XX-XO, ZW-ZZ, ZO-ZZ system of sex determination

Specify the classification and characteristics of Linkage and Crossing Over
Understand in details with application, if applicable, A General account of structural and numerical aberrations
Deliberate the classification and characteristics of A General account of chromosomal evolution of wheat and cotton
Account of structural and numerical aberrations

Write down in depth Cytoplasmic Inheritance
Cytoplasmic Inheritance
Understand the details of spontaneous and induced mutations
Specify the characteristics of Mutagens: Physical and chemical
Write down the details of Mutation at the molecular level
Deliberate the details of Mutations in plants, animals, and microbes for economic benefit of man
Specify in depth Karyotype in man

Learn in depth Inherited disorders - Autosomal (Klinefelter syndrome and Turner's syndrome), Autosomal (Down syndrome and Cri-Du-Chat syndrome)

Understand in details with examples

Introduction and Scope of Microbiology

Understand in depth Microscopy

Learn the characteristics of STERILIZATION

TECHNIQUES

Specify in depth STAINS AND STAINING

TECHNIQUES

Understand the details of Microbial Taxonomy

Specify the details of General Account of Viruses and Bacteria

Write down in details with examples Eukaryotic microorganisms

Understand in details with application, if applicable, Pathogenic Microorganisms

Specify in details with examples Importance and applications of biostatistics

Principle and application of spectroscopic techniques

Types of chemical bonding

Importance of isotopes in biological studies

classification and properties of amino acids

structure and classification of proteins

Introduction and classification of enzymes

Structures, properties and classification of carbohydrates

Structures, properties and classification of lipids

types of vitamins: Water soluble and fat-soluble vitamins

structure and importance of steroid hormones

Write down the details of Scope and development of Biophysics

Understand the details of pH and buffer concepts

Understand the details of Types of chemical bonding

Principles and applications of chromatography

DNA AND RNA STRUCTURE WITH FUNCTIONS

Experimental Proof for DNA and RNA as genetic material

Watson and crick model of DNA

Understand in details Forms of DNA
Types of Enzymes and proteins involved in replication
modes of DNA replication- Theta model and Rolling circle model

Identify the classification and characteristics of photoreactivation, excision repair, mismatch repair, SOS repair

The types of recombination in prokaryotes:
Transformation, Conjunction and Transduction

Specify the details of Properties of genetic code
Wobble hypothesis with an example

Transcription in prokaryotes and Eukaryotes
Translation in Prokaryotes and Eukaryotes
Regulation of Gene expression in prokaryotes and eukaryotes
Gene organization and expression in Mitochondria and Chloroplasts
Insertional elements and transposons
Deliberate in depth Tools and technique for genetic engineering
Identify the classification and characteristics of Screening and selection of recombinant host cells – Immunological screening and colony hybridization
Understand the classification and characteristics of Gene Libraries

Identify the classification and characteristics of Expression of cloned DNA in E.coli

Write down the classification and characteristics of Molecular biology techniques
Specify the characteristics of Application of r-DNA technique in human health
Write down in details with application, if applicable, Renewable and Non-Renewable resources of energy
Learn the details of Modern fuels and their environmental impact

Specify the classification and characteristics of Bioremediation and its application

Specify in details with application, if applicable, Biofertilizers and bioleaching and its application

Learn in details with application, if applicable,
Environmental significance of Genetically
modified organisms
Understand the characteristics of immunology
and immune system
Specify in details with application, if applicable,
Antigen Antibody reaction

Understand in details with application, if
applicable, Hypersensitivity and Allergic reactions
Understand the classification and characteristics
of Blood cell components, ABO blood grouping
RH typing
Write down the details of Vaccines and
Immunization
Deliberate the characteristics of Animal Tissue
Culture types and components

Deliberate the classification and characteristics
of transfection of animal cell lines
Learn the characteristics of Expression of Cloned
proteins in animal cell
Deliberate in depth Production of Vaccines and
monoclonal antibodies
Understand in details with application, if
applicable, Transgenic Animals
Specify in depth Growth factors in animal
biotechnology

Learn in details with application, if applicable, In-
vitro Methods in plant tissue culture
Understand the details of Somaclonal Variation
and their significance
Identify in depth In-Vitro production of
secondary metabolites
Write down the characteristics of Transgenic
plants

Deliberate in details with examples
Biotechnology and Intellectual property rights
Write down in details with application, if
applicable, basis principles of fermentation
technology
Specify in details with examples Screening and
Isolation of Microorganisms, maintenance of
strains improvement

Learn the classification and characteristics of
Fermentation Media and Sterilization techniques
Specify in details with examples Fermenters and
Type of Fermentation

Write down in details with application, if applicable, Down stream processing
Identify in details with examples Microbial products and fermented food
Understand in details with application, if applicable, Enzyme Biotechnology

Understand the characteristics of Plant cell suspension culture and mass culture of Algae

Learn in details with application, if applicable, Microbial polysaccharides and polyesters;
Discovery of cell, The Cell theory Ultrastructure of an eukaryotic cell
Deliberate the details of Cellular Organelles
Learn in details with application, if applicable, Surface Architecture

Deliberate in details with examples Cell Division
Deliberate in depth Amoeboid, ciliary and flagellar movements
Specify in details with examples Cell Senescence and Programmed Cell Death
Understand in details with examples Special types of chromosomes; Salivary gland and Lampbrush chromosomes

Understand the classification and characteristics of Single-stranded hypotheses, folded-fibre and nucleosome models

Understand the classification and characteristics of Discovery, morphology and structural Organization - centromere, secondary construction, telomere, chromonema, euchromatin and heterochromatin, chemical composition and karyotype
Identify the characteristics of Structure of DNA and RNA
Write down in depth Mendelism

Identify in details with examples Supplementary factors; Comb pattern in fowls Complementary genes; Flower colour in sweet peas
Understand the details of Multiple factors – Skin colour in human beings Epistasis: Plumage colour in poultry Multiple allelism: Blood groups in human beings

Learn the details of Multiple factors – Skin colour in human beings Epistasis: Plumage colour in poultry Multiple allelism: Blood groups in human beings

Understand in details with application, if applicable, Sex Determination in Plants and animals

Understand in details with examples Coupling and repulsion hypothesis

Write down in depth Coupling and repulsion hypothesis

Deliberate in depth Linkage in maize and Drosophila

Write down in details with application, if applicable, Mechanism of crossing over and its importance

Understand in details with examples

Chromosome mapping – Linkage map in maize

Understand in depth Chromosomal Variations

Write down the classification and characteristics of Cytoplasmic Inheritance

Deliberate in depth Mutagens: Physical and chemical

Identify in details with examples Types of mutagens

Learn the characteristics of Mutation at the molecular

Understand the characteristics of Karyotype in man

Deliberate in depth Inherited disorders -

Allosomal (Klinefelter syndrome and Turner's syndrome), Autosomal (Down syndrome and Cri-Du-Chat syndrome)

Understand in depth Classification based on structure and functions, structural organization of proteins

Learn in details with examples Introduction, classification, enzyme kinetics, factors influencing enzyme activity, co-enzymes and co-factors. Introduction, classification, enzyme kinetics, factors influencing enzyme activity, co-enzymes and co-factors

Basic structures, properties and classification of carbohydrates

Structures, properties and classification of carbohydrate

Understand in depth Basic structures, properties and classification of lipids
Types of vitamins Water soluble and fat-soluble and vitamins as dietary source

structure and importance of Steroid hormones
The Scope and development of Biophysics
The concepts of pH and buffer
Specify in depth general outlay on types of chemical bonding
Principles and applications of Chromatography and Centrifugation
classification and characteristics of general Spectroscopic
Importance of isotopes

DNA AND RNA STRUCTURE WITH FUNCTIONS
Experimental Proof for DNA and RNA as genetic material

Watson and crick model of DNA

Understand in details Forms of DNA

Types of Enzymes and proteins involved in replication

modes of DNA replication- Theta model and Rolling circle model

Identify the classification and characteristics of photoreactivation, excision repair, mismatch repair, SOS repair

The types of recombination in prokaryotes: Transformation, Conjunction and Transduction

Specify the details of Properties of genetic code
Wobble hypothesis with an example

Transcription in prokaryotes and Eukaryotes
translation in Prokaryotes and Eukaryotes
Regulation of Gene expression in prokaryotes and eukaryotes

Learn in details the Gene organization and expression in Mitochondria and Chloroplasts
Insertional elements and transposons

Understand the concept of Genetic Engineering

Identify the classification and characteristics of Tools for genetic engineering

Deliberate in details with application, if applicable, In Vitro construction of recombinant DNA molecules

Deliberate in depth Transformation of r-DNA
Write down in depth Screening and selection of recombinant host cells
Specify in details with application, if applicable, Molecular biology techniques

Understand in details with examples Renewable and Non-Renewable resources of energy

Understand in details with examples Modern fuels and their environmental impact

Understand the characteristics of Bioremediation
Specify the characteristics of Bioremediation and its application

Specify in details with application, if applicable, Biofertilizers and its application and gmo
Deliberate the classification and characteristics of Biofertilizers and bioleaching and its application

Write down the characteristics of Isolation of genomic DNA from bacteria plant and animal tissue

Learn in details with Isolation of plasmid DNA (E.coli)

Write down in details with application, if applicable, Restriction digestion of DNA
Specify in depth Separation of DNA by Gel Electrophoresis

Deliberate the details of SDA-PAGE
Specify the details of Bacterial Examination of Water by MPN Method

Understand Estimation of DO and total hardness

Write down characteristics of VAM staining
Understand the characteristics of immunology and immune system

Identify the classification and characteristics of antigen and antibody and their reaction
Write down in details with application, if applicable, vaccines and immunization
Learn the classification and characteristics of Hypersensitivity

Specify in details with examples Blood cell components
Identify the characteristics of animal tissue culture and media
Learn the characteristics of application of animal tissue culture

Identify in details with application, if applicable, In-vitro Methods in plant tissue culture

Identify in details with application, if applicable, Somaclonal Variation and their significance

Specify the classification and characteristics of In-Vitro production of secondary metabolites –

Deliberate the characteristics of Transgenic plants

Write down the characteristics of Biotechnology and Intellectual property rights
Deliberate in details with examples basic principles of fermentation technology

Understand in details with examples Screening and Isolation of Microorganisms, maintainance of strains and improvement
Specify in depth Fermentation Media and Sterilization techniques

Write down the classification and characteristics of Fermenters and Type of Fermentation
Deliberate in details with examples Down stream processing
Write down the classification and characteristics of Production of Microbial products and Fermented Foods
Specify the classification and characteristics of Enzyme Biotechnogy

Deliberate the details of Plant cell suspension culture and mass culture of Algae

Specify the classification and characteristics of Microbial polysaccharides and polyesters;
Understand in details with examples Chemical bonding
Learn in depth Radioactivity
Learn the details of Colligative properties
Identify in depth Electrodes

Write down in details with examples Acid,bases and Buffers

Specify the classification and characteristics of Viscosity and surface tension

Understand the details of Significant figures
Deliberate the classification and characteristics of Quantum numbers

Identify the details of Solids

Understand the classification and characteristics of Phase Rule

Deliberate in details with application, if applicable, Chemical Equilibrium & Reaction Kinetics

Identify in details with examples Catalysis

Deliberate in depth Alcohols, Phenols & Carbonyl compounds

Learn the characteristics of Alkylhalides and organometallic reactions &

Learn in depth Hydrocarbons, Cycloalkanes & Arenes

Identify the details of Environmental toxicology

Learn the characteristics of spectroscopy

Isomerism

Identify in details with application, if applicable, carboxylic acids

Understand the details of Biochemistry III

Identify in details with examples Biochemistry III

Understand the classification and characteristics of Tissues

Identify in details with application, if applicable, Digestive system

Specify in details with application, if applicable, Respiratory system

Respiratory system

Learn the details of cardiovascular system and blood

Learn the details of Nervous system and neurmuscular junction

Identify the classification and characteristics of Endocrine system

Deliberate the details of Nutrition

Deliberate the characteristics of scope of genetics

Write down the characteristics of ultra structure of cel and cell organelles

Learn in depth Ultra structure of cell and cell organelles

Specify in depth cell cycle and cell division
Learn in details with application, if applicable,
Spotter identification
Learn in depth Temporary squash preparation of
various samples for identification of meiotic
stages
Specify in details with application, if applicable,
biometry
Learn the details of history and scope of genetics
, terminologies in genetics
Understand in depth biography of Mendel and
his experiments with pea plants
Specify the classification and characteristics of
Mendel's law of segregation and independent
assortment
Identify the details of multiple and ABO blood
group system
Learn the characteristics of study of allelic and
non allelic gene interaction
Write down the characteristics of sex
differentiation
Study of floral structure of
pea/maize/Arabidopsis
Identification of meiotic stages in onion flower
bud and grasshopper testis
study of various gene interactions and genetic
problems
Multiple allelism and Blood typing
Computation of biometrical problems
Specify the classification and characteristics of
sex linkage
Specify the characteristics of extra chromosomal
inheritance
Identify in detail with example linkage and
crossing over
Write down the classification, characteristics
and evolutionary significance of chromosomal
aberrations

Specify the classification and characteristics of
physical basis of inheritance
Learn the characteristics of special types of
chromosome
Write down the classification and characteristics
of sex comb
Specify in details with examples salivary gland
chromosomes
Deliberate the characteristics of polytene
chromosomes

Specify the characteristics of culturing and handling of Drosophila

Specify the characteristics of types of drosophila
Specify in details with examples chromosomal aberrations

Specify in depth linkage and crossing over

Write down in depth chemical basis of heredity
Learn in details with examples nucleic acids
Write down in details with application, if applicable, DNA replication

Specify the characteristics of gene expression
Write down the characteristics of genome organization and fine structure of the gene

Specify the characteristics of bacterial genetics
Specify the characteristics of introduction to genomics and proteomics
Understand the characteristics of transposable elements

Write down the characteristics of mutations

Specify in details with examples Software
Learn in details with application, if applicable, Classification of Software

Understand in details with application, if applicable, Modular Programming

Learn the details of Structured Programming
Identify the characteristics of Algorithms and Flowcharts with examples

Understand in depth History of C,
Understand the classification and characteristics of Character set,
Identify in details with application, if applicable, C tokens

Write down in details with examples Identifiers

Specify in details with examples Keywords
Understand in details with application, if applicable, Data types

Identify in details with examples Variables
Specify the classification and characteristics of Constants,

Specify in depth Symbolic Constants,

Identify in depth Operators in C,
Specify in details with application, if applicable, Hierarchy of Operators

Understand in details with examples Expressions,

Write down in depth Type Conversions,

Write down in depth Library Functions

Write down in details with application, if applicable, Formatted and Unformatted I/O Functions

Write down the classification and characteristics of Decision making

Identify in details with application, if applicable, branching and looping

Write down in details with application, if applicable, Decision Making Statements

Identify in depth if Statement

Understand in details with application, if applicable, if-else statement

Learn in details with examples nesting of if-else statements

Specify the classification and characteristics of else-if ladder

Learn in depth switch statement

Learn in details with examples ?:

Specify the characteristics of Looping

Learn the details of while

Specify in details with examples do-while

Deliberate the details of for loop

Identify the details of Nested loop

Specify in depth break

Identify the characteristics of continue,

Understand the details of goto statements,

Specify in depth Functions: Function Definition

Learn the classification and characteristics of prototyping

Identify the characteristics of types of functions

Specify in details with examples passing arguments to functions

Deliberate in details with examples Nested Functions

Write down the details of Recursive functions

Deliberate in details with application, if applicable, Arrays

Deliberate the details of Declaring and Initializing Arrays

Learn in details with examples One Dimensional Arrays

Specify the classification and characteristics of Two Dimensional Arrays
Write down in details with examples Multi Dimensional Arrays
Learn in details with application, if applicable, Passing arrays to functions
Write down the classification and characteristics of Strings
Deliberate the details of Strings: Declaring and Initializing strings
Understand in details with application, if applicable, Operations on strings
Specify the classification and characteristics of Arrays of strings
Identify the characteristics of passing strings to functions
Specify in depth Storage Classes

Write down in details with examples Automatic, External, Static and Register Variables
Deliberate the classification and characteristics of Structures

Identify the classification and characteristics of Declaring and Initializing Structures

Specify in details with examples Nested structure
Identify in details with examples Array of Structure
Identify the characteristics of Passing Structures to functions
Understand in details with application, if applicable, Unions
Deliberate the classification and characteristics of typedef
Specify in depth enum,
Write down in depth Bit fields
Deliberate the details of Pointers
Learn the details of Declarations
Deliberate the characteristics of Pointer arithmetic
Deliberate the classification and characteristics of Pointers and functions
Learn in depth Call by value
Learn the classification and characteristics of Call by reference

Identify the characteristics of Pointers and Arrays,
Understand the details of Arrays of Pointers

Write down the classification and characteristics of Pointers and Structures

Understand the classification and characteristics of Meaning of static

Learn the classification and characteristics of

Meaning of static and dynamic memory allocation

Deliberate the classification and characteristics of Memory allocation functions

Deliberate in depth Files

Write down the classification and characteristics of File modes

Identify in details with examples File functions

Specify in details with examples File operations

Specify the classification and characteristics of Text and Binary files

Deliberate the classification and characteristics of Command Line arguments

Understand in depth C Preprocessor directives

Understand the classification and characteristics of Macros

Learn the classification and characteristics of

Definition, types of Macros

Specify the classification and characteristics of

Creating and implementing user defined header files

Write down in details with examples Creating user defined header files

Write down in depth Maximum power transfer theorem

Identify the characteristics of problems

Specify the characteristics of Statement

Understand in depth Statement, (Only with ONE voltage source)

Learn the characteristics of Norton's theorem

Deliberate the details of explanation by considering a simple resistive network

Write down the characteristics of steps to apply the theorem

Deliberate in details with application, if applicable, numerical problems and applications

Deliberate the classification and characteristics of graph of Vs PI

Deliberate in depth Reciprocity theorem

Learn in details with examples explanation of theorem by considering a simple resisting network

Identify the classification and characteristics of expression for maximum power deliver ($P_L(\max) = V_{th}^2/4R_{th}$) (no derivation)

Deliberate the classification and characteristics of Need for application of network theorems
Specify the characteristics of linear network
Specify in details with examples unilateral network

Understand in details with examples port of network (one port network, two port network)

Understand the characteristics of Kirchhoff's law.
Learn the details of introduction of network
Understand in details with application, if applicable, Steps to apply the theorem

Understand in depth explanation by considering a simple resistive networking and problems

Write down in depth problems

Write down in depth Thevenin's theorem

Understand in details with application, if applicable, Statement, (Only with ONE voltage source)

Deliberate the details of DC Circuits only

Learn in details with examples Superposition theorem

Understand in details with application, if applicable, statement, (only with TWO voltage sources)

Deliberate the details of bilateral network

Deliberate the classification and characteristics of steps to apply the theorem explanation by considering a simple resistive network

Understand the characteristics of Introduction to network theorems

Identify in depth Delta/star and star/Delta transformation

Deliberate the details of No derivation for Interconversion equations

Identify the characteristics of node voltage method

Write down in details with examples Numerical problems

Learn in depth Mesh/loop analysis (up to 2 loops)
Write down the details of Statement & explanation of KCL and KVL
Write down the classification and characteristics of Statement, explanation.

Understand the characteristics of Ohm's law
Understand the characteristics of AC fundamentals
Learn in depth Hexadecimal number system –Conversion
Specify the characteristics of Decimal to Hex, Hex to decimal
Learn the classification and characteristics of Hex to Binary, Binary to Hex
Identify the characteristics of Octal to Hex, Hex to Octal
Learn in depth Base /Radix
Identify the details of digits, radix/base, Binary number system –Bit Byte
Specify the characteristics of Conversions: Binary to Decimal and Decimal to Binary
Specify in depth Octal number system- Conversion from Octal to Decimal to Octal
Specify in depth Octal to Binary and binary to Octal
Learn the characteristics of 1's and 2's complement: 2's complement subtraction
Deliberate in depth Binary, arithmetic –binary addition

Understand the details of Introduction to number systems – positional and non-positional

Specify in details with examples subtraction, multiplication and division (only Integer part)

Learn in depth AND, OR, NOT Laws

Understand the characteristics of Commutative law, associative law, distributive law

Write down in details with application, if applicable, Binary code: BCD numbers, 8421 code, 2421 code- examples and applications

Understand in depth Gray code –Conversions- Gray to binary and Binary to Gray
Specify the details of application of gray code (Mention only)

Deliberate the characteristics of Excess-3 code – self complementing property and applications

Understand the classification and characteristics of Definition and nature of ASCII code
Identify in details with application, if applicable, Introduction to error detection and correction code
Deliberate the classification and characteristics of parity check. Boolean algebra:-Laws and theorems

Write down the details of Definition, symbol, truth table, timing diagram of IC 7432

Identify the details of redundant groups and don't care conditions Karnaugh map technique to solve 3 variable and 4 variable expressions
Identify the details of Simplification of 3 and 4 variable Boolean expression using K-maps (SOP only)

Understand in details with application, if applicable, Logic Gates: AND Gate: Definition

Write down the classification and characteristics of symbol truth table, timing diagram
Write down in details with examples Pin diagram of IC 7408. OR Gate

Write down in details with examples Duality theorem. Demorgan's theorems-Statements
Write down in details with examples proof using truth tables; Simplification of Boolean expressions using Boolean laws

Understand in details with examples Definition of product term, sum term, minterm
Specify in details with examples maxterm, SOP, standard POS and Standard POS

Specify the classification and characteristics of Conversion of Boolean expression to Standard SOP and Standard POS forms
Identify the details of Karnaugh maps-Definition of Karnaugh map
Learn the characteristics of K- map for 2, 3 and 4 variables

Write down in details with application, if applicable, Conversion of truth tables into k-map grouping of cells

Learn the classification and characteristics of Full Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table

Understand the characteristics of Adder

–Subtractor; Logic circuit, Pin diagram IC 7483, IC 7486. Parallel Adder

Understand the characteristics of 4 –bit parallel binary adder, BCD adder, IC 7483 NAND –NOR implementation of Adders

Deliberate the details of Sequential Circuits:

Importance of clock in digital circuit and introduction to flip flop

Identify the characteristics of Flip –flop-

difference between latch and flip-flop

Deliberate the details of NOT Gate: Definition symbol, truth table, timing diagram, Pin diagram of IC 7404

Deliberate in details with examples NAND Gate: Definition, symbol, truth table, Pin diagram of IC 7400, NOR Gate

Specify the details of Definition, symbol, truth table, timing diagram, Pin diagram of IC 7402

Understand in depth Exclusive OR Gate:

Definition, symbol, truth table, timing diagram

Understand the classification and characteristics of Combinational logic circuits

Write down in depth Definition, applications

Write down in details with examples Half Adder: Symbol, Logic circuits using XOR and basic gates, Truth table

Learn in depth Full Adder: Symbol, Logic circuits using XOR and basic gates, Truth table

Deliberate in depth Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table

Understand in depth Logic families: Scale of integration

Understand in details with application, if applicable, advantages & disadvantages

Identify the classification and characteristics of Circuit, working, wave forms and expression for ripple factor and efficiency (no derivation)

Specify in details with application, if applicable, advantages & disadvantages
Specify the classification and characteristics of Bridge wave rectifier
Learn in details with examples Circuit, working, wave forms and expressions for ripple factor and efficiently (no derivation)
Understand in depth Decimal number system- Definition
Learn the characteristics of DTL, TTL, ECL, MOS, CMOS, Mention of features
Specify in depth Digital IC's, classifications

Deliberate the classification and characteristics of speed of operation, power dissipation, propagation delay, fan-in, fan-out
Deliberate in depth Number Systems

Write down the characteristics of behaviour of pn junction under forward and reverse biasing

Identify the details of break down in pn junction

Identify in details with examples their currents
Identify in details with examples concept of immobile ions

Understand the classification and characteristics of avalanche and zener break down
Specify in details with examples Diode characteristics
Write down the classification and characteristics of V-I characteristic

Identify the characteristics of diode parameters
Write down in details with examples forward and reverse bias

Deliberate in details with application, if applicable, Rectifier, types, Half wave Full wave
Identify in details with application, if applicable, Half wave rectifier
Understand in details with examples bulk resistance
Specify the characteristics of knee voltage
Identify the characteristics of static and dynamic resistance
Deliberate in details with examples PIV
Learn in details with examples Application of diode

Identify in details with application, if applicable,
As a rectifier

Deliberate in depth as logic gate, as a switch, etc
Specify the classification and characteristics of
potential barrier

Deliberate the characteristics of energy level
diagram of pn junction

Identify in details with application, if applicable,
Biasing of pn junction

Specify in details with application, if applicable,
Semiconductor devices

Identify in details with examples PN junction
diode

Write down in details with application, if
applicable, formation of pn junction layer

Write down in details with examples Extrinsic
semiconductor

Deliberate in details with application, if
applicable, thermal generated charges (electron
and holes) carriers the effect temp on their
motion

Specify in depth Doping, donor acceptor
impurities

Understand in details with application, if
applicable, c-type, p-type semiconductor

Identify in depth majority and minority carriers

Deliberate the characteristics of Crystal structure
(Ge& Si)

Identify in depth Intrinsic semiconductor

Write down in details with application, if
applicable, types – intrinsic and extrinsic
semiconductor

Deliberate the characteristics of insulators and
semiconductors

Learn the details of Semiconductor

Learn in details with examples properties

Deliberate the details of crystal structure of
semiconductor

Understand in details with application, if
applicable, energy band diagram in solids

Identify in details with examples classification of
conductors

Deliberate in details with application, if
applicable, Introduction

Identify in details with application, if applicable,
energy level

Understand the details of average value

Understand in details with application, if applicable, r.m.s value cycle

Identify the details of peak value

Deliberate in details with application, if applicable, peak to peak value

Learn in depth Statement

Learn the details of instantaneous value

Deliberate in details with examples

Representation of ac sine wave

Identify the details of explanation using resistive network with dc source and numerical problems

Learn the characteristics of AC Fundamentals

Deliberate in details with examples

Representation of non sinusoidal waves

Understand the details of time period

Write down in depth frequency

Write down in details with examples No derivations, only mention the expressions

Write down the details of Semiconductor Devices

Write down in depth atomic structure

Write down in details with examples Qualitative study of level and edge triggering

Write down the classification and characteristics of RS latch /unlocked, symbol and truth table

Learn the characteristics of RS flip-flop using NAND gate

Deliberate the classification and characteristics of symbol, truth table and timing diagram

Learn the classification and characteristics of D flip –flop – Symbol, truth table

Specify in depth Realization of JK flip –flop using NAND gates

Understand in details with examples working, and timing diagram

Identify the classification and characteristics of Race around condition

Learn the classification and characteristics of present and clear inputs, pin diagram of IC 74112

Write down in details with application, if applicable, flip flop-Logic symbol, JK flip flop as a T flip –flop truth table and timing diagram

Learn in details with application, if applicable,
Master slave flip flop
Identify the characteristics of Logic circuit, truth table and timing diagram

Understand the classification and characteristics of advantage of M/S flip-flop
Understand the details of pin diagram of IC 7473
IC 7476

Identify in details with application, if applicable,
Registers: Definition, types of registers-Serial in serial out

Understand in depth serial in parallel out
Deliberate in depth Parallel in serial out, Parallel in parallel out shift register (Block diagram representation for each)

Write down the classification and characteristics of truth table, timing diagram and speed comparison

Understand the details of Sets relations and functions

Write down in depth matrices

Understand the details of logarithms
Deliberate in details with application, if applicable, groups

Write down in details with examples analytical geometry in 2d

Write down in details with examples permutation and combination

Identify in details with application, if applicable,
Write a C program to concatenate two strings using pointers.

Specify the characteristics of Write a C program to copy content of one file to another file.

Understand the classification and characteristics of Write a C program to calculate $NCR = \frac{N!}{R! * (N-R)!}$ Using function.

Understand in details with examples Write a C program to display Fibonacci series using recursive function.

Deliberate the characteristics of Write a C program to find product of two $N \times M$ matrices.

Deliberate the characteristics of Write a C program to arrange the given set of numbers in ascending and descending order.

Deliberate the details of Write a menu driven C program using switch-case to find: (a) Sum of the digits of number (b) Factorial of N.

Identify in details with examples Write a C program to find $\cos(x)$ using series $\cos(x) = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \dots \dots \dots \frac{x^n}{n!}$]

Write down in details with application, if applicable, Write a Program to find whether a given number is prime number are not

Learn the classification and characteristics of Write a C Program to find the roots of the given quadratic equation using if-else if statement. Identify the characteristics of Design and Realization of 4 bit Adder/Subtractor using IC 7483

Understand in depth Design and Realization of BCD Adder using IC 7483

Write down in details with examples Realization of J-K flip flop using IC 7400 and 7410

Understand the classification and characteristics of Realization of AND, OR and NOT gates using Universal Gates

Specify in details with examples Design and Realization of Half Adder/Subtracted using NAND Gates

Understand in details with application, if applicable, Study of Logic Gates–AND, OR, NOT, NAND, NOR XOR (Using respective ICs)

Learn the characteristics of Implementation of PIPO Shift Registers using flip flops. (IC 7476) Write down in depth Design and implementation of odd and even parity checker Generator using IC 74180

Identify the characteristics of Realization of T and D flip flop using IC 7476

Understand the classification and characteristics of Design and Realization of Full Adder using Logic Gates

Identify in depth Array representation of queue Write down the details of Implementation of recursive procedures by stack

Specify the characteristics of Queues – Definition Identify the characteristics of Linked list representation of queues Types of queue

Specify in details with application, if applicable,
Towers of Hanoi

Identify in details with examples Recursion
Deliberate in details with application, if
applicable, Linked representation of stacks

Specify in details with examples Stack as ADT
Deliberate in depth Arithmetic Expressions
Deliberate the classification and characteristics
of Polish Notation
Specify in details with application, if applicable,
Application of Stacks
Deliberate in depth Graphs

Deliberate in depth Graph theory terminology
Understand the details of Sequential
representation of Graphs
Understand in details with examples Tree –
Definitions
Identify the details of Binary trees

Identify the classification and characteristics of
Adjacency matrix, traversing a Graph
Deliberate the details of Simple queue
Specify in depth Circular queue
Understand the characteristics of Applications of
queues
Deliberate the characteristics of Double ended
queue
Understand in details with application, if
applicable, Priority queue
Learn in details with application, if applicable,
Operations on Queues
Identify in depth Traversing Binary Trees

Write down the details of Binary Search Trees

Write down the classification and characteristics
of Representing binary trees in memory
Write down in details with application, if
applicable, Searching
Identify the characteristics of Inserting and
Deleting in a Binary Search Tree
Understand in details with application, if
applicable, Introduction and Overview: of data
structure
Deliberate the classification and characteristics
of Introduction aDefinitionnd Overview: of data
structure

Write down the characteristics of Elementary data organization

Deliberate the characteristics of Data Structures

Identify the classification and characteristics of data structures operations

Understand the details of Abstract data types

Understand in depth algorithms complexity

Specify the classification and characteristics of time-space tradeoff.

Specify the details of Preliminaries

Write down in details with examples

Mathematical notations and functions

Specify in details with application, if applicable,

Algorithmic notations

Write down the details of control structures

Identify in details with application, if applicable,

Complexity of algorithms

Learn in details with examples asymptotic

notations for complexity of algorithms

Identify in depth String Processing: Definition

Deliberate the characteristics of Storing Stings

Specify in depth String as ADT

Write down the characteristics of String operations

Understand the details of word/text processing

Specify in details with application, if applicable,

Pattern Matching algorithms

Learn the classification and characteristics of

Arrays

Write down in depth Definition

Understand the classification and characteristics of Linear arrays

Specify in depth arrays as ADT

Deliberate the classification and characteristics of arrays as ADT

Write down in depth Representation of Linear

Arrays in Memory

Specify in details with examples Traversing Linear arrays

Deliberate in depth Inserting and deleting,

Specify the details of Sorting

Deliberate the classification and characteristics of Bubble sort

Learn the details of Insertion sort
Understand in details with examples Selection sort

Identify the characteristics of Searching
Understand in details with examples Linear Search

Write down in depth Binary search
Identify the classification and characteristics of Multidimensional arrays
Specify in details with application, if applicable, Linked list

Write down in details with examples Definition

Write down the classification and characteristics of Representation of Singly linked list in memory
Learn the classification and characteristics of Traversing a Singly linked list

Write down in depth Searching a Singly linked list
Understand the characteristics of Memory allocation
Identify in details with application, if applicable, Garbage collection
Write down the characteristics of Insertion into a singly linked list
Identify the characteristics of Deletion from a singly linked list

Identify the characteristics of Doubly linked list
Write down the details of Header linked list
Specify in details with application, if applicable, Circular linked list

Write down the details of Stacks

Write down the details of Definition
Deliberate the characteristics of Array representation of stacks

Write down the details of Introduction and Overview:

Specify in details with examples Definition, Elementary data organization,

Write down in details with application, if applicable, Data Structures, data structures operations,

Understand in details with examples Abstract data types

Specify in details with application, if applicable, algorithms complexity,

Learn the characteristics of time-space tradeoff.

Learn the details of Preliminaries: Mathematical notations and functions,

Learn the characteristics of Algorithmic notations,

Specify the characteristics of control structures
Write down the characteristics of Complexity of algorithms,

Specify in depth asymptotic notations for complexity of algorithms.

Deliberate in details with application, if applicable, String Processing:

Learn in details with examples Definition, Storing Strings, String as ADT,

Specify the characteristics of String operations,

Understand in details with examples , word/text processing, Pattern Matching algorithms

Learn the classification and characteristics of Arrays:Definition,

Understand the characteristics of Linear arrays,

Write down the characteristics of arrays as ADT,
Learn in details with examples Representation of Linear Arrays in Memory,

Understand in details with examples Traversing Linear arrays,

Specify in depth Searching: Linear Search, Binary search,

Identify the classification and characteristics of Multidimensional arrays,

Understand the details of Linked list: Definition,
Deliberate in details with application, if applicable, Representation of Singly linked list in memory,

Identify the details of Traversing a Singly linked list,

Identify in details with examples Searching a Singly linked list,

Deliberate in details with application, if applicable, Memory allocation,

Write down in details with examples Garbage collection,

Specify in depth inserting and deleting,

Understand the details of Sorting: Bubble sort, Insertion sort, Selection sort,

Specify the characteristics of Insertion into a singly linked list,

Write down in details with application, if applicable, Deletion from a singly linked list;
Specify in details with application, if applicable, Doubly linked list,
Understand in details with application, if applicable, Header linked list,

Learn the characteristics of Circular linked list.
Specify the characteristics of Stacks
Identify the details of Definition,

Write down the classification and characteristics of array representation of stacks,
Specify the characteristics of Linked representation of stacks,

Understand the characteristics of Stack as ADT,

Identify the classification and characteristics of Arithmetic Expressions: Polish Notation,
Deliberate the classification and characteristics of What is DBMS? What are the advantages and disadvantages of DBMS
Learn the details of Explain about Hashing Techniques

Write down the characteristics of 1. Explain Database System Environment with neat diagram
Write down the classification and characteristics of 2. What is ER Diagram? Explain the notations of ER diagram. Draw ER diagram for Bank Database
Specify the details of 3. Short note on: Relationship type, Relationship Set and Relationship Degree

Specify the classification and characteristics of Introduction: Database and Database Users
Write down in depth Characteristics of the Database Approach, Different people behind DBMS
Specify the classification and characteristics of Implications of Database Approach, Advantages of using DBMS,
Deliberate in details with application, if applicable, When not to use a DBMS

Identify in details with application, if applicable, Database System Concepts and architecture: Data Models, Schemas, and Instances

Understand the details of DBMS Architecture and Data Independence
Understand the characteristics of Database languages and interfaces

Write down the characteristics of The database system Environment, Classification of DBMS
Write down in details with application, if applicable, Data Modelling Using the Entity-Relationship Model:
Identify in details with examples High level conceptual Data Models for Database Design with an example.

Write down the classification and characteristics of Entity types, Entity sets, attributes, and Keys

Understand the classification and characteristics of ER Model Concepts, Notation for ER Diagrams
Identify in details with examples Proper naming of Schema Constructs,

Write down in details with examples Relationship types of degree higher than two

Identify the classification and characteristics of Record Storage and Primary File Organization:
Secondary Storage Devices
Deliberate the details of Buffering of Blocks
Learn in details with application, if applicable, Placing file Records on Disk

Specify in details with examples Operations on Files, File of unordered Records (Heap files),
Write down the characteristics of Files of Ordered Page 14 of 38 Records (Sorted files)

Understand the details of Hashing Techniques
Identify the details of Other Primary file Organization

Specify the details of Functional Dependencies and Normalization for Relational Database
Deliberate the classification and characteristics of Informal Design Guidelines for Relational schemas,
Identify in depth Functional Dependencies
Understand the characteristics of Normal Forms Based on Primary Keys.,

Identify the characteristics of General Definitions of Second and Third Normal Forms Based on Primary Keys.

Write down in details with application, if applicable, General Definitions of Second and Third Normal Forms

Learn the details of GBoyce-Codd Normal Form. R
Learn the characteristics of Relational Data Model and Relational Algebra:

Deliberate the classification and characteristics of Relational Model Concepts.,
Understand in details with application, if applicable, relational Model Constraints and relational Database Schema
Identify in depth rdefining Relations, Update Operations on Relations

Write down in depth Basic Relational Algebra Operations, Additional Relational Operations.,

Write down in details with examples Examples of queries in the Relational Algebra
Understand the classification and characteristics of Relational Database design Using ER-to-Relational Mapping.

Understand in depth Relational Database Language: Data definition in SQL, Queries in SQL
Identify the characteristics of Insert, Delete and Update Statements in SQL
Identify in depth Views in SQL, Specifying General Constraints as Assertions
Identify the classification and characteristics of specifying indexes, Embedded SQL. PL /SQL:
Introduction.
Understand in details with application, if applicable, Transaction Processing Concepts:
Introduction,

Specify in details with application, if applicable, Transaction and System Concepts,
Specify in details with examples Desirable properties of transaction,
Learn the characteristics of Schedules and Recoverability
Understand in depth Serializability of Schedules, Transaction Support in SQL
Learn in details with examples Locking Techniques for Concurrency Control

Write down the details of Concurrency Control based on time stamp ordering

Specify the characteristics of mean median and mode

Learn in details with examples standard deviation and coefficient of variation

Identify in details with application, if applicable, quartile deviation

Deliberate the classification and characteristics of Skewness and kurtosis

Identify in details with application, if applicable, correlation and Rank correlation

Understand in details with application, if applicable, probability

Understand in details with examples Numerical Analysis

Write down the classification and characteristics of Write a C program to simulate the working of Circular Queue using an array

Specify in details with examples Write a C program to create and traverse a binary search tree

Specify in details with application, if applicable, Write a C program to find GCD of two numbers using recursion

Learn the characteristics of Write a C program to convert infix arithmetic expression to post fix expression.

Learn in details with examples Write a C program to demonstrate the working of stack using linked list

Identify the classification and characteristics of

Write a C program for Towers of Hanoi problem

Deliberate in details with examples Write a C program to construct a singly linked list and perform insertion, deletion and Display operations.

Learn the classification and characteristics of

Write a C program to search for an element in an array using Binary search

Understand the details of Write a C program to sort a list of N elements using Selection Sort Algorithm

Understand in details with examples Write a menu driven C program to perform the following string operations without using string functions:

(i) String Length (ii) String Concatenation (ii)

String Reverse

Write down in details with application, if applicable, Consider the insurance database given below. The primary keys are underlined and the data types are specified. PERSON(driver-id-no: string, name: string, address:string) CAR(regno: string, model: string, year: int) ACCIDENT(report-no: int, date: date, location: String) OWNS(driver-id-no: string, regno: string) PARTICIPATED(driver-id-no: string, regno: string, report-no: int, damage-amount: int)

Write down in depth The SALARY database of an organization has a table with the following attributes. EMPSALARY(empcod:int, empname:string, dob:date, department:string, salary:real) i) Create the above table. ii) Enter the five tuples into the table iii) Display all the number of employees working in each department. iv) Find the sum of the salaries of all employees. v) Find the sum and average of the salaries of employees of a particular department. vi) Find the least and highest salaries that an employee draws

Understand in depth The STUDENT detail databases has a table with the following attributes. The primary keys are underlined. STUDENT(regno: int, name: string, dob: date, marks: int) i) Create the above table. ii) Remove the existing attributes from the table. iii) Change the date type of regno from integer to string. iv) Add a new attribute phoneno to the existing table. v) Enter five tuples into the table. vi) Display all the tuples in student table.

Write down in depth A LIBRARY database has a table with the following attributes. LIBRARY(bookid:int, title:string, author:string, publication:string, yearpub:int, price:real) i) Create the above table. ii) Enter the five tuples into the table iii) Display all the tuples in student table. iv) Display the different publishers from the list. v) Arrange the tuples in the alphabetical order of the book titles. vi) List the details of all the books whose price ranges between Rs. 100 and Rs. 300

Write down in details with examples Consider the following database of students enrollment in courses and books adopted for each course.

STUDENT(regno: string, name: string, major: string, bdate: date) COURSE(course-no: int, cname: string, dept: string) ENROLL(reg-no: string, course-no: int, sem: int, marks: int) BOOK-ADOPTION(course-no: int, sem: int, book-isbn: int) TEXT(book-isbn: int, book-title: string, publisher: string, author: string) i) Create the above tables by properly specifying the primary keys and the foreign keys ii) Enter atleast five tuples for each relation. iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department. iv) Produce a list of text books (include Course-no, book-isbn, book-title) in the alphabetical order for courses offered by the 'Compute Science' department that use more than two books. v) List any department that has all its adopted books published by a specific publisher

Write down in depth Consider the following database for BANK. BRANCH(branch-name: string, branch-city: string, assets: real) ACCOUNT(accno: int, banch-name: string, balance: real) DEPOSITOR(customer-name: string, accno: int) CUSTOMER(customer-name: string, customer-street: string, customer-city: string) LOAN(loan-no: int, branch-name: string, amount: real) ORROWER(customer-name: string, loan-no: int) i) Create the above tables by properly specifying the primary keys and foreign keys. ii) Enter atleast five tuples for each relation. iii) Find all the customers who have atleast two accounts at the main branch. iv) Find all customer who have an account at all the branches located in a specific city. v) Demonstrate how to delete all account tuples at every branch located in specific city.

Identify in details with application, if applicable,
Consider the following database for ORDER
PROCESING. CUSTOMER(cust-no: int, cname:
string, city: string) ORDER(orderno: int, odate:
date, ord-amt: real) ORDER_ITEM(orderno: int,
itemno:int, qty: int) ITEM(itemno: int, unitprice:
real) SHIPMENT(orderno: int, warehouseno: int,
ship-date: date) WAREHOUSE(warehouseno: int,
city: string) i) Create the above tables by properly
specifying the primary keys and the foreign keys
ii) Enter atleast five tuples for each relation. iii)
List the order number and ship date for all orders
shipped from particular warehouse

Understand the details of The following tables
are maintained by a book dealer AUTHOR(author-
id: int, name: string, city: string, country: string)
PUBLISHER(publisher-id: int name: string, city:
string, country: string) Page 18 of 38
CATLOG(book-id: int, title : string, author-id: int,
publisher-id: int, category: int, year: int, price:
int) CATEGORY(category-id: int, description:
string) ORDER-DETAILS(order-no: int, book-id:
int, quantity: int) i) Create above tables by
properly specifying the primary keys and the
foreign keys. ii) Enter atleast five tuples for each
relation. iii) Give the details of the authors who
have 2 or more books in the catalog and the
price of the books is greater than the average
price of the books in the catalog and the year of
publication is after 2010. iv) Find the author of
the book which has maximum sales
Learn in details with examples Command Line
Arguments
Specify the classification and characteristics of
Closing Files

Deliberate the characteristics of Error Handling
Specify in depth Specifying the position,
Specifying the offset
Learn in details with application, if applicable,
File Pointers
Write down in details with examples The tellg
Function

Identify in depth Disk I/O with Memory Functions

Understand in details with examples Writing strings, reading strings, character I/O, Detecting End – of – file

Identify the details of Object I/O

Write down the details of the fstream class

Learn the characteristics of writing an object to disk, reading an object from disk, I/O with multiple objects

Understand the characteristics of The open function

Understand in details with application, if applicable, Reusability

Understand in depth Inheritance

Write down the characteristics of Data

Encapsulation,

Identify in details with examples Data

Abstraction,

Learn the classification and characteristics of The endl, Set Waste precision, Manipulators, The scope resolution operator, The new & delete operation

Deliberate the details of Functions

Understand in details with examples Simple Functions, Function declaration, calling the function

Write down the characteristics of function definition

Deliberate in depth Data Hiding member functions

Learn the details of Creating new Data Types, Polymorphism, Overloading , Dynamic binding and Message passing.

Understand in depth C++ Features

Specify the characteristics of The iostream class, C++ Comments, C++ Keywords, Variable declaration, The Const Qualifier

Identify the classification and characteristics of Passing argument

Learn in details with examples returning value from function

Write down in details with application, if applicable, passing constants

Understand the classification and characteristics of Variables

Write down the characteristics of return statements

Learn the characteristics of pass by value

Specify in details with application, if applicable, passing structure variables

Specify the characteristics of pass by reference
Deliberate the characteristics of Default arguments
Understand the characteristics of overloaded functions

Deliberate the details of Basic concept of OOP
Specify the details of definition of OOP,

Identify in details with examples Classes & Objects, Class Declaration, Class member; Data Constructions, Destructors, Member functions, Class member visibility, private, public, protected
Identify the classification and characteristics of inline function

Identify in details with application, if applicable, The scope of the class objects constructions
Deliberate in details with application, if applicable, Default Constructor
Understand the details of Constructor with argument, constructor with default arguments, Dynamic constructor, copy constructor, Overloaded constructo

Learn the details of Objects as arguments returning objects from Page 20 of 38 functions, class conversion, manipulation private Data members, Destructors classes, object & memory, arrays as class member data
Understand the details of Different number of arguments,

Write down in depth Different Kinds of argument, Learn in depth return by reference
Specify in details with examples Specifying the Derived class accessing Base class members, the protected access specifier, D

Deliberate in depth Derived Class & Base Class

Write down in details with examples conversion between objects of different classes
Identify the details of Specifying the Derived class accessing Base class members, the protected access specifier, D
Learn in depth Specifying the Derived class accessing Base class members, the protected access specifier, D

Write down in details with application, if applicable, Derived class constructor, Overriding member functions, public and private inheritance
Understand the characteristics of Array of objects, string as class member.
Learn the characteristics of Overloading unary operator: Operator Keyword, Operator arguments, Operator return value
Deliberate in depth Operator Overloading
Understand in details with examples Nameless temporary objects
Learn the details of limitations of increment operator, overloading binary operator, arithmetic operators, comparison operator, arithmetic assignment operator
Identify in details with application, if applicable, data conversion;
Specify the characteristics of conversion between objects of different classes
Identify in details with examples Templates & Exception Handling

Understand in depth Accessing Member Data with this, using this for returning values

Write down the details of Dynamic binding, pure virtual functions, Friend function; Friends for functional notation, friend classes, the pointer
Identify the details of The Stream class Hierarchy, Stream classes Header file
Specify in depth string I/O
Understand the details of Introduction, Templates, Class Templates, function templates, Member function templates, Template arguments, Exception Handling

Understand in details with application, if applicable, Containership; Classes, within classes, Inheritance & Program development.
Learn the classification and characteristics of Virtual functions
Deliberate in details with examples Access Combinations, Classes & Structures, Access Specifiers

Specify in details with application, if applicable, Level of inheritance; Multilevel inheritance, Hybrid inheritance, Multiple inheritance; member functions in multiple inheritance , constructors in multiple inheritance

Identify in details with examples Virtual member functions accessed with pointers

Understand the details of Normal member function accessed with pointers

Identify in depth Procedure Languages

Learn the details of Critical regions

Identify in details with application, if applicable, monitors

Learn in details with examples Protection and Security

Understand the characteristics of Goals of protection

Deliberate the classification and characteristics of Domain Protection

Understand the classification and characteristics of One time password

Write down the characteristics of System threads

Identify in details with examples program threats

Understand in depth Access matrix

Understand in details with examples Security Problem

Specify the characteristics of Authentication,

Learn in details with examples Protection

Understand in details with application, if applicable, Security

Understand in details with application, if applicable, Case Study of Windows and Linux Operating System

Specify the characteristics of Dead locks – system model

Identify in details with examples Characterization

Identify in details with examples Dead lock prevention

Understand in depth avoidance and detection

Understand in depth Recovery from dead lock

Specify the classification and characteristics of Combined approach to deadlock handling

Learn in details with examples Logical and Physical address space

Learn in depth Swapping

Write down the classification and characteristics of Contiguous allocation

Specify the details of Paging

Write down the details of Segmentation
Identify in details with application, if applicable,
Algorithm evolution.
Deliberate in details with examples The Critical
Section Problem
Learn the classification and characteristics of
Multiple Processor Scheduling
Specify the classification and characteristics of
Real time Scheduling
Write down in details with examples CPU
Scheduling Criteria
Learn in details with examples Scheduling
algorithm
Deliberate the classification and characteristics
of Threads

Deliberate in depth Inter process communication
Write down in details with examples
Synchronization hardware
Specify the characteristics of Semaphores
Identify the characteristics of Classical problems
of synchronization
Specify the characteristics of Segmentation with
paging in Mastics and Intel 386
Write down in details with application, if
applicable, Virtual memory-Demand paging and
it's performance
Deliberate in details with examples Page
replacement algorithms
Deliberate the characteristics of Allocation of
frames
Specify the characteristics of thrashing
Understand the characteristics of page size and
other considerations
Learn the characteristics of Demand
Segmentation.

Deliberate the characteristics of File Concepts
Write down in details with examples Access
methods
Identify in details with examples Directory
Structure

Specify the details of Protection and consistency
Write down in depth File system structure,
Deliberate the classification and characteristics
of Allocation methods
Understand the details of Free space
management

Specify in details with application, if applicable,
Directory Implementation
Understand the details of Efficiency and
Performance
Understand the characteristics of Disk Structure
& Scheduling methods
Deliberate in details with application, if
applicable, Disk management

Learn the details of Swap – Space management.
Learn the characteristics of Co – Operating
process
Write down the characteristics of Process
Scheduling
Learn in details with application, if applicable,
System calls
Identify in details with examples System
programs

Identify in details with examples Virtual machines
Understand the classification and characteristics
of Process Concept
Learn the classification and characteristics of
Operating System Structures
Specify the classification and characteristics of
Components & Services
Write down in depth Batch Systems
Deliberate in depth Concepts of
Multiprogramming and Time Sharing

Write down the classification and characteristics
of Parallel, Distributed and real time Systems
Identify in details with application, if applicable,
OS
Learn in depth WHAT IS OS

Identify the classification and characteristics of
what are the types of operating system

Write down the classification and characteristics
of what is batch processing system
Learn the characteristics of what is
multiprogramming system
Identify in details with application, if applicable,
parallel system
Learn the classification and characteristics of
compaction

Identify the classification and characteristics of
Write a program to prepare a shopping lists

Identify in details with application, if applicable,
Write a program to perform bank transactions
Specify the details of Write a program to swap
numbers using friend function

Learn in depth Write a program to calculate area
and circumference of circle using inline function
Understand in depth Write a program to perform
multiplication of two matrices using operator
overloading
Deliberate in depth Write a program to
implement operation on queue

Deliberate in depth Write a program to create a
student report using inheritance technique

Write down the characteristics of Write a
Program to find the area and volume of
respective figures using function overloading

Deliberate the characteristics of Write a program
to show returning current object, accessing
member data of current object and returning
values of object using this pointer

Identify the details of Write a program to sort
elements using template

Specify in details with examples Introduction to
Visual Programming

Understand the characteristics of The intergrated
Development Environment – menu bar, tool bar,
from designer, project explorer , properties
window , from layout window , The Visual
Programing editor

Understand the classification and characteristics
of The form object: Properties , events and
methods pf forms

Deliberate the classification and characteristics
of Properties – Name , Caption , Backcolor,
BorderStyle , controlbox , maxbutton ,
minbutton, moveable, startup position , height,
width , left, top, scalemode, window, state
Understand the classification and characteristics
of Events –load ,unload , Clerk, Activate ,
Deactivate , Resize

Deliberate the details of methods – Show , hide , cls , Unload ,print , Controls –Properties and events of different controls such as command buttons , labels , textboxes image controls , timer, horizontal and vertical scroll bars , option buttons , check boxes , frames lists and combo boxes. Predefined Dialog Boxes – MsgBox and InputBO

Identify the classification and characteristics of Programming: Data types, variables

Deliberate the classification and characteristics of declaration and scope arithmetic operations Write down in details with application, if applicable, Study of form and code modules Understand in details with examples private and public procedures Write down the classification and characteristics of Main o procedure

Identify the characteristics of Suba and Functions. Mathematical and string Functions Deliberate in depth Branching and Looping Statement

Deliberate in details with examples If – Then , if –Then –Else and Nested If Statements

Identify the classification and characteristics of Select Case –different forms Write down the details of For – Next , While – Wend and Do – Loops statements Learn the details of Arrays- declaration . Static and dynamic arrays Specify in depth Array and Function, menus and toolbars-Creating menus and toolbars, Working with the menu editor , Designing Multiple Document interface forms Write down in details with examples Microsoft common controls

Specify the classification and characteristics of OOP methods and properties of an object Learn in details with application, if applicable, class Modules

Specify in details with examples Encapsulation and Inheritance characteristics Dynamic Link Libraries (DLLs) and Windows API

Understand in details with application, if applicable, Designing Help files

Specify the classification and characteristics of File handling – Sequential, Random access and Binary files, Database connectivity – DAO and ADO Tables and Queries, ActiveX Data objects
Learn in details with examples Visual C++ Programming
Specify the characteristics of Visual C++ Programming

Specify the details of Resources-Event Handling – Menus – Dialog Boxes – Importing VBX Controls – Files – MFC File Handling – Document View Architecture – Serialization
Identify the characteristics of Interfacing Other Applications
Specify in depth – Multiple Document Interface (MDI)
Deliberate in depth Splitter Windows
Deliberate in depth Exception Handling
Deliberate the details of Debugging –
Identify the details of Object Linking and Embedding (OLE)
Identify the classification and characteristics of Database Application

Write down the characteristics of DLL- ODBC.

Deliberate the characteristics of Introduction: History, salient features, Unix system architecture, Unix command format, Unix internal and external commands, Directory commands, File related commands, Disk related commands, general utilities
Identify in details with application, if applicable, Unix File System
Understand in depth Boot inode, super and data block, in-core structure, Directories, conversion of pathname to inode, inode to a new file, Disk block allocation

Specify in details with application, if applicable, Process Management: Process state and data structures of a Process, User vs, kernel node, context of a Process, background processes, Process scheduling commands, Process terminating and examining commands

Learn the details of Secondary Storage Management: Formatting, making file system
Understand the classification and characteristics of checking disk space
Write down the classification and characteristics of mountable file system, disk partitioning, file compression
Write down the details of Special Tools and Utilities

Understand in details with examples Filters, Stream editor SED and AWK, Unix system calls and library functions, Processes, signals and Interrupts, storage and compression facilities
Specify the details of Shell Programming
Identify in details with application, if applicable, Vi editor, shell types
Understand the details of shell command line processing
Deliberate in depth shell script features
Specify in details with examples executing a shell script
Understand in depth system and user-defined variables

Understand the characteristics of expr command
Identify in details with application, if applicable, shell screen interface
Deliberate the characteristics of read and echo statement
Deliberate in details with application, if applicable, command substitution

Deliberate in depth escape sequence characters
Deliberate the classification and characteristics of shell script arguments
Specify the characteristics of positional parameters

Specify in details with examples test command
Specify in details with application, if applicable, file test
Identify in details with application, if applicable, string test, numeric test

Deliberate in details with application, if applicable, Conditional Control Structures-if statement, case statement Looping Control Structurewhile, until, for, statements

Deliberate the characteristics of Jumping Control Structures – break, continue, exit. Shell Programs covering the above concepts

Specify the classification and characteristics of Unix System Communication: Introduction, write, read, wall commands, sending and handling mails
Deliberate in details with application, if applicable, System Administration
Write down the characteristics of Roles of a System Administrator
Identify in details with application, if applicable, File System Maintenance

Write down the classification and characteristics of System Startup and Shutdown

Deliberate the classification and characteristics of User Management

Identify in depth Backup and Restore

Write down in depth Doemons, Domain Name System DNS, Distributed File System.

Deliberate in depth Linear Programming Problems

Specify the details of Origin and development of operations research

Write down the characteristics of Linear

Programming Problem –formulation of Linear Programming problem

Write down the characteristics of Graphical solution

Identify in depth Theory of simplex method

Deliberate the details of Use of artificial variables and their solution

Write down in details with application, if applicable, Transportation Problem:

Mathematical formulation of transportation problem

Write down the details of Initial basic Feasible solution

Learn in depth North West corner rule

Specify in depth Matrix minima method

Identify the characteristics of Vogel's approximation method

Understand in depth MODI method to find optimal solution

Specify in details with application, if applicable, Assignment Problem: Mathematical formulation of an Assignment problem

Deliberate in depth Assignment algorithm
Identify in depth Hungarian Method to solve
Assignment Problem
Write down the classification and characteristics
of Network Analysis: Basic components of
Network
Learn the classification and characteristics of
Rules for drawing Network diagram Time
calculation in Networks

Understand the details of Critical Path Method
and PROJECT Evaluation and Review Techniques
Write down the details of Algorithm and flow
chart for CPM and PERT
Identify in depth the maximin and Minimax
principle

Understand in details with application, if
applicable, Saddle point and value of the Game

Identify in depth Game without saddle points

Learn in details with examples mixed strategies
Specify in details with examples solution for 2X2
games
Deliberate in depth Graphical method
Dominance property
Understand the classification and characteristics
of unix
Write down in depth unix
Specify in details with examples Finite automata
with Epsilon transitions.
Write down in depth An application of finite
automata
Understand in depth Nondeterministic finite
automata
Deliberate the details of Deterministic finite
automata

Specify in depth Introduction to Finite Automata
Specify in details with examples The central
concepts of Automata theory

Deliberate in details with application, if
applicable, Regular Expressions: Finite Automata

Understand the characteristics of Regular
Expressions Applications of Regular Expressions
Deliberate the classification and characteristics
of Regular languages

Learn in details with examples Proving languages not to be regular languages
Write down in depth Closure properties of regular languages
Write down the details of ; Decision properties of regular languages
Deliberate the details of Equivalence and minimization of automata
Learn the details of Context-free grammars
Learn in depth Parse trees
Specify the classification and characteristics of Applications
Understand in depth Ambiguity in grammars

Understand in details with examples Languages
Identify the details of Definition of the Pushdown automata
Write down the characteristics of the languages of a PDA

Specify the classification and characteristics of Equivalence of PDA's and CFG's

Specify the classification and characteristics of Deterministic Pushdown Automata
Deliberate the classification and characteristics of Normal forms for CFGs

Specify the classification and characteristics of The pumping lemma for CFGs
Specify the characteristics of Closure properties of CFLs
Specify in depth Problems that Computers cannot solve
Understand in details with examples The Turing machine

Identify in details with application, if applicable, :Programming techniques for Turing Machines
Specify the details of Undecidability

Learn in details with application, if applicable, A Language that is not recursively enumerable
Specify the details of Post's Correspondence problem
Identify the details of An Undecidable problem that is RE
Learn the details of PHASES OF COMPILERS:
Simple Structure of Compiler, Brief introduction to 7 Phases of Compilers

Deliberate in details with application, if applicable, . Optimization (machine independent) optimization (machine dependent) Specify in details with examples Assembly Phase, General Model of compiler.
Identify in details with application, if applicable, Problem4: Code Generation
Write down in details with examples Problem3: Storage Allocation

Understand the details of Problem2: Recognizing Syntactic cutis & interpreting meaning

Understand the classification and characteristics of Problem1: Recognizing basic Elements
Learn in depth COMPILERS: Statement of problem

Understand the characteristics of Specification of data structure, format of data bases algorithm
Identify in depth linking loaders, Overlays, Dynamic binders

Learn in details with application, if applicable, Design of absolute loader, Design of a Direct linking loader Specification of problem
Understand the classification and characteristics of Direct linking loaders, other loading Schemes – Binders
Write down the characteristics of Subroutine Languages, Relocating loaders,
Understand in details with examples General loading Scheme, absolute loaders
Learn in details with application, if applicable, Compile & go
Deliberate the classification and characteristics of LOADERS: Loader schemes

Learn in details with application, if applicable, Implementation within an assembles

Identify the classification and characteristics of A single pass algorithm, implementation of macro calls within macros
Write down in depth Background: Machine Structure
Identify the characteristics of Evolution of the Components of a Programming System
Write down the classification and characteristics of Assembler

Specify the details of Loaders
Learn the characteristics of Macros
Deliberate the details of Compilers
Write down the details of Formal Systems
Learn in details with examples Machine
Structure, Machine Language and assembly
language
Understand in details with examples General
Machine Structure
Understand in details with examples Machine
Language, Assembly Language
Learn the details of Assemblers: General Design
Procedure
Understand the classification and characteristics
of Design of assembler
Identify the details of Statement of Problem
Specify in depth Data structure
Deliberate the details of Format of databases,
algorithm
Write down the classification and characteristics
of look for modularity
Learn the details of look for modularity
Specify in depth Table Processing: Searching and
Sorting
Understand in details with application, if
applicable, The Problem, Searching a table
Learn the characteristics of linear Search
Learn the details of binary Search, Sorting

Specify the details of interchange sort, Shell Sort
Write down the characteristics of Bucket Sort,
Radix Exchange Sort
Deliberate in details with examples address
calculation sort
Learn the classification and characteristics of
address calculation sort
Learn in depth comparison of sorts
Deliberate in details with examples hash or
random entry searching
Specify in details with examples MACRO
LANGUAGE AND THE MACRO PROCESSOR:

Learn the characteristics of Macroinstruction
Write down the details of Features of macro
Facility

Write down the details of , Macro instruction
arguments, conditional macro Expansion

Deliberate the characteristics of macro calls within macros
Identify the classification and characteristics of macro Instructions defining macros,
Implementation

Specify the characteristics of Statement of problem, implementation of a restricted facility
Write down in details with examples A two pass algorithm

Understand the details of Introduction
Specify the classification and characteristics of Security Goals
Write down in details with application, if applicable, Cryptographic Attacks
Understand the details of Services and Mechanism
Learn in details with application, if applicable, Techniques
Identify in details with application, if applicable, Mathematics of Cryptography
Understand in details with application, if applicable, Mathematics of Cryptography
Identify the details of Matrices, Linear Congruence
Understand the details of Traditional Symmetric-Key Ciphers
Specify in depth Introduction, Substitution Ciphers

Deliberate the characteristics of Transpositional Ciphers, Stream and Block Ciphers
Learn in details with examples Data Encryption Standard (DES)
Write down in details with examples
Introduction, DES Structure, DES Analysis
Understand the details of Security of DES

Identify the characteristics of Modular Arithmetic
Deliberate in details with application, if applicable, Integer Arithmetic
Identify the details of Multiple DES

Specify the classification and characteristics of Examples of Block Ciphers influenced by DES
Understand the characteristics of Advanced Encryption Standard: Introduction, Transformations, Key Expansion, The AES Ciphers, Examples, Analysis

Deliberate the classification and characteristics of Advanced Encryption Standard
Learn the characteristics of Introduction, Transformations, Key Expansion,

Specify the classification and characteristics of The AES Ciphers, Examples, Analysis of AES.
Learn the characteristics of Encipherment using Modern Symmetric-Key Ciphers
Write down in depth Use of Modern Block Ciphers
Deliberate in details with examples Primes, Primality Testing, Factorization
Write down the classification and characteristics of Chinese Remainder Theorem, Quadratic Congruence
Specify in details with application, if applicable, Exponentiation and Logarithm
Specify the details of Asymmetric Key Cryptography

Identify the classification and characteristics of Introduction, RSA Cryptosystem
Learn in depth Rabin Cryptosystem, Elgamal Cryptosystem
Learn the characteristics of Elliptic Curve Cryptosystems
Identify in details with examples Use of Stream Ciphers, Other Issues

Learn in details with examples Mathematics of Asymmetric-Key Cryptography
Write down in details with application, if applicable, Cryptography Hash Functions

Understand the characteristics of Introduction, Description of MD Hash Family
Learn in details with examples Comparison, Process, Services
Specify in details with application, if applicable, Attacks on Digital Signature, Digital Signature Schemes
Write down in details with application, if applicable, Variations and Applications
Specify the details of Key Management: Symmetric-Key Distribution
Learn the characteristics of Kerberos, Symmetric-Key Agreement

Understand the classification and characteristics of Public-Key Distribution, Hijacking
Specify in depth Whirlpool, SHA-512. Digital Signature
Deliberate in depth Security at the Application Layer: PGP and S/MIME
Learn in depth Email, PGP, S/MIME

Learn in depth Security at the Transport Layer
Deliberate in details with examples SSL and TLS: SSL Architecture
Learn the characteristics of Four Protocols, SSL Message Format

Specify the details of Transport Layer Security
Understand in depth Security at the Network Layer
Specify the characteristics of Internet Key exchange, ISAKMP
Identify in depth IPSec: Two modes, Two security protocols
Understand the details of Security association, security policy
Write down in details with application, if applicable, XML schemas; Displaying raw XML documents
Write down in depth Displaying XML documents with CSS;
Understand the characteristics of XSLT style sheets; XML Processors; Web services

Specify the classification and characteristics of Element visibility; Changing colors and fonts
Specify the details of Dynamic content; Stacking elements
Write down the details of Locating the mouse cursor; Reacting to a mouse click
Understand the characteristics of Slow movement of elements
Specify the characteristics of Dragging and dropping elements. XML
Write down in depth Introduction; Syntax; Document structure
Learn the characteristics of Document Type definitions; Namespaces
Write down in details with application, if applicable, Basic text markup
Learn in details with examples Basic syntax, Standard XHTML document structure

Specify in depth Images, Hypertext Links, Lists, Tables

Identify in details with application, if applicable, HTML and XHTML: Forms

Write down in depth Frames in HTML and XHTML

Specify in details with application, if applicable, Syntactic differences between HTML and XHTML
Specify the details of CSS: Introduction

Understand the details of Levels of style sheets

Specify in details with examples Style specification formats

Identify in details with application, if applicable, Style specification formats

Write down in details with application, if applicable, Selector forms

Write down in depth Property value forms, Font properties

Learn the classification and characteristics of The Box model, Background images

Identify the characteristics of The Box model, Background images

Deliberate in details with examples List properties, Color, Alignment of text

Specify the characteristics of , Conflict resolution.

Specify the characteristics of General syntactic characteristics

Learn in details with examples Primitives, Operations, and expressions

Deliberate the characteristics of Screen output and keyboard input

Write down the details of Control statements

Understand in details with examples Object creation and Modification

Deliberate in details with application, if applicable, Arrays; Functions

Deliberate in depth Constructor; Pattern matching using expressions

Deliberate the characteristics of Java Script: Overview of JavaScript

Write down in details with application, if applicable, Object orientation and JavaScript

Learn the details of Examples

Deliberate the classification and characteristics of Java Script and HTML Documents
Write down the classification and characteristics of Errors in scripts
Deliberate the characteristics of The JavaScript execution environment
Deliberate the details of The Document Object Model
Understand the details of Element access in JavaScript
Write down the classification and characteristics of Events and event handling
Deliberate in depth Handling events from the Body elements
Learn in details with application, if applicable, Button elements, Text box and Password elements
Understand in depth The DOM 2 event model; The navigator object
Deliberate the characteristics of DOM tree traversal and modification
Deliberate the details of Dynamic Documents with JavaScript
Learn in depth : Introduction to dynamic documents
Understand in details with examples Positioning elements; Moving elements
Write down in details with examples Fundamentals of Web
Understand the details of Internet
Specify the characteristics of WWW
Learn the details of Web Browsers
Identify the characteristics of Web Servers
Learn the details of URLs, MIME, HTTP

Specify the classification and characteristics of Security, The Web Programmers Toolbox
Write down in details with application, if applicable, XHTML: Origins and evolution of HTML and XHTML
Identify the details of Basic syntax, Standard XHTML document structure
Introduction to Textile Fibers
Understand in depth Classification and properties of Textile Fibers
Learn in details with application of Cellulose Fibers- Cotton, Flax, Kapok, Hemp, Ramie properties and end uses

Protein Fibers-Silk,wool properties and end uses

Identify the details of Regenerated cellulose fibers- Viscose Rayon, Acetate Rayon, Tencel
Production source, properties and end uses
Regenerated cellulose fibers-Modal, Bamboo, Lyocel
Production source, properties and end uses

Understand the details of Synthetic Fibers-
Nylon, Polyester,Acrylic and modacrylic-
properties and end uses

Learn the characteristics of Polyethylene,
polypropylene,olefin properties and end uses

Identification of Elastometric Fibers(Spandex
and Lycra)- Properties and end uses

Yarn manufacturing process for short staple fibers
Understanding Spinning Process- Ring and Open
end yarn Spinning

characteristics of Flowchart for manufacturing
carded, combed yarn and folded yarn
Differentiate between Rotor, Ring spinning and
Air Jet Spinning

Learn the characteristics of Polymerization and
Degree of Polymerization
Understand in detail about Different types of
Polymers- addition and condensation,
orientation and crystallinity
Identify the Characteristics of Fiber forming
polymers, general, physical and chemical
properties of fibers
Understanding Texurization

Types of Simplex and complex Yarns and its uses
Understand in depth Types of blended Yarns and
its uses
Specify in details with application of Sewing
thread types and properties
understanding Fancy yarn Types and uses

Introduction to Fashion Illustration and History
Learning about artists and illustrators of National
and Inter national Repute
Introduction to Fashion Art

Learn in details with application of Colour Theory

understanding Elements of Design
Understand the of Proportions of Male, Female
and Children Figures
Understand in details with application of
Principles of Design
Study of Face, torso, legs and arms

Understand the characteristics of Colour Wheel,
Colour Psychology and Colour emotions
understanding 8 head, 10 Head and 12 head
theory of Fashion drawing
Basic Sketching Techniques
Fashion origin and evolution
Fashion cycle, theories and terminologies
Specify in details with examples Grid technique
of rendering
Introduction to Anatomy
Art media and its application
Introduction to Pattern Making and Garment
Construction
Understanding Sewing Machines and difference
between Domestic and Industrial sewing
Machine and its parts
Understand in details with application of
Measuring tools, Marking tools, cutting tools,
sewing tools and pressing tools for pattern
Making and garment construction
Learning about Care and maintenance of Sewing
Machines

Understand in depth about various Industrial
sewing machines and Machine needles
Importance of Body measurements and its
standards

Understanding in depth about Basic Patterns -
commercial and Custom Made Patterns
Deliberate the characteristics of Learning in
detail about Body and Garment Relationship and
standardization
understanding about Figure type and Figure
analysis
Introduction to Basic Hand Stitches
Specify in depth Application of Temporary and
permanent Hand stitches
Understanding about Stitch classes and type and
its application
understanding about Seam classes and type and
its application

Learn in detail about Pattern Making
Terminologies and Symbols- Notches, punch and circles

Learn the Fabric terms- Bowing and Skewing
Understand in details with application about
pattern information-grain, part piece and cut
symbols

Deliberate the classification and characteristics
of Woven, Knitted and non-woven Fabrics its
properties and end uses

Understand and Study Of weaving Process
Classification of Looms and Study of different
types of looms

Deliberate in details with application and
Characteristics of woven Fabrics and their
importance

Classification of woven Fabrics and its
charecteristics

Study of Plain weave and its Variations
Understand in details with application and Study
of twill weave and its variations
Specify in details with application and Study of
satin weave and its variations
Introduction and study of different types of
Woven Fabrics

Learn in depth Introduction to Knitting process
understanding the difference between weft and
warp knitting process

Identify in depth Basics of weft knitting
understanding the loop diagram and properties
of weft knitted fabrics

Identify and learning the modification of knitted
structures

Identify the characteristics and learning the
importance of fabric manufacturing clusters in
India and its features

Learn in details with application of
Manufacturing clusters of India- Kancheepuram,
Chanderi, Salem, Mysore, Ilkal, Banaras ,
pochampalli and panipat

Introduction and history of fashion illustration
and its role in Fashion Design

Learn the characteristics of Study of well known
fashion Illustrators

Study of fashion figures and its various
poportions

Learning in detail about figure analysis and Body
types

Designing for diverse body types and ages

In detail Study of fashion terminologies
Origin of clothing and fashion theories
Identify in depth Fashion as status symbol, modesty, protection and religious
Learning about major fashion centers
Understand the details of Garment features- silhouettes, collars, pockets, yokes, cuffs, sleeves and trousers
Identify the Types of Fashion silhouettes for men and women
Introduction to Fashion Psychology and Cultural scenario

Understanding Human behavior and clothing
Learning in detail about clothing and gender differentiation
In depth Study of Indian and international Fashion Designers
A brief look into design concepts of Fashion designers
Introduce to the concept of Garment Making
Sleeves definition, classification and types
Understand the characteristics of Dart Manipulation Techniques
Introduction to Fullness- Darts, Pleats, Tucks and Gathers
Learn in depth Collars definition, classification and its types
Identify in details with examples of Yokes ,its classification and its types
Deliberate the details of Pockets and classification and its types
Learning in detail about neckline finishes
Understanding plackets and its types
In detail study of Basic, flared, circular, gathered and pleated skirts
Learn in depth Study of dress categories with waist line and without waist line
Differentiation between sleeves along with bodice and set in sleeves
Introduction to fasteners and different types of Fasteners

Learn in depth characteristics of fashion design
Identify the characteristics of applications of fashion design

Understand in details with examples Dynamic Memory Allocation: Dynamic memory allocation

Learn the characteristics of allocating a block of memory: malloc

Learn the details of calloc

Write down the details of releasing the used space: Free

Identify in depth The Preprocessor: Introduction, macro substitution, files inclusion, compiler control directives, ANSI additions, programming exercises

Learn in details with application, if applicable, allocating multiple blocks of memory

Specify in depth altering the size of a block: realloc, programming examples

Deliberate the characteristics of structures and functions

Learn the characteristics of Unions

Specify in details with examples size of structures

Write down the characteristics of bit fields

Learn the details of programming examples

Identify in details with examples Pointers:

Understanding pointers

Deliberate in details with examples accessing the address space of a variable

Write down in details with application, if applicable, declaring and initialization pointer variables

Identify the details of accessing a variable through its pointer

Understand in depth chain of pointers

Learn in details with application, if applicable, pointer expressions

Deliberate the characteristics of pointers and arrays

Deliberate in details with examples pointer and character strings

Specify in depth array of pointers

Write down in details with examples pointer as function arguments

Learn the characteristics of functions returning pointers

Deliberate the classification and characteristics of pointers to functions

Write down in details with application, if applicable, pointers and structures

Learn in depth programming examples

Write down the classification and characteristics of File Management in C: Defining and opening a file

Write down in depth closing a file

Specify the classification and characteristics of input/output operations on files

Identify in details with application, if applicable, error handling during I/O operations

Identify in depth random access files

Understand in depth command line arguments

Identify the characteristics of programming examples

Specify the characteristics of Introduction to Programming Concepts

Specify the details of Software

Learn the details of Classification of Software

Deliberate in depth Modular Programming

Identify the details of Structured Programming

Identify the characteristics of Algorithms and Flowcharts

Understand in depth Writing algorithms and drawing flowcharts for simple exercises

Identify in depth Overview of C Language:

History of C, Character set, C tokens, Identifiers, Keywords, structure of C program, executing a C program

Identify the classification and characteristics of Constants

Specify in details with examples variables

Specify in details with application, if applicable, data types

Learn in details with examples declaration of variables

Write down the characteristics of declaration of storage classes

Write down the classification and characteristics of assigning values to variables defining symbolic constants

Identify in details with application, if applicable, declaring a variable as constant

Specify in details with application, if applicable, Operators in C

Understand the details of declaring a variable as volatile

Write down in details with application, if applicable, overflow and underflow of data

Write down the classification and characteristics of Hierarchy of Operators

Specify the classification and characteristics of Expressions

Deliberate in details with application, if applicable, Type Conversions and Library Functions

Specify the characteristics of Managing Input and Output Operations: The scanf() & printf() functions for input and output operations

Specify the details of reading a character

Write down in depth writing a character

Specify the classification and characteristics of (the getchar() & putchar() functions)

Identify the details of the address operator(&)

Write down the characteristics of formatted input and output using format specifiers

Learn the characteristics of Control Statements
Specify in details with examples Writing simple complete C programs

Deliberate in details with application, if applicable, Decision making with if statement
Deliberate the characteristics of simple if statement

Specify in details with application, if applicable, the if else statement

Understand the classification and characteristics of nesting of if else statements

Understand the characteristics of the else If ladder

Write down in details with application, if applicable, the switch statement

Learn in details with application, if applicable, the?: operator

Deliberate the characteristics of the goto statement

Understand in details with examples nested loops

Understand in details with examples jumps in loops

Understand in details with examples the continue statement

Deliberate in details with examples programming examples

Identify in depth Functions: Function Definition

Understand the details of prototyping

Deliberate the characteristics of types of functions

Specify in details with application, if applicable, passing arguments to functions

Deliberate the characteristics of Nested Functions

Understand the details of Recursive functions

Identify the details of Arrays

Learn in details with application, if applicable,

Declaring and Initializing

Understand in depth One Dimensional Arrays

Learn the details of Two Dimensional Arrays

Deliberate the classification and characteristics of Multi Dimensional Arrays - Passing arrays to functions

Deliberate the classification and characteristics of Strings: Declaring and Initializing strings

Learn in details with application, if applicable, the break statement

Write down in details with examples programming examples

Learn in details with examples Loop Control

Structures

Deliberate the details of The while statement

Understand in details with examples the do

While statement

Learn the characteristics of the for statement

Identify the characteristics of Operations on strings

Deliberate the characteristics of Arrays of strings

Deliberate in details with examples passing strings to functions

Specify the classification and characteristics of Storage Classes - Automatic

Specify in details with examples External

Identify the characteristics of Structures and Unions

Identify the details of Defining a structure

Understand in details with examples Static and Register Variables

Understand in depth declaring structure variables
Specify in details with application, if applicable, accessing structure members

Understand in details with examples structure initialization

Understand in depth copying and comparing structure variables

Deliberate the details of operations on individual members

Learn the classification and characteristics of array of structures

Write down the classification and characteristics of structures within structures

Write down in details with application, if applicable, Conversion of Boolean expression to Standard SOP and Standard POS forms

Specify in depth sum term, min term, max term, SOP, standard SOP, POS and Standard POS

Write down the details of Simplification of

Boolean expressions using Boolean laws

Specify the classification and characteristics of Definition of product term

Deliberate the characteristics of Demorgan's theorems – Statements, proof using truth tables

Write down in details with application, if

applicable, Boolean algebra: - Laws and

Theorems. AND, OR, NOT Laws, Commutative

law, Associative law, Distributive law, Duality

theorem

Deliberate in details with application, if

applicable, Binary codes: BCD numbers, 8421

code, 2421 code- examples and applications

Deliberate in depth Gray code- Conversions-

Gray to binary and Binary to Gray, application of gray code

Deliberate in details with application, if

applicable, Excess – 3 code - Self complementing property and applications.

Specify in details with application, if applicable,

1's and 2's complement – 2's complement

subtraction

Deliberate in details with application, if applicable, Binary addition, subtraction, multiplication and division

Write down the classification and characteristics of Decimal number system, Binary number system, Octal Number System and Hexadecimal Number System, Conversion from one System to another System

Write down the characteristics of Introduction to Number Systems: Positional and non-positional, Base/ Radix

Learn in details with application, if applicable, registers, flags, memory segmentation, pin description

Understand the characteristics of odd & even bank of memory

Specify the characteristics of 8086 Architecture and programming: 8086 Architecture and programming model

Deliberate the characteristics of Introduction to Microprocessor: Introduction, Applications, Basic block diagram, speed, word size, memory capacity, classification of Microprocessors

Identify the classification and characteristics of Sequential circuit design: Latches, SR Flip Flops, concept of edge triggering, D- flip flop, JK- flip flop, Master slave flip flop, T- flipflop, Registers, shift Registers, asynchronous and synchronous counters, Mod 10 – counter

Understand the classification and characteristics of Full Adder: Symbol, Logic circuits using XOR and basic gates, Truth table

Understand in depth Combinational logic circuits: Definition, applications

Identify the classification and characteristics of Half Adder: Symbol, Logic circuits using XOR and basic gates, Truth table

Learn in depth AND Gate, OR Gate, NOT Gate, NAND Gate and NOR Gate - Definition, Symbol, Expression, Truth Table

Learn the characteristics of Simplification of 3 and 4 variable Boolean expression using K-maps
Learn in depth Karnaugh map technique to solve 3 variable and 4 variable expressions

Understand the classification and characteristics of Conversion of truth tables into k-map, grouping of cells, redundant groups and don't care conditions

Write down in details with application, if applicable, Karnaugh maps- Definition of Karnaugh map, K- map for 2, 3 and 4 variables
Understand the characteristics of priority of interrupts

Understand in details with application, if applicable, Move data to register/memory from register/memory/immediate data, data transfer between a segment register and register/memory
Deliberate in details with application, if applicable, MIN/MAX modes of operation

Write down the classification and characteristics of Addressing modes: Immediate addressing
Identify the details of Assembly language programming

Learn in details with application, if applicable, Assembly language programming examples
Understand the classification and characteristics of subroutines and macros
Understand the characteristics of Interrupts of 8086: Hardware interrupt
Identify the details of software interrupt and exception
Write down in depth PUSH and POP

Write down the classification and characteristics of exchange, data transfer with I/O ports

Specify in details with application, if applicable, Data Conversion instructions: XLAT, LEA, LDS, LES, LAHF and SAHF instructions
Write down the characteristics of Logical Instructions: AND, OR, EX-OR, Test, NOT, ROTATE and shift instructions

Learn in depth Process Control Instructions: Instructions to set/reset flags, halt, wait, lock, prefix and escape to co-processor instructions
Learn in details with application, if applicable, String Instructions: CMPS, MOVS, LODS, STOS, and SCAS instructions

Understand the classification and characteristics of Branch Instructions: JMP, conditional jump, LOOP, LOOPE, LOOPNE, JCXZ, CALL, RET

Write down the classification and characteristics of register addressing, memory addressing, indexed addressing with displacement

Deliberate the details of I/O port addressing

Specify the details of 8086 Instructions:

Instruction template for 8086 instructions, code generation using template

Learn in details with examples Data Transfer Instruction

Understand in details with examples timing diagrams, wait state

Deliberate in depth Bus buffering

Learn the details of latching

Learn in depth Structured Programming

Deliberate the classification and characteristics of what is Software

Identify in depth Classification of Software

Deliberate in details with examples Modular Programming

Understand in details with examples Algorithms and Flowcharts

Write down in details with examples Writing algorithms

Understand in details with examples drawing flowcharts

Identify the details of Overview of C Language

Understand in details with examples History of C,

Understand the details of Character set

Write down the characteristics of C tokens

Understand in depth Identifiers

Specify in details with examples Keywords

Deliberate the characteristics of structure of C program

Understand in depth Constants

Deliberate in details with examples variables

Identify the characteristics of data types

Learn the details of declaration of variables

Identify the classification and characteristics of declaration of storage classes

Specify in details with examples assigning values to variables defining symbolic constants

Identify in depth volatile,

Understand in details with examples overflow and underflow of data

Identify in depth Operators in C

Identify the details of Hierarchy of Operators

Learn the details of Expressions

Deliberate the details of Type Conversions

Learn in details with examples Library Functions.

Write down in depth The scanf() & printf() functions

Understand the characteristics of reading a character

Deliberate in details with application, if applicable, the getchar() & putchar

Specify the characteristics of the address operator(&),

Write down the details of formatted input and output using format specifiers

Understand the details of Control Statements

Understand in details with examples simple if statement

Specify in depth the if else statement

Learn the classification and characteristics of nesting of if else statements

Specify the classification and characteristics of the else If ladder

Understand the classification and characteristics of switch statement

Learn the details of he?:

Learn in details with examples the goto statement,

Understand the characteristics of Decision making with if statement,

Write down the details of break statement

Specify in details with application, if applicable, Loop Control Structures

Identify the details of The while statement

Specify in details with application, if applicable, the do While statthe do While statement

Deliberate in details with examples the for statement

Specify the characteristics of nested loops

Learn the details of jumps in loops

Learn the characteristics of continue statement
Learn the characteristics of programming examples.

Understand in details with application, if applicable, Function

Write down in details with examples Function Definition

Write down the classification and characteristics of Function Definition, prototyping,

Understand the characteristics of functions

Identify in details with application, if applicable, passing arguments to functions,

Understand the details of Nested Functions

Deliberate in details with examples Nested Functions

Identify in details with application, if applicable, Recursive functions

Deliberate in details with examples Arrays:

Declaring and Initializing

Understand the details of One Dimensional Arrays

Identify in depth Two Dimensional Arrays,

Identify the characteristics of Multi Dimensional Arrays

Specify the details of Passing arrays to functions

Identify the details of Strings: Declaring and Initializing strings

Write down in depth Operations on strings

Deliberate the classification and characteristics of Arrays of strings

Learn the classification and characteristics of passing strings to functions. Storage Classes

Identify in depth Automatic

Identify in details with examples Automatic

Learn the details of Register Variables

Deliberate in details with application, if applicable, Static

Understand in details with examples Defining a structure

Learn the details of declaring structure variables

Specify the details of accessing structure members,

Understand in depth structure initialization
Identify the details of copying and comparing
structure variables
Learn the classification and characteristics of
functions
Deliberate in details with application, if
applicable, Unions
Write down the details of size of structures

Deliberate in details with examples bit fields
Understand the details of Pointers:
Understanding pointers
Write down the details of accessing the address
space of a variable
Understand the characteristics of declaring and
initialization pointer variables

Identify in details with application, if applicable,
accessing a variable through its pointer
Identify in details with application, if applicable,
chain of pointers
Specify in details with examples pointer
expressions
Identify the classification and characteristics of
array of pointers
Deliberate in details with application, if
applicable, pointer as function arguments
Identify in details with application, if applicable,
functions returning pointers
Understand in details with application, if
applicable, functions returning pointers
Specify in details with application, if applicable,
pointers to functions
Specify the characteristics of pointers and
structures
Specify in details with examples Defining and
opening a file

Write down the classification and characteristics
of closing a file, input/output operations
Specify in depth error handling during I/O
operations,
Learn the characteristics of command line
argument

Understand in depth Dynamic Memory Allocation
Understand in details with examples allocating a
block of memory

Understand in details with examples pointers and arrays, pointer and character strings
Identify in depth malloc, allocating multiple blocks of memory: calloc
Specify in depth ANSI addition
Write down in depth The Preprocessor:
Specify in details with examples altering the size of a block
Specify in depth realloc,

Identify in depth Elementary data organization
Learn in details with application, if applicable, data structures operations
Write down the classification and characteristics of Data Structures

Write down the details of Abstract data types,
Learn the classification and characteristics of algorithms complexity
Identify in details with application, if applicable, time-space tradeoff.
Write down in details with application, if applicable, time-space tradeoff.

Specify in details with application, if applicable, Mathematical notations and functions
Deliberate the classification and characteristics of Algorithmic notations,
Specify in details with examples control structures
Deliberate in details with examples Complexity of algorithms,
Specify the details of asymptotic notations for complexity of algorithms
Understand in details with application, if applicable, String Processing
Deliberate the classification and characteristics of Definition, Storing Stings

Deliberate in details with examples Selection sort
Deliberate in depth String operations,
Specify in details with application, if applicable, word/text processing
Understand the classification and characteristics of word/text processing

Identify in depth Pattern Matching algorithms
Specify in details with application, if applicable, Arrays: Definition,

Understand in details with application, if applicable, Linear arrays,
Specify the details of arrays as ADT
Deliberate the details of Representation of Linear Arrays in Memory

Specify the details of Traversing Linear arrays
Write down in depth Inserting and deleting an element in array

Deliberate in details with examples String as ADT
Learn in details with examples Bubble sort
Learn the classification and characteristics of Insertion sort
Identify in details with examples Quick Sort
Learn the classification and characteristics of Linear Search
Specify in depth Merge Sort
Explain Binary search in detail

Identify in depth Matrices and Sparse matrices

Understand in details with examples
Representation of Singly linked list in memory
Specify in depth Traversing a Singly linked list, Searching a Singly linked list
Write down in details with application, if applicable, Memory allocation, Garbage collection
Specify in details with examples Insertion into a singly linked list
Learn in details with application, if applicable, Deletion from a singly linked list;
Understand in depth Doubly linked list
Understand the classification and characteristics of Header linked list
Identify in details with application, if applicable, Circular linked list
Write down the characteristics of Linked representation of stacks
Identify in details with application, if applicable, Array representation of stacks

Deliberate in details with examples Stack as ADT

Understand the classification and characteristics of Polish Notation, Conversion of infix expression to postfix expression

Understand in details with application, if applicable, Evaluation of Postfix expression, Application of Stacks
Identify in details with examples Recursion, Towers of Hanoi
Deliberate in details with application, if applicable, Simple queue, Circular queue

Specify the details of Recursion, Towers of Hanoi
Learn the characteristics of Double ended queue, Priority queue,

Specify the classification and characteristics of Operations on Queues, Applications of queues
Understand in details with application, if applicable, Graph theory terminology
Learn the characteristics of Sequential representation of Graphs: Adjacency matrix, traversing a Graph
Learn in details with application, if applicable, Binary trees, Representing binary trees in memory

Identify the characteristics of Heap, Heap Sort

Understand the classification and characteristics of Traversing Binary Trees, Binary Search Trees

Write down the details of Searching, Inserting and Deleting in a Binary Search Tree

Learn in details with application, if applicable, Introduction: Database and Database Users
Write down in details with examples Characteristics of the Database Approach
Understand the details of Different people behind DBMS
Understand the characteristics of Implications of Database Approach,
Identify the characteristics of Advantages of using DBMS
Identify in details with examples When not to use a DBMS

Specify in details with application, if applicable, Database System Concepts and architecture

Identify in details with application, if applicable, Data Models, Schemas, and Instances
Learn the characteristics of DBMS Architecture and Data Independence

Write down the classification and characteristics of Database languages and interfaces
Learn in details with examples The database system Environment
Identify in details with examples Classification of DBMS

Specify the characteristics of Data Modelling
Using the Entity-Relationship Model:
Identify in details with examples High level conceptual Data Models for Database Design with and example
Specify in details with examples ER Model Concepts, Notation for ER Diagrams

Learn in details with application, if applicable, Proper naming of Schema Constructs

Write down the characteristics of Relationship types of degree higher than two.

Learn the classification and characteristics of Record Storage and Primary File Organization
Identify the characteristics of Secondary Storage Devices

Write down the classification and characteristics of Buffering of Blocks. Placing file Records on Disk. Operations on Files
Understand the characteristics of File of unordered Records (Heap files)
Write down the characteristics of Files of Ordered Records (Sorted files)

Identify in details with examples Hashing Techniques, and Other Primary file Organization.

Learn the details of Functional Dependencies and Normalization for Relational Database

Learn the classification and characteristics of Informal Design Guidelines for Relational schemas
Specify in details with application, if applicable, Functional Dependencies, Normal Forms Based on Primary Keys
Deliberate in depth General Definitions of Second and Third Normal Forms Based on Primary Keys

Identify the classification and characteristics of
General Definitions of Second and Third Normal
Forms

Learn in depth Boyce-Codd Normal Form

Deliberate in details with examples Relational
Data Model and Relational Algebra

Understand in details with examples Relational
Model Concepts., relational Model Constraints

Identify the classification and characteristics of
ational Database Schema, defining Relations,
Update Operations on Relations
Deliberate the details of Basic Relational Algebra
Operations

Learn the characteristics of Additional Relational
Operations.

Deliberate the details of Examples of queries in
the Relational Algebra.

Deliberate the classification and characteristics
of Relational Database design using ER-to-
Relational Mapping.

Understand in details with examples Relational
Database Language:

Learn in details with examples Data definition in
SQL

Learn in depth Queries in SQL

Deliberate in details with examples Insert, Delete
and Update Statements in SQL

Understand the characteristics of Views in SQL

Learn in details with examples Specifying General
Constraints as Assertions

Write down in details with examples Transaction
Processing Concepts

Learn the details of Introduction, Transaction
and System Concepts

Learn the details of Desirable properties of
transaction

Learn the details of Schedules and Recoverability

Identify in details with application, if applicable,
Serializability of Schedules

Specify the characteristics of Transaction Support
in SQL

Understand the details of Locking Techniques for
Concurrency Control,

Specify the characteristics of Concurrency

Control based on time stamp ordering

Learn in details with examples IP Encapsulation, Fragmentation, and Reassembly
Learn in details with application, if applicable, IPv6, ICMP, UDP, TCP, Internet routing, DNS, WWW, MAIL

Specify in details with application, if applicable, IP Datagram's and Datagram Forwarding
Identify the characteristics of Internetworking: internet architecture
Write down in details with examples Internet Protocol Addresses, APR
Deliberate in details with examples Stacks: Layered Software.
Understand the characteristics of Jitter
Learn in details with application, if applicable, Protocols and Layering: the need for protocols, the seven layers

Write down in details with examples Network ownership, Network performance characteristics
Understand the classification and characteristics of Example of WAN technologies. Network Characteristics
Identify in details with application, if applicable, WAN technologies and Routing

Identify the classification and characteristics of Large Networks and Wide Areas, Packet switches
Write down the details of Shortest path computation in a Graph, distance vector routing, like-state routing

Learn the details of Next-Hop forwarding, Source independence, Routing Table Computation
Understand in details with application, if applicable, forming a WAN, store and forward, Physical addressing in a WAN
Specify the characteristics of cable modem technology, upstream communication, Broadcast Satellite systems

Identify in depth Asymmetric Digital Subscriber Line Technology, other DSL technologies
Identify in depth Digital telephony, Synchronous communication, SONET, ISDN

Specify in depth categories of wires. Extending LANs: Fiber Optic Extensions, Repeaters, bridges, frame filtering, switching

Understand in details with examples Long-distance and Local Loop Digital Technologies
Write down in depth thin Ethernet wiring, twisted pair Ethernet, Network interface cards and wiring schemes

Learn the classification and characteristics of The connection between a NIC and a network
Identify in depth original thick Ethernet wiring, connection multiplexing

Identify the classification and characteristics of Self-Healing Token Passing Networks, ATM
Deliberate the classification and characteristics of speeds of LANs and computers, Network Interface Hardware,
Deliberate the details of Multicast addressing, identifying packet contents, frame headers and frame format
Write down the details of LAN Wiring, Physical Topology and Interface Hardware
Identify in details with examples format of a physical addresses, broadcasting

Learn the details of specifying a recipient, How LAN hardware uses addresses to filter packets
Identify the details of Hardware addressing and Frame Type Identification

Learn in details with application, if applicable, Ring Topology and Token Passing
Deliberate the classification and characteristics of LAN Topologies, Ethernet, Carrier sense on CSMA
Learn in depth Collision Detection and Back off with CSMA/CD
Understand the characteristics of Direct point-to-point communications, Shared Communications channels
Write down the characteristics of LAN Technologies and Network Topologies
Specify the classification and characteristics of Burst errors, frame formats and error detection mechanism
Write down in details with application, if applicable, Detecting errors with checksums, detecting errors with CRC
Write down in depth Parity bits and Parity checking, error detection

Learn the characteristics of Packets and Hardware Frames, byte Stuffing, transmission errors
Identify the classification and characteristics of Concept of Packets, packets and Time-division Multiplexing

Specify in details with application, if applicable, Packets, Frames and Error Detection
Identify in depth spread spectrum, time division multiplexing
Deliberate in details with application, if applicable, broadband technologies, wave length division multiplexing

Learn the details of Leased analog data circuits, optical, radio frequency and dialup Modems
Specify in details with examples carrier frequencies and Multiplexing, baseband
Specify in depth the effect of noise on communication

Write down in details with examples Half and Full duplex asynchronous communication
Learn the classification and characteristics of Modem hardware used for Modulations and Demodulation

Identify in depth Long distance Communication: Sending signals across long distances
Write down in details with application, if applicable, Introduction: Growth of computer networking
Specify in details with application, if applicable, Complexity in network system

Specify the classification and characteristics of Motivation and Tools: Resource sharing
Write down in details with application, if applicable, Growth of the internet
Identify the details of probing the internet
Understand in depth interpreting the ping response, tracing a route

Learn in details with application, if applicable, Transmission Media: Copper wires

Understand in details with examples glass fibers, radio, satellite, Geosynchronous satellites
Identify in depth low earth orbit satellites, Low earth orbit satellite arrays

Deliberate in details with application, if applicable, Microwave, Infrared, Light from a laser

Understand the classification and characteristics of Local Asynchronous Communications:

Introduction

Identify in depth the need for asynchronous communications

Understand in details with application, if applicable, using electric current to send bits, standards for communication

Deliberate in details with examples baud rate, Framing and errors

Learn in details with application, if applicable,

Introduction: Batch Systems

Deliberate the details of Concepts of

Multiprogramming

Deliberate the characteristics of Time Sharing, Parallel, Distributed and real time Systems

Specify the classification and characteristics of Operating System Structures

Identify the classification and characteristics of Components & Services,

Understand in details with application, if applicable, Components & Services,

Understand in details with application, if applicable, Components & Services,

Deliberate the details of Virtual machines

Specify the characteristics of Process

Management: Process Concept, Process

Scheduling

Learn in depth Co – Operating process

Understand the details of Threads, Inter process communication

Specify the details of CPU Scheduling Criteria, Scheduling algorithm

Specify the characteristics of Multiple Processor Scheduling

Understand the classification and characteristics of Real time Scheduling, Algorithm evolution.

Specify in details with examples Real time Scheduling, Algorithm evolution.

Deliberate in depth Process Synchronization and deadlocks

Understand in depth The Critical Section Problem

Write down in details with application, if applicable, Synchronization hardware, Semaphores
Deliberate in details with examples Classical problems of synchronization
Identify the classification and characteristics of Critical regions, monitors

Write down in depth Dead locks – system model
Write down in depth Characterization, Dead lock prevention
Identify the characteristics of avoidance and detection
Write down in depth Memory Management: Logical and Physical address space
Write down in depth Swapping, Contiguous allocation
Specify in depth , Recovery from dead lock,

Deliberate the classification and characteristics of Combined approach to deadlock handling.

Deliberate the details of Paging, Segmentation

Deliberate the classification and characteristics of it's performance, Page replacement algorithms

Learn in details with application, if applicable, Segmentation with paging in Mastics
Write down in details with examples Intel 386, Virtual memory-Demand paging

Learn the characteristics of Allocation of frames

Specify in details with application, if applicable, thrashing, page size and other considerations
Learn in details with application, if applicable, Demand Segmentation.
Specify the details of File management (Systems, Secondary Storage Structure)
Understand in depth File Concepts, Access methods, Directory Structure

Specify in details with application, if applicable, Protection and consistency, File system structure
Write down the details of Allocation methods, Free space management
Specify in details with application, if applicable, Directory Implementation

Specify in details with application, if applicable,
Efficiency and Performance, Recovery
Identify in depth Disk Management (Structure,
Disk Scheduling Methods):
Specify the details of Disk Structure & Scheduling
methods,
Specify in depth One time password, program
threats
Deliberate in details with examples System
threads. Case Study of Windows and Linux
Operating System
Specify the characteristics of Disk management,
Swap – Space management.
Learn the characteristics of Protection and
Security: Goals of protection
Understand in depth Domain Protection, Access
matrix

Specify the classification and characteristics of
Security Problem, Authentication

Learn the classification and characteristics of A
Conceptual Toolkit; Fundamental File Operations
Write down the details of Introduction: File
Structures
Write down in depth The Heart of the file
structure Design
Learn in details with examples Reading and
Writing, Seeking
Learn in details with examples Special
Characters, The Unix Directory Structure
Understand the characteristics of Opening Files,
Closing Files
Deliberate in details with examples Physical Files
and Logical Files
Learn in details with application, if applicable,
Extension of the Model to include Multi-way
Merging
Identify the details of A Second Look at Sorting in
Memory
Learn in depth Merging as a Way of Sorting Large
Files on Disk

Specify the characteristics of Consequential
Processing and The Sorting of Large Files

Specify in details with application, if applicable,
Retrieval Using Combinations of Secondary Keys
Specify in details with examples Indexing to
provide access by Multiple keys

Identify in details with examples Object-Oriented support for Indexed, Entry-Sequenced Files of Data Objects

Understand in details with application, if applicable, Indexes that are too large to hold in Memory

Understand the classification and characteristics of Internal Sorting and Binary Searching, Key sorting

Specify in details with application, if applicable, Index: Introduction, A Simple Index for Entry-Sequenced File

Specify the classification and characteristics of Organization of Files for Performance, Indexing
Specify in depth An Object-Oriented Class for Record Files

Identify the classification and characteristics of Physical devices and Logical Files,

Specify the classification and characteristics of File-related Header Files

Understand in details with application, if applicable, Using Inheritance for Record Buffer Classes

Write down the classification and characteristics of Using Inheritance for Record Buffer Classes

Write down the classification and characteristics of Managing Fixed Length, Fixed Field Buffers

Identify the details of UNIX file System Commands; Buffer Management

Understand in depth Input /Output in UNIX
Deliberate the characteristics of Fundamental File Structure Concepts, Managing Files of Records

Understand in depth Field and Record Organization, Using Classes to Manipulate Buffers

Identify in depth Application of the Model to a General Ledger Program

Specify in details with application, if applicable, Multilevel indexing and B-Trees:

Deliberate in details with application, if applicable, The invention of B-Tree, Statement of the problem

Specify the classification and characteristics of Indexing with Binary Search Trees

Deliberate in details with application, if applicable, Multi-Level Indexing, B-Trees, Example of Creating a B-Tree

Deliberate the classification and characteristics of An Object-Oriented Representation of B-Trees
Understand the characteristics of B-Tree
Methods; Nomenclature
Understand in details with examples Formal Definition of B-Tree Properties

Specify the classification and characteristics of Worst-case Search Depth, Deletion
Learn the characteristics of Data Compression, Reclaiming Space in files
Learn the characteristics of Introduction: An overview - Object basics
Learn the classification and characteristics of Object state and properties, Behavior, Methods, Messages.

Identify the details of Overview of Prominent OO Methodologies: The Rumbaugh OMT, The Booch methodology, Jacobson's OOSE methodologies, Unified Process, Introduction to UML, Important views & diagram to be modelled for system by UML.

Specify in details with application, if applicable, Factional View (models): Use case diagram - Requirement Capture with Use case - Building blocks of Use Case diagram - actors, use case guidelines for use case models - Relationships between use cases - extend, include, generalize.

Deliberate the characteristics of Activity diagram - Elements of Activity Diagram - Action state, Activity state, Object, node, Control and Object flow, Transition (Fork, Merge, Join) - Guidelines for Creating Activity Diagrams - Activity Diagram - Action Decomposition (Rake) - Partition - Swim Lane.

Identify in details with application, if applicable, Static structural view (Models): Classes, values and attributes, operations and methods, responsibilities for classes, abstract classes, access specification (visibility of attributes and operations).
Deliberate in details with examples Object Oriented system development life cycle, Benefits of OO Methodology.

Specify in details with examples Associations,
Dependencies

Learn in details with application, if applicable,
Inheritance - Generalizations, Aggregation.

Identify the characteristics of Adornments on
Association: association names, association
classes, qualified association, n-ary associations,
ternary and reflexive association.
Deliberate in depth - Process architecture: what
are process and threads and their notations in
UML, object synchronization, invocation schemes
for threads (UML notations for different types of
invocations).

Specify the classification and characteristics of
Implementation architecture: component
diagram notations and examples.
Understand in details with application, if
applicable, Reuse: Libraries, Frame works
components and Patterns:
Deliberate in details with examples : Reuse of
classes, Reuse of components, Reuse of
frameworks, black box framework, white box
frame,
Identify in depth Reuse of patterns: Architectural
pattern and Design pattern.
Specify the classification and characteristics of
Logical architecture: dependency, class visibility,
sub systems -
Identify in details with application, if applicable,
Hardware architecture: deployment diagram
notations, nodes, object migration between
node -
Identify in details with application, if applicable,
Relationships among classes:

Understand the characteristics of Dependency
relationships among classes, notations.

Identify in details with examples Notes in class
diagram, Extension mechanisms, Metadata,
Refinements, Derived, data, constraint,
stereotypes, Package & interface notation.
Deliberate in details with examples Object
diagram notations and modeling, relations
among objects (links).

Understand in depth Class Modeling and Design Approaches: Three approaches for identifying classes - using Noun phrases, Abstraction,

Understand in details with application, if applicable, Use Case Diagram - Comparison of approaches - Using combination of approaches -

Understand in details with examples Flexibility guidelines for class diagram: Cohesion, Coupling, Forms of coupling (identity, representational, subclass, inheritance), class Generalization, class specialization versus aggregation.

Identify the details of Behavioral (Dynamic structural view): State diagram - State Diagram Notations, events (signal events, change events, Time events) - State Diagram states (composite states, parallel states, History states), transition and condition, state diagram behaviour (activity effect, do-activity, entry and exit activity), completion transition, sending signals.

Learn the characteristics of Interaction diagrams: Sequence diagram - Sequence diagram notations and examples, iterations, conditional messaging, branching, object creation and destruction, time constraints, origin of links, Activations in sequence diagram

Identify the details of - Collaboration diagram - Collaboration diagram notations and examples, iterations, conditional messaging, branching, object creation and destruction, time constraints, origin of links, activations in sequence diagram.

Write down in details with examples Approaches for developing dynamic systems:

Identify in details with examples Top - down approach for dynamic systems -

Write down the details of - Bottom - up approach for dynamic systems

Specify the characteristics of - Flexibility

Guidelines for Behavioral Design -

Deliberate in depth guidelines for allocating and designing behaviors that lead to more flexible design.

Identify the classification and characteristics of Architectural view:

Learn the characteristics of Architectural view:

Learn the details of Review of Mathematical

Terms and Theory:

Write down in details with examples Basic

Mathematical Notations and Set Theory, Logic

Functions and Relations, Language Definitions,

Mathematical Inductions and Recursive

Definitions

Understand in details with examples Finite

Automata: Deterministic and Non Deterministic

Finite Automata, U-Transitions, Conversion from

NFA to DGA, Kleene's Theorem, Regular and Non

Regular Languages.

Write down the characteristics of Recursive

Language:

Learn in details with examples Introduction to

PDA, Definition, DPDA, PDA Corresponding to

CFG, CFG Corresponding to PDA, I

Write down the details of Model of Computation

and Church Turning Thesis, Definitions of Turing

Machine,

Write down the classification and characteristics
of TM and Language Acceptors, Variations of TM,

Non Deterministic TM, Universal TM,

Specify in details with examples Enumerable and

Language, Recursive and Non Recursive

Enumerable.

Understand the classification and characteristics

of Context Free Grammar: Introduction to CFG,

CFG and Known Languages, Unions,

Concatenations and *'s Notations and CFL,

Deliberate in depth Derivatives of Trees and

Ambiguity and Unambiguous CFG and Algebraic

Expressions, Normal Forms and Simplified Forms.

Specify in depth Pushdown Automata, CFL and

NFL:

Deliberate the details of Introduction to CFL,

Intersections and Complements of CFL, Decisions

Problems and CFL.

Deliberate in details with application, if

applicable, Turing Machines,

Specify in details with examples Reduction of

Time

Understand the characteristics of Cook's

Theorem,

Deliberate the classification and characteristics of Tractable and Possibly Intractable Problems, Specify in details with application, if applicable, P and Np Completeness, Identify in details with application, if applicable, Growth Rate and Functions Write down in details with examples Time and Space Complexity, Deliberate in details with examples Complexity Classes, Identify in depth Numerical Functions.

Learn in details with application, if applicable, Tractable and Intractable Problems:

Write down in details with examples Unbounded Minimizations and μ -Recursive Functions, Understand in depth Godel Numbering, Computable Functions and μ -Recursive,

Learn in details with examples Halting Problem, Understand the characteristics of Recursive Predicates and Some Bounded Operations, Understand in details with examples Computation Functions, Measuring, Classifications And Complexity: Learn the characteristics of Primitive Recursive Functions,

Deliberate the details of Np-Complete Problems. Write down the details of Basic Mathematical Notations and Set Theory Write down the details of Finite Automata: Deterministic and Non Deterministic Finite Automata Deliberate the characteristics of Intersections and Complements of CFL Specify in details with application, if applicable, Definitions of Turing Machine, Identify in depth Godel Numbering Understand the classification and characteristics of Decorator Write down the characteristics of Adaptor Specify in depth Proxy Learn the details of Observer Learn in details with application, if applicable, Java Design patterns: Singleton Deliberate the characteristics of Java Web Services – RESTful Web Services

Write down the classification and characteristics of SOAP Web Services

Learn in details with application, if applicable, Java XML library - JAXP

Understand the characteristics of XML Parsing - DOM, SAX, Stax

Specify the characteristics of Server side programming - Java Servlets, JSP

Identify in depth Adaptor Classes

Identify the characteristics of Inner Classes

Understand in details with examples Comparable and Comparator

Learn in depth Java Sandbox security model

Understand the classification and characteristics of Applets

Identify the classification and characteristics of Event Listener Interfaces

Learn the characteristics of Event Handling:

Event Classes

Write down in details with examples TCP/IP

Sockets

Learn the details of TCP/IP Sockets

Specify the characteristics of Serialization. Java

Networking - Networking Classes and Interfaces

Identify the classification and characteristics of

Console Class

Identify in details with application, if applicable,

Character Streams

Learn in details with application, if applicable,

Bytes Streams

Understand the classification and characteristics of The Stream classes

Write down the details of Java I/O: Closeable,

Flushable Interfaces

Learn in details with application, if applicable,

Thread synchronization

Identify in depth Method Invocation and Return

Deliberate the details of Floating Point Arithmetic

Specify in details with examples Type conversion

Identify in depth Garbage collection

Learn the details of Linking model

Write down in details with examples Class Loader

Specify the details of JVM: Java Class file

Identify in depth String handling

Write down the details of Concurrency and Multithreaded programming
Identify in details with examples Exception Handling

Deliberate the classification and characteristics of Introduction: Data Types, Operators, Classes, Inheritance, Packages and Interfaces

Specify the characteristics of Annotations
Learn the classification and characteristics of Autoboxing

Write down in depth Enumerations

Learn the details of I/O

Write down in depth I/O

Specify the characteristics of MVC

Write down in details with examples Hibernate Flow

Learn the classification and characteristics of Spring Flow

Learn the details of Spring and Hibernate framework

Specify in details with examples Template Method patterns

Write down in details with application, if applicable, Factory

Deliberate in details with application, if applicable, AbstractFactory

Deliberate in details with application, if applicable, Facade

Learn the details of Command

Write down in details with application, if applicable, Growth of Functions

Deliberate the characteristics of Asymptotic notations

Identify in depth Analysis Techniques

Understand in details with examples Standard notations and common functions

Identify in details with examples RSA cryptosystem

Specify in details with application, if applicable, Primality testing

Identify the characteristics of Integer factorization

Identify the details of String-Matching Algorithms

Understand the classification and characteristics of Naïve string Matching

Write down in details with examples Rabin - Karp algorithm

Deliberate the classification and characteristics of String matching with finite automata
Understand the details of Knuth-Morris-Pratt algorithm Boyer – Moore algorithms
Identify in details with examples Approximation Algorithms
Understand the details of The vertex-cover problem

Deliberate the classification and characteristics of The traveling-sales-person problem

Deliberate in depth The set covering problem
Deliberate in details with application, if applicable, The subset-sum problem

Write down in details with application, if applicable, Recurrences and Solution of Recurrence equations- The substitution method
Write down in details with application, if applicable, The recurrence – tree method
Identify in depth The master method
Deliberate the details of Amortized Analysis
Understand in depth Aggregate
Write down the characteristics of Accounting and Potential Methods
Identify in details with application, if applicable, Graph Algorithms

Deliberate in depth Bellman - Ford Algorithm
Understand the details of Single source shortest paths in a DAG
Deliberate in details with examples Johnson's Algorithm for sparse graphs
Learn in details with examples Flow networks and Ford-Fulkerson method
Learn the characteristics of Maximum bipartite matching
Understand the details of Polynomials and the FFT
Deliberate in details with examples Representation of polynomials
Understand in details with application, if applicable, The DFT and FFT

Deliberate the classification and characteristics of Efficient implementation of FFT
Identify in details with examples Number - Theoretic Algorithms

Deliberate the details of Elementary notions

Identify in depth GCD

Specify the details of Modular Arithmetic

Specify the characteristics of Solving modular linear equations

Write down the classification and characteristics of The Chinese remainder theorem

Deliberate in depth Powers of an element

Specify the classification and characteristics of Introduction Parallel Algorithms

Identify the classification and characteristics of Parallel Sorting Algorithms

Specify in details with examples Parallel Search Algorithms

Specify in depth Introduction to Amortization

Understand the characteristics of Agile

development: Agile

Learn the classification and characteristics of

Other agile process models

Learn in details with application, if applicable,

Extreme programming

Identify the classification and characteristics of

Agile Process

Write down in depth Agile development: Agile

Write down in details with examples Component-level design

Specify in details with examples Architecture design

Specify in details with examples Navigation design

Write down in depth Aesthetic design

Specify the classification and characteristics of Content design

Write down the classification and characteristics of Interface design

Understand the classification and characteristics of Design quality and design pyramid

Write down in depth Web application design quality

Learn the characteristics of Web Application

Design

Identify the classification and characteristics of

Formal Modeling and verification: The cleanroom strategy

Write down in depth ; Functional specification
Deliberate the classification and characteristics
of Cleanroom design
Identify in details with application, if applicable,
Cleanroom testing
Identify in details with application, if applicable,
Formal specification languages
Deliberate in details with application, if
applicable, Concepts

Specify the characteristics of Formal methods
Identify the characteristics of Decomposition
techniques
Learn in details with examples Estimation for
Software Projects
Deliberate in details with examples The W5HH
Principle
Deliberate the characteristics of Object-oriented
hypermedia design method
Specify the classification and characteristics of
process and project
Learn the characteristics of The management of
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Write down in depth product
Learn in details with examples The management
spectrum

Write down the characteristics of Applying
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Deliberate in details with examples Formal
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Specify the details of Earned value analysis

Write down in details with examples Scheduling
Deliberate in details with application, if
applicable, Risk mitigation
Specify in details with application, if applicable,
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Deliberate in details with application, if
applicable, The RMMM plan

Identify in depth Maintenance and Reengineering
Deliberate in details with application, if
applicable, Software maintenance
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Understand in details with application, if
applicable, Reengineering
Specify in details with examples Business process
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Identify in details with examples Software reengineering
Write down in details with application, if applicable, Reverse engineering
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Identify the details of Forward engineering
Specify the characteristics of The economics of reengineering

Learn in details with application, if applicable, Software Process Improvement (SPI)

Identify the characteristics of Approaches to SPI
Specify in details with application, if applicable, Maturity models

Learn in details with examples The SPI process
Identify the classification and characteristics of SPICE

Write down the details of Bootstrap
Specify the classification and characteristics of PSP and TSP

Understand in depth ISO
Specify the classification and characteristics of SPI return on investment

Identify in depth Software Configuration Management (SCM)

Specify in depth Basic concepts
Identify in details with application, if applicable, Basic conceptsSCM repository

Understand the characteristics of The SCM process

Write down in details with application, if applicable, Configuration management for web applications

Write down in details with application, if applicable, SCM standards

Specify the details of Product Metrics: A framework for product metrics; Metrics for requirements model, design model

Identify in depth source code

Specify the details of testing and maintenance
Specify in depth Design metrics for web applications

Identify the classification and characteristics of Process and Project Metrics: Basic concepts

Identify in details with examples Software measurement

Learn the details of Metrics for software quality
Identify the details of Integrating metrics within the software process

Specify the classification and characteristics of Metrics for small organizations
Learn the classification and characteristics of Establishing a software metrics program
Identify in details with application, if applicable, Risk Management
Deliberate the details of Reactive versus proactive strategies

Deliberate the characteristics of Software risks
Specify the classification and characteristics of risk identification
Deliberate the classification and characteristics of Risk projection
Write down in details with application, if applicable, Risk refinement
Write down the characteristics of Defining task set and task network

Write down in details with examples Basic concepts and principles of project scheduling
Identify in details with application, if applicable, Software Project Scheduling
Specify in depth The make / buy decision

Write down the classification and characteristics of Estimation for Object-Oriented projects

Learn in depth Specialized estimation techniques
Deliberate the details of Empirical estimation models
Write down in details with application, if applicable, Examples
Write down the details of Critical practices
Understand in details with examples Software project estimation
Specify in details with examples The CMMI
Understand the characteristics of The People CMM
Identify the details of Other SPI frameworks
Deliberate the classification and characteristics of Fundamentals of arrays

Specify the characteristics of Hashes and Methods Classes
Understand in details with examples Code blocks and iterators

Learn in details with examples Pattern matching
Specify in depth Overview of Rails, Document requests and Processing forms

Identify in details with application, if applicable, Rails applications with Databases, Layouts

Specify in details with application, if applicable, Introduction to Ajax: Overview of Ajax
Learn the classification and characteristics of The basics of Ajax
Identify in details with application, if applicable, Rails with Ajax
Understand in details with examples Simple input and output
Write down the classification and characteristics of Control statements

Deliberate the classification and characteristics of Scalar types and their operations
Understand the classification and characteristics of Arrays
Learn the details of CGI.pm module

Write down the classification and characteristics of A survey example; Cookies.
Write down the characteristics of Servlets and Java Server Pages
Deliberate the characteristics of Overview of Servlets; Servlet details; A survey example
Identify the details of Storing information on Clients
Understand in depth Java Server Pages
Write down the details of PHP: Origins and uses of PHP
Write down the classification and characteristics of File input and output

Specify in details with examples Pattern matching
Deliberate the details of Functions
Specify in depth References
Deliberate the classification and characteristics of Introduction to Ruby, Rails: Origins and uses of Ruby

Write down in details with examples Database access with PHP and MySQL

Deliberate in depth Database access with JDBC and MySQL

Deliberate in details with examples Database access with PERL and MySQL

Identify the characteristics of The MySQL Database system

Write down in details with application, if applicable, An introduction to SQL

Understand in details with application, if applicable, Architectures for Database access

Write down the characteristics of Database Access through the Web: Relational Databases
Understand the characteristics of Files; Cookies, Session tracking

Deliberate in depth Form handling

Write down the characteristics of Pattern matching

Write down in details with examples Functions

Identify the details of Output; Control statements

Deliberate the details of Overview of PHP;

General syntactic characteristics

Learn the classification and characteristics of Primitives

Identify the characteristics of operations and expressions

Write down in details with application, if applicable, CGI linkage and Query string format

Deliberate in details with examples Examples.

The Common Gateway Interface;

Write down the classification and characteristics of Hashes

Deliberate the characteristics of Fundamentals of arrays

Write down in depth Control statements

Learn the characteristics of Assignment statements and simple input and output

Write down in depth Perl, CGI Programming: Origins and uses of Perl

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Deliberate the details of Bit-aligned codes

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Understand the details of Index Construction

Specify the classification and characteristics of Query Processing

Specify the classification and characteristics of Entropy and Ambiguity

Specify the characteristics of Internationalization

Specify the details of RANKING WITH INDEXES:

Inverted indexes

Learn in details with examples Compression

Specify the characteristics of Information

Extraction

Identify in depth Document Structure and

Markup

Deliberate in details with application, if applicable, Link Analysis

Deliberate in details with examples Processing text: Text Statistics

Understand the details of Detecting Duplicates

Understand the details of Storing the Documents

Understand the classification and characteristics of Conversion Problem

Understand in details with application, if applicable, Directory Crawling

Deliberate the details of Current challenges, trends, and applications Algorithms for Big Data analysis

Specify the details of CRAWLS AND FEEDS:

Crawling the Web

Deliberate the details of Information Retrieval and Search Engines: Architecture of search engine, Ranking and Evaluation

Deliberate in details with application, if applicable, Big Data technology and tools, special consideration made to the MapReduce paradigm and the Hadoop ecosystem

Deliberate in depth Mining and learning algorithms that have been developed specifically to deal with large datasets Technologies for Big Data management

Deliberate the characteristics of Topics include statistical learning framework, supervised and unsupervised learning

Identify the details of Introduction to the Big Data problem

Learn the details of design tradeoffs
Understand in depth performance evaluation
and empirical methodology
Learn the details of Big Data: Introduction to
principles and practice of systems that improve
performance through experience
Identify in depth Social Network Analysis
Learn in details with examples Data Mining: Data
Mining Applications
Specify the details of Mining Various Kinds of
Association Rules
Write down in depth Mining Methods

Learn in details with examples Data Warehousing
and Data Mining: Data Warehouse Architecture
Specify the characteristics of Data Warehouse
Implementation
Understand in details with examples RAID Impact
on Disk Performance
Learn in details with examples RAID Levels
Deliberate the classification and characteristics
of RAID Array Components
Learn the classification and characteristics of
Intelligent Storage system: Implementation of
RAID

Write down in depth Application Requirements
and Disk Performance. Data Protection

Write down the details of Disk Drive Components
Deliberate in depth Disk Drive Performance
Write down in depth Fundamental Laws
Governing Disk Performance
Understand the characteristics of Logical
Components of the Host
Specify in details with examples Data Center
Infrastructure
Write down the classification and characteristics
of Information Lifecycle Components of Storage
System Environment
Write down the details of Logical Query
Optimization
Write down in details with examples SAN:
Introduction to Information Storage and
Management
Write down the details of BigData with Hive
Write down in depth Working with NOSQL
Specify in details with application, if applicable,
Query Optimization: Overview

Specify in depth Transformation of Relational Expressions
Identify the details of Estimating Statistics of Expression Choice of Evaluation Plans
Learn in depth Materialized views Advanced Query Optimization: Motivation
Identify in details with application, if applicable, Query Processing Phases

Deliberate the characteristics of NOSQL in CLOUD
Specify the characteristics of Indexing and ordering data sets
(MongoDB/CouchDB/Cassandra)
Understand in depth Parallel Processing with Map Reduce

Learn in details with examples Advanced NOSQL
Understand in details with application, if applicable, Querying, Modifying and Managing NOSQL Data stores

Learn in details with examples Exploring MongoDB Basics: NOSQL Storage architecture
Write down the characteristics of CRUD operations with MongoDB
Understand in details with application, if applicable, History of NOSQL and Different NOSQL products
Write down in details with application, if applicable, Definition of NOSQL
Write down in details with application, if applicable, Document Parsing
Identify the details of Introduction to Artificial Intelligence: Definition

Understand the characteristics of AI Applications
Specify in depth AI representation
Understand the characteristics of Heuristic search techniques
Specify in details with application, if applicable, Heuristic search techniques
Identify in depth Game Playing
Learn in details with application, if applicable, A* and AO* Algorithm
Write down in details with application, if applicable, Best first search
Deliberate the characteristics of mean and end analysis

Learn the characteristics of Alpha beta cutoffs

Identify in details with application, if applicable,
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Write down the classification and characteristics
of Minimize search procedure

Identify in depth Knowledge representation
using predicate logic: predicate calculus

Deliberate in depth Secondary search

Deliberate the classification and characteristics
of Predicate and arguments,

Specify the classification and characteristics of
ISA hierarchy

Learn in details with application, if applicable,
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Identify in details with application, if applicable,
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Write down in depth Natural deduction

Specify the classification and characteristics of
fuzzy logic

Specify in depth statistical and probabilistic
reasoning

Identify in details with application, if applicable,
Knowledge representation using non monotonic
logic: TMS (Truth maintenance system)

Specify in depth fuzzy logic

Write down the characteristics of structure
knowledge representation

Understand in depth structure knowledge
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Learn in details with examples semantic net

Write down in details with examples Frames,
Script, Conceptual dependency

Write down in details with application, if
applicable, Perception: Action, Robot

Architecture, Vision, Texture and images,
representing and recognizing scenes

Understand in depth Constraint determination

Deliberate in details with examples waltz
algorithm

Identify in details with application, if applicable,
Hierarchical planning, list commitment strategy

Learn the details of Non linear planning with goal
stacks

Learn in details with application, if applicable,
Implementation using goal stack

Understand in details with examples Trihedral and non trihedral figures labeling
Understand the details of Failure driver learning, learning in general problem solving concept learning

Identify in depth Learning: Learning as induction matching algorithms

Deliberate in details with application, if applicable, Neural Networks: Introduction to neural networks and perception-qualitative Analysis only

Write down the characteristics of neural net architecture and applications

Learn the classification and characteristics of semantic

Identify in details with examples syntactic

Learn in depth Natural language processing and understanding and pragmatic

Identify in details with examples analysis, RTN, ATN, understanding sentences

Deliberate the details of Expert system:

Utilization and functionality

Learn the classification and characteristics of architecture of expert system

Learn the details of two case studies on expert systems

Learn the characteristics of knowledge representation

Write down the details of Standard random sampling methods

Learn the details of Unequal probability sampling

Identify in details with examples Cluster sampling with equal and unequal cluster sizes

Specify the characteristics of Ratio and regression estimators based on SRSWOR sampling

Identify in details with application, if applicable, Randomized responses for variables

Understand in depth Classes of sets

Learn the details of Probability measure induced by a random variable

Identify the classification and characteristics of Expectation of a random variable

Deliberate in details with application, if applicable, Characteristic function. Properties

Deliberate in details with examples Product measure space. Fubini's theorem
Deliberate the characteristics of Distribution function of a random variable
Deliberate in details with application, if applicable, Standard discrete and continuous distributions
Deliberate the classification and characteristics of Transformation and moment generating function techniques. 12
Deliberate in depth Distributions of functions of several random variables - change of variables technique
Understand the details of Bivariate Normal Distribution
Identify the details of Concept of quality. Quality function and quality characteristics
Learn the classification and characteristics of Analysis of OC, ARL, and other measures
Deliberate the details of Single and double lot-by-lot acceptance sampling plans
Learn the details of Reliability and hazard rate functions of a single component

Write down the classification and characteristics of System life as a function of component lives
Specify in depth Introduction to R. Data and file handling in R. Descriptive statistics

Write down the details of Graphical interface in R. Programming in R- editing functions

Specify the classification and characteristics of Ratio and regression methods of estimation

Specify in details with application, if applicable, OC and ARL curves of \bar{X} and R control charts

Deliberate the details of Methods of estimation
Deliberate in depth Testing of hypotheses
Deliberate the characteristics of Sufficiency and completeness

Identify the classification and characteristics of Uniformly minimum variance unbiased (UMVU) estimation. Fisher information matrix, simultaneous estimation of parameters of multinomial and normal distributions
Deliberate in details with application, if applicable, Families of distributions

Convergence in distribution, convergence in probability. Properties and examples.

Learn the details of WLLN & SLLN

The classification and characteristics of Levy, Lindeberg-Levy, and Liapunov central limit theorems and applications of these theorems.

Specify the classification and characteristics of Martingales. Sub and super martingales. Doob decomposition. Martingale convergence theorem.

Conditional probability and its properties, Multinomial and multivariate normal distributions-

Characteristic function of the multivariate normal distribution and its applications.

Sampling from Multivariate Normal Distribution

Order statistics

Simulation

Multiple linear regression and Generalized linear models

Measures of model adequacy, coefficient of determination R^2 , Subset selection of regressors

Heteroscedasticity and autocorrelation

Multicollinearity

Linear estimation

MLE's of the parameters of multivariate normal distribution and their sampling distributions.

Likelihood ratio tests

Classification and discriminant procedures

Multivariate regression model

PCA, Canonical variables and canonical correlations

Cluster Analysis

Economic development

Estimation of national income

Gini coefficient, and Theil's measure. Poverty measurement

Measures of fertility, Life table functions

Population growth models

Identify the characteristics of Generating random samples given sufficient statistics

Understand the characteristics of UMVU estimates.
Specify in details with application, if applicable, Computation of mean vector, covariance matrix, partial and multiple correlations. from a multivariate data
Identify the details of Test for multivariate normal distribution
Learn the characteristics of Basic Elements and Parametric Interference

Identify the details of Censoring mechanisms
Understand the characteristics of Nonparametric Inference

Deliberate in depth Semi-parametric Inference
Identify in details with application, if applicable, Regression for grouped data
Deliberate the characteristics of Euler Lagrange equation of second kind
Learn in details with examples the Poisson Bracket is invariant under canonical transformation.
Understand the details of Euler-Lagrangian equation from calculus of variation
Write down the details of Euler's equations of motions for a rigid body.
Learn in depth 5. Compare and contrast between lagrangian formulation and Newtonian formulation

Identify in details with application, if applicable, types of equilibria and equilibrium states
Write down in details with examples angular momentum is pseudo vector.
Write down the classification and characteristics of the calculus variation show the shortest distance between any two points in a plane is a straight line.

Identify in depth the results and conclusions of Rutherford's gold foil experiment.

Specify the classification and characteristics of kinetic energy of a rigid body
Write down in depth about areal velocity is constant for motion in a central force field

Specify the characteristics of Lagrange's equations of motion for conservative system.

Identify in details with examples Lagrange's equations for i) a simple pendulum ii) a bead sliding on uniformly rotating wire in a force free space

Learn in details with application, if applicable, how the generalized co-ordinates of a rigid body with N particles reduce to six for its description
Deliberate in details with examples the reduction of a two particle equation of motion to the equivalent one body problem
Identify the classification and characteristics of expression for angular momentum of a rigid body inertia tensor.
Understand the classification and characteristics of conservation of angular momentum of a system of particles
Specify the characteristics of Classification of constraints with examples

Understand the classification and characteristics of conservation of angular momentum
Write down in details with examples kinetic energy of a rigid body
Identify in depth central force field.

Write down in details with examples Lagrange's equations of motion for conservative system.

Identify the classification and characteristics of angular momentum of a rigid body inertia tensor
Specify in depth Lagrange's equations for i) a simple pendulum ii) a bead sliding on uniformly rotating wire in a force free space
Write down in details with examples generalized co-ordinates of a rigid body
Deliberate the characteristics of the reduction of a two particle equation of motion to the equivalent one body problem
Understand the characteristics of Classification of constraints with examples
Deliberate in depth Rutherford scattering

Deliberate in details with examples Euler's angles
Specify the classification and characteristics of generating function
Deliberate in details with examples simple harmonic oscillator in one dimension by canonical transformation.
Understand in depth Euler's equation for a symmetric top

Deliberate in details with examples Hamiltonian's equations

Write down in details with application, if applicable, Poisson bracket

Specify the details of pseudo force

Learn the characteristics of scattering

Specify the details of high pass filter

Identify the characteristics of output voltage of summer

Deliberate in depth asynchronous ripple counter

Understand the details of ideal op amp with practical op amp

Write down the characteristics of operational amplifier

Learn the classification and characteristics of characteristics of ideal op

Identify in depth VI characteristics of pn junction diode

Understand the details of non inverting amplifier

Deliberate in details with examples JK master slave flip flop

Specify the characteristics of space charge distribution in a pn junction

Write down in depth working principle of JFET

Identify the characteristics of expression for closed loop gain for op-amp for inverting and non –inverting amplifier and sketch its output waveform.

Specify the characteristics of expression for ideal and practical opamp current gain.

Understand in details with examples depletion capacitance.

Understand the characteristics of photo conductivity

Identify the classification and characteristics of comparator in an electronic circuit

Specify the characteristics of simplification of boolean expression

Specify in details with application, if applicable, Discuss briefly basic NOR latch.

Identify in details with examples shift register

Specify in depth analog to digital convertors.

Understand in details with examples truth table for Positive edge triggered S-R flip flop

Write down in details with application, if applicable, positive edge triggered JK flip flop
Learn in details with application, if applicable, RAM and its applications.
Write down the details of Implement NOT, AND, OR gates using NAND gate.
Deliberate the characteristics of Simplify the Boolean equation
Deliberate in details with examples basic NOR latch

Specify the characteristics of conversion of binary to gray code, implement using XOR gates.
Deliberate the details of DAC resistor
Identify the characteristics of universal gates and Demorgan's laws

Learn in details with examples the Karnaugh map
Deliberate in depth 8-bit DAC
Learn the details of working of ADC
Write down in details with application, if applicable, truth tables logic-om
Learn in details with application, if applicable, logic-omcanonical sum of product for the function
Understand in details with examples Simplify the logic expression

Specify the details of Digital-to-Analog Converter
Understand in details with application, if applicable, Wave-particle duality and show that $=h/(mv)$.
Learn the classification and characteristics of Heisenberg uncertainty principle for position and momentum.

Specify the characteristics of significance of operator formalism in quantum mechanics

Specify the classification and characteristics of commutators and anti-commutators
Write down in depth the energy of a gamma ray photon having wavelength 1\AA .
Specify the characteristics of wave packet equation for a monochromatic plane wave.
Identify the details of the eigenvalues are real and orthogonal for Hermitian operator.

Specify in details with examples Derive conservation of probability J and also find the probability current density for a plane wave.
Understand in details with examples expression for energy Eigen values
Understand in depth . Discuss the Louis de-Broglie concept of matter wave.

Specify in details with examples Explain energy quantization using simple harmonic oscillator

Specify the classification and characteristics of
Solve the one dimensional equation for potential energy of a particle in free space.
Learn the classification and characteristics of Hermitian operators
Specify in depth role of eigenvalues for J_z in understanding the atomic orbits.

Identify in details with application, if applicable, Heisenberg's uncertainty principle for position and momentum using single slit experiment
Understand the characteristics of simple harmonic oscillator using operator method.
Specify in details with examples arrive at radial equation of hydrogen atom.
Specify in details with examples pauli's spin matrices
Deliberate in depth Schrodinger and Heisenberg pictures

Specify in details with application, if applicable, unitary and Hermitian operators
Write down in details with examples one dimensional harmonic oscillator
Deliberate in details with application, if applicable, uncertainty principle
Learn the details of Heisenberg picture
Deliberate the characteristics of fundamental commutation relation
Specify the details of creation operator
Understand the classification and characteristics of unitary transformation
Deliberate in details with examples Dirac's bra and ket notations
Write down the classification and characteristics of Ehrenfest's theorem

Write down the classification and characteristics of the reflection and transmission coefficients for the rectangular potential barrier

Write down the characteristics of reflection and transmission coefficients for the potential well of finite depth when the energy of the particle $E < 0$

Deliberate the classification and characteristics of Heisenberg's Uncertainty principle
Learn in depth Schrödinger's time dependent equation

Learn in details with application, if applicable, de Broglie wavelength of an electron
Understand in details with examples wave packet and group velocity
Deliberate the details of particle in an infinite depth potential well
Understand in details with examples eigen function

Specify the details of Box normalization
Understand the classification and characteristics of Cauchy residue theorem
Specify in details with examples unitary and Hermitian matrices

Learn in details with application, if applicable, method of diagonalisation of a matrix

Deliberate in depth basics of C

Identify the classification and characteristics of find area of a circle and draw the flowchart
Write down the details of singularities and their residue

Learn the characteristics of eigen values

Specify the details of linear dependent of vectors

Write down the details of Eigen values
Write down in details with examples recurrence relation

Specify in depth recurrence relation

Specify in details with examples Bessel equation
Identify the classification and characteristics of Frobenius method

Specify in depth complex variables

Write down in depth linearly dependent vectors

Learn the classification and characteristics of

Cauchy reimann equations

Understand the characteristics of method of residues

Write down the classification and characteristics of unitary matrices

Identify in depth apparent magnitude and absolute magnitude

Identify in details with application, if applicable, black holes

Specify the details of supernova explosion

Understand the details of neutron star and pulsating star

Write down in depth optical telescope

Deliberate the details of astronomy

Specify the classification and characteristics of Aerosols and their properties

Write down the characteristics of white dwarfs.

Write down in details with application, if applicable, atmospheric mass and gaseous constituents

Learn the classification and characteristics of types and characteristics of variable stars

Specify the classification and characteristics of the gas laws

Write down the details of classification of stars by Harvard scheme

Specify the characteristics of mass luminosity relationship for stars

Write down in depth binary star system

Write down the details of temperature distribution and wind

Specify the details of Macro and Microstates Boltzmann equation for entropy and give its statistical significance.

expression for density function

Specify in details with examples Fourier analysis of random motion

Identify in depth Brownian motion

Write down in details with examples Liouville's theorem

Specify in details with application, if applicable,
Gibb's paradox

Learn in details with application, if applicable,
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Learn the characteristics of Wiener-Khintchine
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Understand the details of specific heat of solids
at high and low temperatures

Specify in details with examples Brownian
motion of particles.

Understand in details with examples Postulates
of equilibrium thermodynamics,

Specify in depth Entropy

Write down in depth Maxwell boltzman statistics

Deliberate the classification and characteristics
of electronic specific heat.

Identify in depth photon statistics.

Specify the classification and characteristics of
Bose-Einstein statistics.

Identify the details of Bose-Einstein
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Identify in details with application, if applicable,
Fermi Dirac statistics.

Identify the classification and characteristics of
quantum statistics in classical limits.

Deliberate in details with application, if
applicable, retarded potential.

Identify the details of Coulomb Gauge and
Lorentz Gauge

Learn in details with examples Poynting theorem.

Deliberate the details of scalar and vector
potentials.

Deliberate in details with examples Biot-Savart's
law.

Write down in details with application, if
applicable, reflection and transmission at oblique
incidence.

Write down the details of reflection and
transmission at normal incidence..

Identify in depth Lorentz transformation.

Deliberate the classification and characteristics
of Ampere's law.

Identify in details with examples gradient of
potential

Will be able to State and prove Gauss theorem

Write down in details with application, if applicable, Gauss theorem
Derive Lorentz transformations in detail
Specify in details with examples Lorentz transformations.
Deliberate the characteristics of electric potential due to quadrupole
Write down the details of potential due to multipoles
specify how electric and magnetic fields transform under Lorentz transformations
Write down in details Lorentz transformations derive Lienard Wiechart Potentials

Solve numerical problems on Laplace equation
Solve numerical problems on transformation equations
Identify in depth Parity operator
Identify in details with examples Permutation/ Exchange symmetry operator

Understand the characteristics of symmetric and antisymmetric wave functions
Specify in details with examples Slater determinant
Specify in details with application, if applicable, ortho and para helium

Specify in depth Spatial translation symmetry and there conservation of linear momentum
Learn the details of ground state of Helium by variational method
Specify the classification and characteristics of Vanderwaal's interaction using Variational Method
Learn in details with examples Rotational symmetry in Space and Conservation of angular momentum
Deliberate the classification and characteristics of Gamma decay
Deliberate in details with application, if applicable, magnetic moment of Deuteron.
Write down the details of general features of nuclear forces.

Learn the details of assumption of shell model

Specify in details with application, if applicable, interaction of gamma rays with matter

Specify the characteristics of Fermi's theory of β -decay

Write down in details with examples spin-orbit interaction

Identify in depth Bethe-Block formula for stopping power

Write down the classification and characteristics of relation between the range and depth of the potential

Compute the asymmetry energy for a nucleus with $Z=90$, $A=231$ and $Q_{\alpha}=931\text{MeV}$

Deliberate the details of Predict the multipolarity of the following transitions

Write down in details with examples complex form of Fourier series

Understand in details with examples Cauchy's integral formula

Learn in details with application, if applicable, Fredholm theorems.

Learn the classification and characteristics of for Fredholm integrals.

Learn in details with application, if applicable, solve the integral

Learn in details with application, if applicable, Neumann series for Fredholm integrals

Specify the characteristics of Complex variable technique

Deliberate in details with application, if applicable, Complex variable technique numerical problem

Specify in details with examples Fourier cosine series

Write down in details with examples C-R equations in polar form.

Write down the classification and characteristics of Cauchy's integral formula

Identify the classification and characteristics of Cauchy's integral formula Cauchy-Riemann equations, show that $f(z)=z^3$

Deliberate the details of Taylor's theorem.

Understand the details of $w=\log z$ satisfy the Cauchy- Riemann equations

Specify in details with application, if applicable, Evaluate the integral

Learn in details with application, if applicable, Cauchy's theorem to multiple connected region.

Write down in depth Evaluate the integral

Specify in details with application, if applicable, three terms of Taylor series expansion

Specify the classification and characteristics of 2.

Find the Taylor series expansion

Understand in details with examples importance of mathematics in physics.

Write down the details of modulation method of Fourier transformation.

Understand in details with application, if applicable, State dirichlet, Neumann and Cauchy condition for partial differential equations.

Learn in depth solution of the given differential

equation subject to the initial conditions

Identify the details of the given equation is exact differential equation or not

Specify in details with application, if applicable,

Derive the Fourier transformation of a derivative

Learn the details of Lagrangian equation in three dimension Cartesian coordinates

Deliberate in details with examples modulation theorem of Fourier transforms

Understand in details with examples the change of scale and shifting properties of Fourier transformation

Deliberate the characteristics of Solve the differential equation

Specify the details of difference between physical and chemical method of thin film formation

Understand in details with examples properties

differ from the thin film form of a material as compared to its bulk counterpart

Identify in details with application, if applicable, need of vacuum in all physical techniques of thin film deposition.

Deliberate in details with examples use of any substance for vaporization in thermal evaporation? Justify.

Specify in depth problem on the calculation of molecular weight

Learn the classification and characteristics of physical method of thin film deposition.

Learn in details with application, if applicable, spray pyrolysis technique

Identify the classification and characteristics of characteristics of transducer
Identify in details with examples safety measures/precautions to be taken when working in a laboratory or a workshop

Understand the classification and characteristics of vacuum and its applications
Deliberate in details with application, if applicable, can film thickness be measured during a crystal oscillation
Learn in details with application, if applicable, characteristics of vacuum
Deliberate the characteristics of advantages and limitations of physical and chemical techniques of thin film deposition
Understand the classification and characteristics of condition for material to be used as a boat in thermal evaporation method of thin film deposition

Identify in depth principle, construction and working of chemical spray pyrolysis technique.

Write down in details with examples methods of thin film thickness measurement.
Deliberate the details of principle and working of an oil diffusion pump.

Understand the classification and characteristics of any two techniques of your choice by which the thickness of a thin film is determined.
Deliberate in details with examples principle of NMR
Understand in details with application, if applicable, applications of IR and Raman spectroscopy.

Write down in details with application, if applicable, X-ray diffraction and microscopy
Deliberate in details with application, if applicable, Vanderwaal's forces
Write down the characteristics of hybridization of (a) CH₄ (b) BeCl₂ (c) H₂O
Learn in depth description of types of bond
Write down the details of functions of proteins and carbohydrates

Identify in details with application, if applicable, types of nucleic acids

Identify the classification and characteristics of chromatographic methods.

Identify in details with application, if applicable, short note on biophysics

Identify in details with application, if applicable, hydrogen bonding,

Deliberate in depth ionic and covalent bonds

Learn the characteristics of Fredholm theorems

Learn the classification and characteristics of solution for Fredholm integrals

solve the integral

Specify in depth Neumann series

Deliberate in details with examples Complex variable technique

Deliberate the characteristics of Complex variable technique to solve integral

Understand the classification and characteristics of Fourier cosine series

Specify the details of FC-R equations in polar form

Evaluate the integral

Understand the classification and characteristics of Taylor series expansion

Identify the classification and characteristics of Taylor series expansion of a function of the complex variable

Evaluate the integral

Identify in details with application, if applicable, prove Cauchy's integral theorem

Learn the details of real and imaginary parts of the function

Learn the characteristics of Cauchy's integral formula

Identify the classification and characteristics of Cauchy-Riemann equations

Identify the characteristics of Taylor's theorem.

Deliberate the details of complex form of Fourier series

Write down in depth Cauchy's integral formula

Identify the characteristics of importance of mathematics in physics.

Write down in depth the modulation method of Fourier transformation.

Specify the characteristics of State dirichlet, Neumann and Cauchy condition for partial differential equations.

Write down in depth the solution of the given differential equation subject to the initial conditions

Understand in depth Find the whether the given equation is exact differential equation or not.

Deliberate the details of Derive the Fourier transformation of a derivative. Derive the derivative of a Laplace transform.

Learn in depth the Lagrangian equation in three dimension Cartesian coordinates.

Specify the characteristics of Write the change of scale and shifting properties of Fourier transformation.

Specify the characteristics of Solve the differential equation.

Understand the classification and characteristics of Derive the Fourier transformation of derivative.

Write down the classification and characteristics of Find the Laplace transformation of a saw tooth wave.

Identify the classification and characteristics of State and prove cauchy's residue theorem.

Write down in details with application, if applicable, whether the given differential equation is exact differential or not

Specify the details of Using correct generating function and the corresponding Rodrigues formula find the Hermite polynomials Identify the details of Derive the necessary and sufficient conditions for a complex function to be analytic.

Specify the characteristics of Discuss the properties of the Dirac delta function.

Understand the classification and characteristics of Using method of separation of variables find the solution of the Laplace equation in Spherical polar coordinates.

Deliberate in details with examples find the solution for Legendre differential equation

Write down in details with application, if applicable, Algebra 1

Understand in details with application, if applicable, Algebra 1

Understand the classification and characteristics of Algebra 1

Understand the details of Algebra 1

Learn the classification and characteristics of Algebra 1

Specify in depth Real analysis

Write down in depth Real analysis

Write down the details of Real analysis

Understand the characteristics of Real analysis

Learn the characteristics of Real analysis

Write down the characteristics of Real analysis

Specify the characteristics of Topology1

Specify the classification and characteristics of Topology1

Write down in details with examples Topology1

Identify in details with application, if applicable, Topology1

Identify the classification and characteristics of Topology1

Learn the details of Topology1

Identify in depth ODE

Identify the classification and characteristics of ODE

Learn the characteristics of ODE

Learn in details with application, if applicable, ODE

Learn in depth ODE

Identify in details with examples ODE

Specify the classification and characteristics of Discrete

Identify in details with examples Discrete

Specify the classification and characteristics of Discrete

Specify the details of Discrete

Write down the characteristics of Discrete

Specify in details with application, if applicable, Discrete

Identify the classification and characteristics of Discrete

Write down the classification and characteristics of practical 105T

Understand the details of practical 105T

Understand the details of practical 105T

Deliberate in depth practical 105T
Deliberate in details with application, if applicable, practical 105T

Deliberate the characteristics of practical 105T
Write down in details with examples mathematical analysis
Learn in depth mathematical analysis

Identify the details of mathematical analysis
Understand in depth mathematical analysis
Identify in details with examples mathematical analysis
Identify in details with examples mathematical analysis
Learn the classification and characteristics of Algebra II
Identify in details with application, if applicable, Algebra II
Specify in details with examples Algebra II
Understand in details with application, if applicable, Algebra II
Specify in details with examples Algebra II
Deliberate the details of Algebra II
Deliberate in details with application, if applicable, Algebra II
Identify in depth complex analysis

Deliberate the characteristics of complex analysis
Write down the details of complex analysis
Deliberate in details with examples complex analysis
Write down the details of complex analysis
Write down the classification and characteristics of complex analysis
Write down the details of Topology II
Specify in depth Topology II
Learn the classification and characteristics of Topology II
Identify the characteristics of Topology II

Understand the characteristics of Topology II
Learn in depth Topology II
Specify in details with examples PDE
Identify the characteristics of PDE
Specify in details with examples PDE
Identify in details with examples PDE

Specify the classification and characteristics of PDE
Understand the classification and characteristics of PDE
Specify in details with application, if applicable, PDE
Deliberate the characteristics of Numerical analysis 1
Write down the characteristics of Numerical analysis 1
Understand in details with examples Numerical analysis 1

Write down the details of Numerical analysis 1
Identify the characteristics of Numerical analysis 1
Specify in details with examples Numerical analysis 1
Understand the details of practicals 205T
Deliberate in details with application, if applicable, practicals 205T
Understand in details with examples practicals 205T

Deliberate the characteristics of practicals 205T
Deliberate the details of practicals 205T

Identify in details with examples practicals 205T
Learn the classification and characteristics of elementary number theory
Identify in details with examples elementary number theory

Understand in depth elementary number theory

Identify the details of elementary number theory
Write down the characteristics of elementary number theory

Specify the classification and characteristics of elementary number theory
Identify the details of Eber's Moll model of transistor
Identify in details with examples Eber's Moll model of transistor
Write down in details with application, if applicable, crystal growth techniques
Specify in details with application, if applicable, Crystal growth

Learn the details of with a neat diagram, Explain Hall effect. What do you mean by carrier concentration

Understand in details with examples with a neat diagram, Explain Hall effect. What do you mean by carrier concentration

Understand the characteristics of What is effective mass? Prove that the product of equilibrium concentration of electrons and holes is the square of intrinsic carrier concentration
Specify the classification and characteristics of
What is effective mass? Prove that the product of equilibrium concentration of electrons and holes is the square of intrinsic carrier concentration

Deliberate in details with application, if applicable, How the temperature depends on carrier concentration? Write a note on conductivity and mobility
Specify in details with application, if applicable, How the temperature depends on carrier concentration? Write a note on conductivity and mobility

Identify the classification and characteristics of energy bands in solids
Specify in details with application, if applicable, energy bands in solids

Learn in details with application, if applicable, current flow at a junction

Learn in depth current flow at a junction
Specify in details with application, if applicable, Reverse bias breakdown
Write down the details of Reverse bias breakdown

Deliberate in details with application, if applicable, V-I characteristics of FET

Understand in details with examples V-I characteristics of FET

Specify the characteristics of HEMT and MISFET
Specify in details with application, if applicable, HEMT and MISFET

Network functions

Two port parameters

First order differential equations

Initial Conditions

Laplace Transformation

Waveform Synthesis

Initial and Final Value theorem

State Ohm's Law and Kirchoff's Laws

mesh current method

s-plane -poles and zeros

Routh-Hurwitz criterion

Location of poles and zeros of LC impedance function

Properties of RC driving point impedance function

Hurwitz polynomial

Positive real functions

Network synthesis- foster form

Network functions-Cauer form

Properties RL network functions

Properties of RC network functions

Network synthesis by partial fraction method

Deliberate the classification and characteristics of power semiconductor devices

Learn the classification and characteristics of thyristor firing circuits

Deliberate in details with examples features of firing circuits

Specify the details of communication techniques

Learn the classification and characteristics of Diode circuits

Specify the characteristics of Diode Rectifiers

Learn in depth Single phase half wave rectifiers

Specify the details of Single phase full wave converters

Write down the classification and characteristics of Three phase converter

Learn in depth Types of AC voltage controller

Learn the characteristics of working of three phase controllers

Identify in details with application, if applicable, Cycloconverters

Write down in details with examples Three phase half wave Cycloconverters

Specify in details with application, if applicable,

Principle and operation of inverters

Deliberate in details with application, if applicable, Types of inverters

Deliberate in depth working principle of choppers

Deliberate in depth Types of chopper circuits

Write down the classification and characteristics of Working principle of DC motor

Deliberate the characteristics of Working principle of AC motor

Learn the details of Speed control of Induction Motor

Learn in details with examples briefly explain the characteristics of oops

Learn the details of explain logical operators

Deliberate in details with examples explain c++ data types

Deliberate in details with application, if applicable, arithmetic operators

Write down the classification and characteristics of differentiate procedure oriented programming and object oriented programming

Deliberate in details with examples explain if statement

Learn in details with application, if applicable, looping statements

Write down the characteristics of switch statement

Identify in details with examples functions concept in c++

Identify the details of classes and objects

Understand in depth constructors and destructors

Specify in details with application, if applicable, operator overloading

Learn the details of exception handling

Understand in depth inheritance

Learn in depth Explain array

Write down the classification and characteristics of classification of signals

Specify in details with application, if applicable, operations on signals

Learn the classification and characteristics of operations on signals

Learn in depth properties of systems

Deliberate in depth properties of systems

Learn the classification and characteristics of convolution integral and convolution sum

Learn in details with application, if applicable,
convolution integral and convolution sum
Write down the characteristics of differential and
difference equation
Learn in depth differential and difference
equation
Understand the characteristics of Discrete time
Fourier series
Identify the characteristics of Discrete time
Fourier series
Specify in details with application, if applicable,
Properties of DFS
Write down the characteristics of Properties of
DFS
Deliberate the characteristics of DFT and its
properties
Understand in details with application, if
applicable, DFT and its properties
Learn in details with examples Unilateral and
bilateral Laplace transform

Identify in details with application, if applicable,
Unilateral and bilateral Laplace transform

Write down the classification and characteristics
of inverse bilateral Laplace Transform

Identify the classification and characteristics of
inverse bilateral Laplace Transform

Understand the details of classification of signals

Identify the classification and characteristics of
Briefly explain hardware interrupts

Identify in details with examples With the block
diagram of 8259 pic explain various blocks
Write down the classification and characteristics
of With the block diagram, Explain DMA
controller operation
Learn the characteristics of Explain data types of
8087 co processor
Understand in details with examples short note
on USB

Learn in depth short note on PCI
Specify the characteristics of ARCHITECTURE OF
8086
Deliberate in details with examples ADDRESSING
MODES OF 8086

Understand in depth PROGRAM TO READ AND WRITE 8 BIT NUMBER

Identify the details of FLAGS OF 8086

Learn the classification and characteristics of PIN OF 8086

Specify in details with application, if applicable, PUSH AND POP INSTRUCTION

Specify in details with examples DATA TRANSFER INSTRUCTIONS

Effect of Electric field and Magnetic field on motion of electrons

Review of Gauss's Law, Faraday's law and Ampere's Law

Maxwell's Equations

Boundary conditions

Proof of Poynting's Energy theorem

Microwave Transmission Lines

Microwave Waveguides

Microwave Tees

Microwave tubes

Microwave Solid state devices

Radar Systems

Study of Microwave radiation hazards and protection

Write down the characteristics of Review of boolean algebra

Identify in details with application, if applicable, Simplification of K- map

Understand the characteristics of Minimization of boolean expression

Learn the details of Review of TTL and CMOS logic families

Write down in details with application, if applicable, Introduction of code converters

Specify in depth Implimentation of combinational logic design

Write down in details with application, if applicable, Ripple counters

Deliberate in details with application, if applicable, Synthesis of synchronous sequential circuits

Specify in details with application, if applicable, Counters and shift registers

Deliberate in details with application, if applicable, Noise types and control methods

Deliberate the characteristics of Shielding, grounding and decoupling

Deliberate the classification and characteristics of Introduction to VHDL

Specify the details of Describing hardware in VHDL

Specify in depth Describing hardware in VHDL Introduction of entity, architecture and signal assignments

Write down the characteristics of Statements and Configurations

Learn in details with examples Introduction to behavioral modelling

Learn the characteristics of delays and block statements

Write down the details of Sequential processing

Specify in details with application, if applicable, Sequential statements

Specify in depth Introduction to data types

Write down in details with application, if applicable, Sub programs and packages

Write down the classification and characteristics of architecture of 8086

Identify the classification and characteristics of Expression for drain current of an enhancement mosfet

Write down the details of Derivation of drain current in an enhancement mosfet

Identify in depth p-well CMOS inverter fabrication

Identify in depth stages of p-well CMOS inverter fabrication

Deliberate the characteristics of Z_{pu} to Z_{pd} ratio for a NMOS inverter driven by another NMOS inverter

Write down the classification and characteristics of Z_{pu} to Z_{pd} ratio derivation

Understand in details with application, if applicable, Working of CMOS inverter

Write down the characteristics of Working of CMOS inverter

Deliberate the details of enhancement mode transistor action

Deliberate the characteristics of enhancement mode transistor action

Deliberate in details with examples stick diagram and lambda based design rules

Specify in details with application, if applicable, stick diagram and lambda based design rules

Deliberate the classification and characteristics of scaling models and scaling factors of MOS circuits

Identify in depth scaling models and scaling factors of MOS circuits

Learn in details with examples Bi CMOS inverter

Deliberate in details with application, if applicable, Switch logic

Identify in depth Latch up in CMOS

Write down the characteristics of Super buffers

Understand the details of Design rules of double metal MOS process

Identify the details of Design rules of double metal MOS process

Learn the details of recovery of analog signals

Specify in details with examples digitization of analog signals

Deliberate in depth convolution summation

Identify the classification and characteristics of properties of a DSP system

Deliberate in details with application, if applicable, properties of Z- transform

Understand the details of frequency response from poles and zeros

Write down in depth DFT and its properties

Identify in depth Fast Fourier Transform

Deliberate in depth DFT property of circular correlation

Deliberate in depth correlation, circular correlation

Deliberate the details of Explain TDMA

Effect of Electric field and Magnetic field on motion of electrons

Specify in details with application, if applicable, what is ADBMS

Learn the classification and characteristics of

Expalin about ADBMS concept

Identify the details of draw ADBMS architecture

Learn in depth expalin distributed databases

Deliberate in depth expalinparallel databases

Specify in details with examples expalin speciality databases

Identify the characteristics of explain applications of advance databases
Learn in details with application, if applicable, explain dataware housing
Identify in details with examples explain data mining
Deliberate the details of explain advantages & disadvantages of DBMS
Learn in details with application, if applicable, Context Free Grammar
Write down in details with application, if applicable, Introduction to CFG, CFG and Known Languages
Learn the details of Unions, Concatenations and *'s Notations and CFL
Learn the details of Derivatives of Trees and Ambiguity and Unambiguous CFG and Algebraic Expressions
Write down the characteristics of Normal Forms and Simplified Forms
Specify in details with examples Pushdown Automata
Identify the details of CFL and NFL
Understand in details with application, if applicable, Introduction to PDA
Write down in depth Definition, DPDA

Write down the classification and characteristics of PDA Corresponding to CFG
Learn the characteristics of CFG Corresponding to PDA
Deliberate the details of Introduction to CFL, Deliberate the details of Intersections and Complements of CFL
Identify in details with examples Decisions Problems and CFL
Identify in depth Turing Machines
Specify the classification and characteristics of Recursive Language
Write down the characteristics of Model of Computation and Church Turning Thesis
Write down the details of Definitions of Turing Machine
Write down in details with examples TM and Language Acceptors
Deliberate in details with examples Variations of TM
Learn in details with application, if applicable, Non Deterministic TM

Identify in details with application, if applicable,
Universal TM

Specify in depth Enumerable and Language
Deliberate the characteristics of Recursive and
Non Recursive Enumerable

Write down the details of Computation Functions
Understand the characteristics of Measuring,
Classifications And Complexity
Deliberate in details with application, if
applicable, Primitive Recursive Functions
Write down in details with application, if
applicable, Computable Functions and μ -
Recursive

Identify in depth Numerical Functions
Identify in details with examples Tractable and
Intractable Problems
Understand the characteristics of Growth Rate
and Functions

Specify the details of Time and Speed Complexity
Deliberate in details with application, if
applicable, Complexity Classes
Specify the characteristics of Tractable and
Possibly Intractable Problems
Write down the classification and characteristics
of P and Np Completeness
Deliberate the details of Reduction of Time
Deliberate the details of Cook's Theorem
Identify in details with examples Np-Complete
Problems
Specify in details with examples Kleene's
Theorem
Deliberate in details with examples Regular and
Non Regular Languages

Deliberate the classification and characteristics
of Finite Automata: Deterministic and Non
Deterministic Finite Automata
Deliberate the details of Mathematical
Inductions and Recursive Definitions
Identify the characteristics of U-Transitions,
Conversion from NFA to DGA

Learn in details with examples Logic Functions
and Relations, Language Definitions
Identify in depth Review of Mathematical Terms
and Theory

Deliberate in details with examples Review Basic
Mathematical Notations and Set Theory of
Mathematical Terms and Theory
Specify the characteristics of Fundamentals of
Computer design
Learn the characteristics of Instruction set
principles and examples-
Understand the characteristics of memory
addressing
Write down in details with examples type and
size of operands

Identify in details with application, if applicable,
addressing modes for signal processing

Specify in details with application, if applicable, -
operations in the instruction set-
Write down in details with examples instructions
for control flow
Learn the classification and characteristics of
encoding an instruction set
Deliberate the details of Overview of Parallel
Processing and Pipelining Processing Necessity of
high performance
Identify in details with examples Constraints of
conventional architecture
Understand in depth Parallelism in uniprocessor
system

Identify in depth Evolution of parallel processors
Specify in details with examples Architectural
Classification
Identify the characteristics of Applications of
parallel processing
Identify in details with examples Parallel
Computer methods

Specify in details with application, if applicable,
Multiprocessor and multi computers
Understand the details of Shared-Memory
multiprocessors
Learn the characteristics of Distributed-Memory
Multiprocessors

Deliberate in details with application, if
applicable, Multi-vector and SIMD computers
Specify in depth PRAM and VLSI models

Deliberate in details with application, if
applicable, Architectural development tracks

Write down in depth Multiple Processor Tracks

Learn the details of Multi-vector and SIMD Tracks

Learn in details with examples Multi-threaded and Dataflow Tracks

Identify in details with examples Program and Network properties

Understand in details with examples Conditions of parallelism

Learn the classification and characteristics of Conditions of parallelism

Learn in details with examples Program partitioning and scheduling

Deliberate the details of Program flow mechanism

Understand in depth System interconnect architecture

Deliberate in details with examples Principles of Scalable Performance

Write down the details of Performance metrics and measures

Deliberate in details with application, if applicable, Speedup performance laws

Learn the characteristics of Scalability analysis and approaches

Specify the classification and characteristics of Processors and Memory Hierarchy

Understand in details with application, if applicable, Advanced processor technology

Identify the classification and characteristics of - Super scalar and vector processors

Identify the details of - Memory hierarchy technology

Understand in details with examples Bus, Cache and Shared Memory

Specify the details of Bus System-Cache memory organizations

Write down in details with examples -Shared memory organization

Deliberate in depth -Sequential and weak consistency models

Identify the details of Instruction level Parallelism & Data Parallel Architectures

Deliberate in details with examples Instruction level parallelism (ILP)

Identify in depth over coming data hazards

Learn the classification and characteristics of reducing branch costs

Understand in details with application, if applicable, –high performance instruction delivery

Learn in details with examples - hardware based speculation

Deliberate the details of - limitation of ILP

Specify in details with application, if applicable, ILP software approach

Write down the details of compiler techniques

Identify the characteristics of static branch protection

Specify the characteristics of VLIW approach

Learn in depth H.W support for more ILP at compile time

Identify in details with examples H.W verses S.W solutions

Specify the characteristics of H.W verses S.W solutions

Understand the characteristics of SIMD

Architectures

Understand the characteristics of Associative and Neural Architectures

Deliberate in details with examples – Data-Parallel Pipelined and Systolic Architectures

Learn in depth – Vector Architectures

Learn in details with examples Multiprocessors and Thread level parallelism

Write down the classification and characteristics of Multi-threaded Architectures

Specify the details of Shared-Variable program structures

Identify the classification and characteristics of Message Passing program development

Write down the characteristics of Mapping programs onto Multicomputers

Write down in details with examples Shared Memory Architectures

Learn the details of Distributed Memory MIMD Architectures

Identify the classification and characteristics of Latency hiding techniques

Understand the classification and characteristics of Principles of multithreading

Deliberate the details of Synchronization and Multiprocessing modes

Write down the details of Issues and solutions
Learn the classification and characteristics of black box framework

Identify in depth white box frame
Learn the classification and characteristics of Architectural pattern and Design pattern
Write down the classification and characteristics of Behavior, Methods
Write down the characteristics of operations and methods
Understand the characteristics of responsibilities for classes
Identify the classification and characteristics of Messages
Understand the details of Introduction: An overview - Object basics - Object state and properties
Identify the details of Object Oriented system development life cycle

Write down the classification and characteristics of Benefits of OO Methodology
Specify in details with examples The Rumbaugh OMT
Write down in details with examples The Booch methodology

Deliberate the classification and characteristics of Jacobson's OOSE methodologies

Deliberate the details of Unified Process
Identify the classification and characteristics of Introduction to UML
Specify the classification and characteristics of Important views & diagram to be modelled for system by UML

Learn the details of Use case diagram - Requirement Capture with Use case - Building blocks of Use Case diagram - actors

Understand in depth Use case diagram - Requirement Capture with Use case - Building blocks of Use Case diagram - actors

Understand the characteristics of use case
guidelines for use case models - Relationships
between use cases - extend, include

Write down in details with examples generalize

Specify the classification and characteristics of
Activity diagram - Elements of Activity Diagram -
Action state, Activity state

Specify the details of Object, node, Control and
Object flow

Identify the characteristics of Transition (Fork,
Merge, Join) - Guidelines for Creating Activity
Diagrams -

Write down the characteristics of Activity
Diagram - Action Decomposition (Rake) -
Partition - Swim Lane.

Write down in details with application, if
applicable, Classes, values and attributes

Deliberate in details with examples branching,
object creation and destruction

Specify the classification and characteristics of
Activations in sequence diagram - Collaboration
diagram

Deliberate in details with application, if
applicable, Collaboration diagram notations and
examples, iterations

Deliberate in depth object creation and
destruction, time constraints, origin of links,
Deliberate in details with application, if
applicable, State diagram - State Diagram
Notations, events

Deliberate in depth State Diagram states
Learn the characteristics of Top - down approach
for dynamic systems - Bottom - up approach for
dynamic systems

Identify the details of time constraints, origin of
links

Write down in depth activations in sequence
diagram

Deliberate the classification and characteristics
of Behavioral Design - guidelines for allocating
and designing behaviors that lead to more
flexible design.

Deliberate in depth Logical architecture:
dependency

Learn in details with examples class visibility

Identify the details of deployment diagram notations

Write down the details of nodes, object migration between node

Specify the details of Flexibility Guidelines
Deliberate in depth invocation schemes for threads (UML notations for different types of invocations)

Write down in details with examples what are process and threads and their notations in UML
Specify the classification and characteristics of object synchronization

Understand in details with examples component diagram notations and examples
Understand the characteristics of Libraries, Frame works components and Patterns
Specify the classification and characteristics of Reuse of frameworks

Write down the classification and characteristics of Reuse of classes, Reuse of components
Learn in details with examples transition and condition, state diagram behaviour
Identify the characteristics of transition and condition, state diagram behaviour

Learn the details of Sequence diagram -
Sequence diagram notations and examples, iterations, conditional messaging, branching,
Specify the classification and characteristics of class Generalization
Write down in details with examples class specialization versus aggregation.
Understand in details with examples Forms of coupling

Understand in depth Cohesion, Coupling

Learn the classification and characteristics of Use Case Diagram - Comparison of approaches -
Using combination of approaches

Write down in details with application, if applicable, Three approaches for identifying classes - using Noun phrases, Abstraction,
Write down in depth relations among objects (links).

Write down the classification and characteristics of Object diagram notations and modeling
Understand in details with application, if applicable, constraint, stereotypes

Understand the classification and characteristics of association classes, qualified association
Deliberate the classification and characteristics of n-ary associations, ternary and reflexive association
Understand the characteristics of Dependency relationships among classes
Learn the characteristics of notations. Notes in class diagram,
Specify in depth Inheritance - Generalizations, Aggregation.
Deliberate in details with examples association names

Write down in depth association names
Identify the characteristics of Associations, Dependencies

Specify the classification and characteristics of abstract classes, access specification

Specify in details with application, if applicable, Concurrency and Multithreaded programming
Understand the characteristics of Exception Handling
Understand in details with examples Packages and Interfaces
Specify in details with application, if applicable, Classes
Deliberate in details with application, if applicable, Inheritance
Identify in depth Introduction: Data Types
Write down the characteristics of Operators
Learn the details of Enumerations
Write down in depth Autoboxing
Write down the details of Annotations
Specify in details with application, if applicable, I/O
Learn in details with examples Generics
Deliberate the details of String handling
Write down in depth JVM: Java Class file
Learn the characteristics of Class Loader
Understand the details of Linking model

Write down in details with examples Garbage collection

Write down the details of Type conversion
Identify in details with application, if applicable, Floating Point Arithmetic

Understand in depth Method Invocation and Return

Write down the classification and characteristics of Thread synchronization

Write down the details of Java I/O

Specify the classification and characteristics of Closeable

Deliberate the classification and characteristics of Flushable Interfaces

Identify in depth The Stream classes

Learn the details of Bytes Streams

Understand in depth Character Streams

Deliberate the details of Console Class

Learn the characteristics of Serialization

Identify in depth Java Networking - Networking Classes and Interfaces

Understand the characteristics of TCP/IP Sockets

Identify the characteristics of Datagrams

Learn the details of Event Handling: Event Classes

Write down in details with application, if applicable, Event Listener Interfaces

Specify in details with examples Adaptor Classes

Understand the details of Inner Classes

Write down in depth Comparable and Comparator

Specify the characteristics of Java Sandbox security model

Write down in details with examples Applets

Deliberate the classification and characteristics of Server side programming - Java Servlets

Learn the classification and characteristics of JSP

Identify the characteristics of Java XML library - JAXP

Understand in details with examples XML Parsing - DOM

Learn the classification and characteristics of SAX

Specify in depth Stax

Write down in depth Java Web Services - RESTful
Web Services

Deliberate the details of SOAP Web Services

Deliberate the classification and characteristics
of Java Design patterns: Singleton

Specify the characteristics of Observer

Deliberate the classification and characteristics
of Adaptor

Specify in details with examples Proxy

Deliberate in details with application, if
applicable, Decorator

Identify the details of Factory

Understand the characteristics of AbstractFactory

Specify in depth Facade

Identify the classification and characteristics of
Command

Write down the classification and characteristics
of Template Method patterns

Specify the classification and characteristics of
MVC

Write down the classification and characteristics
of Spring and Hibernate framework

Understand the classification and characteristics
of Spring Flow

Specify the characteristics of Hibernate Flow

Deliberate the classification and characteristics
of Introduction to Artificial Intelligence:

Definition. AI Applications

Specify in depth AI representation

Understand the classification and characteristics
of Properties of internal Representation,
Heuristic search techniques

Write down the details of Best first search, mean
and end analysis, A* and AO* Algorithm

Deliberate in depth Minimize search procedure

Identify the characteristics of Alpha beta cutoffs

Learn the characteristics of waiting for Quiscent
and Secondary search

Deliberate the classification and characteristics
of Knowledge representation using predicate

logic: predicate calculus

Write down the characteristics of Predicate and arguments, ISA hierarchy, frame notation, resolution, Natural deduction
Specify the characteristics of Knowledge representation using non monotonic logic: TMS (Truth maintenance system)
Identify the details of statistical and probabilistic reasoning
Learn the details of fuzzy logic, structure knowledge representation
Write down the classification and characteristics of semantic net
Write down in details with application, if applicable, Frames, Script, Conceptual dependency
Identify in details with application, if applicable, Planning: block world, strips, Implementation using goal stack

Deliberate the classification and characteristics of Non linear planning with goal stacks,
Write down the characteristics of Hierarchical planning
Learn in details with application, if applicable, list commitment strategy
Identify the characteristics of Perception: Action, Robot Architecture, Vision
Write down in details with examples Texture and images
Specify in details with examples representing and recognizing scenes
Deliberate in details with examples waltz algorithm
Write down the characteristics of Constraint determination

Understand the classification and characteristics of Trihedral and non trihedral figures labeling
Identify the classification and characteristics of Learning: Learning as induction matching algorithms

Specify in depth Failure driver learning, learning in general problem solving concept learning
Specify the characteristics of Neural Networks: Introduction to neural networks and perception-qualitative Analysis only

Identify the classification and characteristics of neural net architecture and applications

Specify the classification and characteristics of Natural language processing and understanding and pragmatic, syntactic, semantic, analysis

Write down the classification and characteristics of RTN, ATN, understanding sentences
Understand in details with examples Expert system: Utilization and functionality
Identify in details with application, if applicable, architecture of expert system
Write down the details of knowledge representation
Write down in details with examples two case studies on expert systems
Write down the characteristics of Control statements

Deliberate in details with examples Assignment statements and simple input and output
Identify in details with examples Perl,

Write down in depth Scalars and their operations

Write down the classification and characteristics of CGI Programming: Origins and uses of Perl;
Identify in details with application, if applicable, Design Paradigms: Overview: Overview of Divide and Conquer, Greedy and Dynamic Programming strategies
Identify the characteristics of Basic search and traversal techniques for graphs
Learn the characteristics of Backtracking, Branch and Bound. Max Flow Problem
Learn in depth String Matching : Introduction to string-matching problem
Learn the classification and characteristics of Naïve algorithm
Understand in depth Rabin Karp, Knuth Morris Pratt
Write down in depth Boyer- Moore algorithms and complexity analysis

Deliberate the classification and characteristics of Theory of NP- Hard and NP-Complete Problems
Write down the characteristics of : P, NP and NP-Complete complexity classes

Specify the characteristics of A few NP-Completeness proofs; Other complexity classes

Deliberate the characteristics of Approximation Algorithms Introduction, Combinatorial Optimization, approximation factor
Identify the classification and characteristics of PTAS

Deliberate the details of FPTAS
Identify in details with examples Approximation algorithms for vertex cover
Identify the details of set cover

Learn in depth TSP
Specify in details with examples knapsack, bin packing, subset-sum problem etc
Write down in details with application, if applicable, Analysis of the expected time complexity of the algorithms

Specify the classification and characteristics of Parallel Algorithms: Introduction, Models, speedup and efficiency
Specify the characteristics of Some basic techniques
Understand the characteristics of Examples from graph theory
Understand the details of sorting
Write down the classification and characteristics of Parallel sorting networks

Specify the classification and characteristics of Parallel algorithms and their parallel time and processors complexity

Deliberate in details with examples Probabilistic Algorithms & Randomized Algorithms
Identify the characteristics of Numerical probabilistic algorithms

Deliberate in details with application, if applicable, Las Vegas and Monte Carlo algorithms
Identify the characteristics of Game-theoretic techniques
Write down in details with application, if applicable, Applications on graph problems
Specify the details of Approaches to information security implementation
Identify in depth NSTISSC security model
Specify the characteristics of Standards, and Practices
Learn the characteristics of The Information Security Blue Print

Deliberate the characteristics of Information Security Policy
Specify the characteristics of The Security System Development Life Cycle
Understand in depth Information Security Terminology
Specify in details with examples Planning for Security: Introduction

Identify in depth Introduction to Information Security: Introduction; security, Critical characteristics of information
Learn the classification and characteristics of Approaches to message authentication
Deliberate the classification and characteristics of Conventional Encryption Principles and Algorithms

Deliberate in details with application, if applicable, Cipher Block Modes of Operation
Understand in details with examples Location of encryption devices
Understand the details of Key distribution
Understand in depth Internet Standards and RFCs. Cryptography

Specify in details with application, if applicable, A model for Internetwork Security
Write down the classification and characteristics of Security Services
Understand in details with application, if applicable, Security Attacks
Learn in depth Introduction to Network Security: Attacks, Services, and Mechanisms
Write down the characteristics of The Maintenance Model
Identify in depth Access Control Devices

Identify in details with examples Information Security maintenance: Introduction
Write down the details of Security Management Models
Specify in details with examples Scanning and Analysis Tools
Specify the characteristics of Security Technology: Firewalls and VPNs: Introduction, Physical design, Firewalls, Protecting Remote Connections
Learn in details with examples Intrusion Detection, Access control and Other Security Tools

Write down the classification and characteristics of Introduction; Intrusion Detection Systems (IDS)

Specify the classification and characteristics of Honey Pots, Honey Nets, and Padded cell systems

Deliberate the classification and characteristics of Key Management

Write down the characteristics of Combining Security Associations

Deliberate in depth IP Security: IP Security

Overview, IP Security Architecture

Understand in details with application, if applicable, Authentication Header

Write down in details with application, if applicable, Encapsulating Security Payload

Specify in details with examples Key management

Identify the details of Authentication

Applications: Kerberos, X.509 Directory

Authentication Service

Understand the details of Electronic Mail

Security: Pretty Good Privacy (PGP), S/MIME

Identify the details of Public Key Cryptography

Principles and Algorithms

Understand in details with examples Digital Signatures

Understand in details with examples Secure Hash functions and HMAC

Specify the classification and characteristics of SNMPv3

Write down the details of SNMPv1 community facility

Learn in details with application, if applicable, Network Management Security: Basic concepts of SNMP

Understand in depth Secure Electronic Transaction (SET)

Learn in details with application, if applicable,

Web Security: Web security requirements

Write down in details with application, if applicable, Secure Socket layer (SSL) and

Transport layer Security (TLS)

study the various systems or classification of

microorganisms, like Three kingdom, Five

kingdom and other criteria followed according to

Bergey's Manual. Taxonomical methods as per

the recent trends and about the phylogenetic

trees

gain knowledge of the various microorganisms like Spirochetes, difficult to grow microorganisms like (Chlamydiae, Mycoplasma, Rickettsia), Actinomycetes and also Archaeobacteria, understand the nutritional requirement of the microorganisms (micro & macro) elements for growth, various media, growth factors, types of growth and the mechanism involved in cell cycle and fission.

perceive the various systems involved in classification and nomenclature of viruses, its morphology and ultrastructure and study the different cultivation methods of viruses.

Elucidate the structure & significance of important protozoan species and describe the structure, reproduction, measurement of growth and physiological features of fungi

Comprehend the ecological niche, morphology, characteristic features, type study, isolation, large scale culture techniques of algae and distinguish the economic importance of algae as primary producers, commercial products and in formation of algal blooms
Appreciate the evolutionary tendencies and features of important fungi of each class, fungal economic importance, various substrate groups and interactions of fungi.

understand microbial adaptation/response to various environmental stresses like starvation, osmotic, thermal and oxidative stress and how nutrients are transported across the membrane by various transport systems like passive, active and facilitated diffusion. To perceive the significance and mechanism of enzyme action, their properties and enzyme kinetics
Write down the classification and characteristics of Gene Organization
apprehend the principles and applications of various chromatographic techniques, Electrophoretic types, Radio isotopic and labelling techniques.

To analyze the metagenomes of culture independent microbes, phospholipid analysis, and hybridization methods. To understand the principles of spectrophotometry and spectroscopic methods.

comprehend the various isolation techniques for microorganisms, their maintenance, preservation of pure cultures, National and International culture collections. To familiarize with the working principles of microscopy, staining techniques and image processing methods. To apprehend microbial growth by various techniques. familiarize instrumentation and applications of Microscopy - Phase contrast, Fluorescent, Confocal, electron and scanning probe microscope

Analyze the direct and indirect techniques employed in Measurement of microbial growth

comprehend Transcription process, its factors, activators and repressors. Translation, genetic codes, steps of translation, control of translation.

understand the concepts of molecular biology, like structure of DNA, its damage, repair, DNA replication in prokaryotes and viruses. Regulation of gene expression, operon concept, inducible enzymes, repressible enzymes, negative regulation, concept. Control of gene expression. Understand in details with application, if applicable, isolation of microflora from environmental samples

perceive the significance of normal flora of the human body, microorganisms affecting certain tissues and emerging and reemerging diseases from viral, bacterial and protozoan and fungal diseases and understand the various portals of entry of pathogens, their virulence factors, their role in breaching host defences, evading host defences, signalling mechanisms, factors influencing quorum sensing and hospital acquired infections.

understand the various bacterial diseases their pathogenicity, laboratory diagnosis, epidemiology and control measures. To grasp the causative agents of various fungal diseases their symptoms, epidemiology and treatment. Study of certain of subcutaneous mycoses and systemic mycoses

understand the causative agents of various viral diseases their clinical symptoms, epidemiology and treatment. To perceive antimicrobial agents, their classification, mechanism of drug action, methods of testing drug sensitivity, multiple drug resistance causes, probiotics as therapeutic agents, passive prophylactic measures. Learn the immune associated clinical complications, laboratory diagnosis and treatment of Hypersensitivity, tumor, autoimmunity etc and immuno -prophylaxis Acquire Knowledge on types of immunity, the cells , organs of the immune system, their products and interaction with antigen Expertize the various mode of antigenic elimination-CMI,HI,Complement and nonspecific immune reactions Specify the classification and characteristics of Plasma membrane structure and functions, membrane models Identify in details with examples Components of Blood & their functions Deliberate in details with examples Extracellular matrix Specify in depth Nature of cytoskeleton, Actin filaments Deliberate in details with application, if applicable, actin binding proteins, Intermediate filaments Write down in depth about Microtubules Write down the characteristics of Structure, organization and composition of prokaryotic and eukaryotic cell. Deliberate in details with examples MAPs, Structure and functions of cilia and flagella. Deliberate in details with examples Transport across membrane- passive diffusion, osmosis, active transport Write down the characteristics of Ion Channels, A B C transporters

Understand the characteristics of Na⁺ and K⁺ pump, Ca²⁺ ATPase pump
Learn the characteristics of Cell to cell interactions
Understand in details with examples Cell adhesion-integrins, selectins, cadherins
Deliberate in details with examples Cell Junction- Tight and gap junctions, Desmosomes, plasmodesmata
Specify the details of General principles of cell signaling
Learn in details with examples signaling via G-protein coupled receptors, kinase receptors, role of secondary messengers
Deliberate in details with application, if applicable, Molecular events of cell division and cell cycle
Understand the characteristics of regulation of cell cycle events

Learn in details with application, if applicable, Cyclins, Cyclin dependent kinases and inhibitors

Specify the details of Apoptosis and necrosis.
Write down in details with examples Structure & functions of muscles (Straited, nonstraited and cardiac).
Specify the details of Molecular basis of muscle contraction.

Deliberate the classification and characteristics of Structure of neuron, neuroglia
Understand in details with examples Mechanism of nerve transmission- Resting and action potential

Specify in details with application, if applicable, Effect of free radicals on Nucleic acids.

Write down in depth Mechanism of antioxidant defence system- enzymatic and non-enzymatic
Understand the details of Senescence-theories and concepts of aging.
Understand in details with examples Mechanism of nerve transmission- electrical and chemical transmission
Specify the details of Neurotransmitters and their receptors
Write down in details with application, if applicable, Free radicals- ROS, RNS.

Specify the classification and characteristics of
Effect of free radicals on Proteins, Lipids

Deliberate the classification and characteristics
of Human chromosomal aberrations, karyotype
analysis- normal and abnormal karyotype
Write down in details with examples Physical
basis of Heredity

Specify in depth Mechanism of recombination
Learn in details with examples Holliday, White
house and Radding models

Specify in depth Enzymes involved in
homologous and site specific recombination.

Write down in details with examples Breakage
and reunion of DNA at specific sites
Specify in depth Synapsis of homologous
duplexes, role of RecA in recombination
Learn the classification and characteristics of
Topological manipulation of DNA
Learn the characteristics of Bacterial
Recombination-Transformation, conjugation,
transduction
Understand the classification and characteristics
of plasmids and episomes

Identify the classification and characteristics of
Application in genome mapping of E. coli
Specify the details of Transposable elements in
prokaryotes and eukaryotes

Learn in details with application, if applicable, IS
elements, Composite transposons, Tn3 elements
Understand in details with application, if
applicable, Ac and Ds elements, P elements,
Retrotransposons and their significance

Identify the classification and characteristics of
Transposable elements in human and their
genetic and evolutionary significance

Write down the characteristics of Base pair and
frame shift mutation, genetic suppression

Learn in details with application, if applicable,
Molecular basis of mutation – spontaneous and
induced mutation and their role in evolution.

Write down in depth Detection of mutation –
Ame"s test

Write down in details with examples Mutation in
– yeast, neurospora and chlamydomonas
Identify in details with examples Mutation
studies in drosophila and human disorders by
mitochondrial genome mutation
Understand in depth Sex determination in
Drosophila and mammals
Specify the details of Secondary sex
determination in mammals
Understand the classification and characteristics
of Dosage compensation in Drosophila and
mammals
Specify the classification and characteristics of
Gene pools, allele frequencies, Hardy Weinberg
equation

Specify the details of non random breeding,
genetic drift, gene flow, selection, speciation

Identify the classification and characteristics of
Protein and DNA sequence polymorphism,
molecular basis of evolution in Homosepians.
Write down the classification and characteristics
of Introduction, concepts and theories of
Mendelian genetics
Specify in details with examples chromosome
theory of inheritance

Learn the characteristics of Nucleus, nucleolus
and extra chromosomal inheritance
Specify the characteristics of Structure and
organization of eukaryotic chromosomes
Understand the characteristics of Super coiled
loops, domains and scaffolds in eukaryotic
chromosome
Understand in details with examples Difference
between interphase chromatin and mitotic
chromosomes
Learn the details of Heterochromatin,
euchromatin and telomeres
Deliberate the characteristics of Nucleosomes-
Organization of DNA in the nucleosome, histone
octamer

Deliberate in details with examples Split genes
and overlapping genes, gene interaction.

Deliberate the details of Criteria for microbial classification-serological techniques, phage typing, fatty acid profiles
Deliberate in depth Criteria for microbial classification-morphological, staining techniques, biochemical methods
Deliberate the characteristics of Code for bacterial nomenclature and taxonomy
Learn the characteristics of Microbial classification: Three domain system of classification, Phylogenetic Relationships,
Write down in details with examples Prokaryotic Microorganism- General properties, Structure, and Reproduction
Write down the characteristics of Classification of bacteriadendrograms, universal phylogenetic tree.
Learn the characteristics of Classification of bacteria Dichotomous keys, Cladograms

Deliberate the characteristics of Criteria for microbial classification-Flow cytometry, DNA base composition, DNA fingerprinting
Identify in depth Criteria for microbial classification-rRNA sequence, Nucleic acid hybridization
Deliberate the details of Criteria for microbial classification-Numerical Taxonomy, Chemotaxonomy
Deliberate the characteristics of Classification of bacteria according to Bergey's Manual of systematic Bacteriology
Identify the classification and characteristics of Domain Bacteria

Write down in depth Proteobacteria (Alpha, Beta, Gamma, Delta and Epsilon Proteobacteria)
Identify the classification and characteristics of Cyanobacteria
Identify in details with examples Chlorobium, Firmicutes
Specify in details with application, if applicable, Actinobacteria, Chlamydiae
Deliberate the details of Spirochaetes, Bacteroidetes
Learn in details with examples Fusobacteria
Identify in depth Domain Archea: Crenarchaeota, Euryarchaeota

Understand the classification and characteristics of Eukaryotic Microorganisms- General characters, Structure and Reproduction

Understand in details with examples Fungi (Saccharomyces)

Learn the classification and characteristics of Algae (Spirulina)

Learn the characteristics of Protozoa (Plasmodium)

Identify in details with application, if applicable, General characters, Structure, Criteria for classification of Viruses

Specify the characteristics of Viruses that affect humans

Learn in details with examples Viruses that affect humans

Write down in depth Viruses that affect animals and plants

Deliberate the characteristics of Isolation, cultivation and identification of Viruses

Deliberate the classification and characteristics of Viruses (Growing in Bacteria, Living Animals, embryonated eggs, Cell Cultures)

Identify in details with application, if applicable, Viral Multiplication (Lytic and lysogenic life cycle)

Learn in details with application, if applicable,

Virioids and Prions - General properties

Specify the characteristics of diseases caused by virioids and prions

Specify in depth Microbial Growth and Physical parameters

Understand the characteristics of Microbial Growth Chemical parameters

Write down in depth Slime molds (Physarum)

Identify the details of Microbial Growth Growth factors, Culture Media

Identify in details with examples Microbial growth control -Physical methods

Specify the classification and characteristics of

Microbial growth control -Chemical methods

Understand in details with application, if

applicable, Isolation and cultivation of

microorganisms from Phyllosphere and

Mycorrhiza

Learn the characteristics of Isolation and cultivation of microorganisms from Biogeochemical cycle.
Specify the classification and characteristics of Isolation and cultivation of microorganisms from Water

Specify the details of Isolation and cultivation of microorganisms from Soil, Air, Rhizosphere
Specify in details with examples Standard redox potentials of some biologically important Half reactions
Deliberate the classification and characteristics of Lipids:
Identify the details of Nucleic acids:
Identify in details with examples Oxidative phosphorylation

Specify in details with examples Carbohydrates
Specify in depth Amino acids and Proteins:
Learn the classification and characteristics of Relationship of standard redox potential and standard free energy change.

Write down the characteristics of Electromotive force, Half reactions, Redox potentials
Understand in details with application, if applicable, Introduction, Laws of thermodynamics

Identify in details with examples Gibbs free energy, Relationship of Standard free energy to enthalpy, entropy and equilibrium constant
Write down the classification and characteristics of High energy compounds, ATP as universal currency of free energy,
Write down in details with application, if applicable, Oxidation-Reduction Reactions

Learn the characteristics of Need for statistical techniques for biological applications
Write down the classification and characteristics of construction of graph and graphical representations of data.

Specify the classification and characteristics of Different models of data presentations.
Learn the characteristics of replicable data, Tabulation of data

Understand in depth Introduction to Bio-statistics

Specify the classification and characteristics of basic concepts, data types.

Specify the details of Measures of variability: Range, mean deviation, standard deviation and coefficient of variation.

Understand the characteristics of Frequency distribution, Arithmetic mean, mode, median and percentiles

Understand in depth Central tendency, dispersion, linear regression and correlation-test of significance, skewness and kurtosis and their various measures, percentiles

Deliberate the classification and characteristics of Central tendency, dispersion, linear regression and correlation-test of significance, skewness and kurtosis and their various measures, percentiles

Learn the classification and characteristics of Random sample, use of table of random numbers, parameter and statistics,

Learn in depth sampling distribution of sample means, Standard error; confidence intervals, Deliberate in details with application, if applicable, Probability:

Understand in depth Probability distributions

Identify in depth statistical Inference

Identify in details with examples Testing of hypothesis

Write down in details with examples Tests based on Normal, student's t

Deliberate in details with application, if applicable, chi square and F distributions, interpretation of „p“ value.

Specify the characteristics of Statistical package

Identify in details with application, if applicable, Properties of the data- Organization of data

Learn in depth Physical basis of Heredity

Identify in depth theories of Mendelian genetics

Write down the details of chromosome theory of inheritance

Write down in depth Nucleus

Write down in details with application, if applicable, nucleolus
Write down in depth extra chromosomal inheritance

Specify in details with examples Structure and organization of eukaryotic chromosomes
Deliberate the details of Super coiled loops

Specify in details with application, if applicable, domains and scaffolds in eukaryotic chromosome
Identify the Differences between interphase chromatin and mitotic chromosomes.
Specify the details of Heterochromatin
Deliberate in details with application, if applicable, euchromatin and telomeres
Specify the characteristics of Organization of DNA in the nucleosome

Identify the characteristics of histone octamer.

Write down in details with application, if applicable, Split genes and overlapping genes

Deliberate the characteristics of gene interactions
Write down the details of Human chromosomal aberrations
Write down in details with examples karyotype analysis

Identify the details of Holliday, White house and Radding models of Genetic recombination
Write down in details with examples Enzymes involved in homologous and site specific recombination

Write down in details with examples Breakage and reunion of DNA at specific sites

Deliberate in details with application, if applicable, Synapsis of homologous duplexes
Learn the role of RecA in recombination
Understand the details of Topological manipulation of DNA
Deliberate the details of Transformation
Learn in depth conjugation

Deliberate the characteristics of Structure and mechanism of action of some important co-enzymes NAD⁺, FAD, FMN, TPP, pyridoxal phosphate, lipoic acid, CoASH and vitamin B12
Specify in depth Enzyme single and multi substrate reactions
Learn the details of Ping-pong mechanism, sequential mechanism (ordered and random), enzyme models - host guest complexation chemistry
Identify in depth Chemical kinetics, rate of reaction, order of reaction, zero order and first order

Understand the characteristics of Derivation of Michaelis-Menten equation, K_m value and its significance, Lineweaver-Burk plot

Write down in details with examples Mechanism of enzyme action, lock and key model, induced fit hypothesis, substrate strain theory (with lysozyme as a typical example)
Identify in depth Mechanism of enzyme catalysis - Acid-Base catalysis
Understand in details with application, if applicable, Covalent catalysis, metal ion catalysis and entropy effect.

Understand the characteristics of Enzyme inhibition-reversible and irreversible, competitive, uncompetitive, non competitive.

Identify in depth Regulation of enzyme activity – Covalent modulation, Allosteric regulation, ligand interactions, Scatchard plot, co-operative interactions, feedback regulation. Isozymes

Write down the classification and characteristics of Principles and applications of Rayleigh scattering, viscometry
Understand the details of crystallization, x-ray crystallography spectrophotometry,
Write down the details of fluorimetry, flame photometry, mass spectroscopy
Deliberate the details of Distillation, liquid - liquid extraction
Learn in depth Centrifugation, differential, gradient, ultra centrifugation, salt fractionation and dialysis.

Understand the classification and characteristics of Principles and applications of gel filtration- ion exchange chromatography

Learn in details with examples gas chromatography, high performance liquid chromatography (HPLC).

Identify in details with examples Principles and applications of moving boundary electrophoresis, zone electrophoresis

Understand the classification and characteristics of gel electrophoresis-PAGE and SDS PAGE agarose gel electrophoresis

Understand in depth soelectric focusing and 2D Gel electrophoresis. Pulsed field electrophoresis.

Specify in depth Introduction to enzymes; nomenclature and classification of enzymes; chemical nature and properties of enzymes
Specify in depth activation energy, factors affecting enzyme activities, active site, allosteric site, coenzymes and co factors
Identify the characteristics of Types of enzyme specificity, units of enzyme activity

Specify the classification and characteristics of Strategies of purification of enzymes, criteria of purity, molecular weight determination and characterization of enzymes

Deliberate the characteristics of Innate and acquired immunity

Write down the classification and characteristics of structure and functions of immune cells- T cells, B cells, Macrophages, NK cells and dendritic cells

Learn the characteristics of Organs of immune system- Primary and secondary lymphoid organs

Write down the details of Primary and secondary immune response, Clonal selection theory.

Understand the characteristics of Structure and properties of antigens –Iso and alloantigens- antigen specificity

Learn in details with application, if applicable, Haptens and adjuvants- structure and properties

Learn in details with examples Immunoglobulins- Structure and properties, types and subtypes

Write down the classification and characteristics of Generation of immunological diversity.
Identify the details of Complement system- component, properties and functions

Identify in details with examples Complement pathways and biological significance.
Understand the classification and characteristics of Structure and functions of MHC and HLA systems

Deliberate the classification and characteristics of Genetic control of immune response

Deliberate in details with application, if applicable, Tissue transplantation- Tissue typing methods for tissue and organ transplantations

Write down in details with examples Graft versus host reaction and rejection, xenotransplantation, immunosuppressive therapy.

Identify the classification and characteristics of Allergy, Hypersensitivity reactions- types (I, II, III, and IV), symptoms, immunodiagnosis

Specify the classification and characteristics of Interleukins and Interferons- Production, biological functions and assay methods.
Immunological tolerance

Understand the characteristics of Autoimmunity- Autoimmune diseases- Hashimoto's disease, Systemic lupus erythematosus, Multiple sclerosis, Myasthenia gravis and their treatment.
Specify in depth
Immunomodulation(immunosuppression & immunostimulation)

Specify in details with examples Immunotherapy, lymphocyte migration, homing and trafficking, antigen-induced lymphocyte proliferation
Specify the characteristics of Granulysin mediated anti-microbial activity of T cells.

Identify the classification and characteristics of Agglutination, precipitation, immune-fluorescence, immunoelectrophoresis, immunoblotting, ELISA, RIA, Flow cytometry

Write down in details with examples Production and purification of antibodies, determination of antibody titre by RID and EID

Learn the characteristics of production of hybridoma

Understand the classification and characteristics of T- cell cloning: Mechanism of antigen recognition by T and B -lymphocytes
Specify in details with application, if applicable, Importance of antigen and MHC class II molecules in T-cell cloning

Deliberate in details with application, if applicable, Antigen specific and alloreactive Tcell cloning - immunologically relevant antigens and T cell subtypes

Deliberate the details of Applications in vaccine development.

Deliberate in depth Vaccines- conventional, peptide vaccines, subunit, DNA vaccines

Identify in depth Toxoids, antisera, edible vaccines, plantibodies, ISCOMs, recombinant antibodies

Specify in depth Immune stimulatory complexes
Understand the classification and characteristics of Common immunization programmes- BCG, small pox

Understand in depth DPT, polio, measles, Hepatitis-B

Deliberate in details with application, if applicable, Information flow in biological systems: Central dogma. Biochemical evidences for DNA as genetic material.

Learn the details of Watson and Crick model of DNA, different forms of DNA (A, B, Z, C and D).
Understand the details of Properties and types of DNA. UV absorption, Denaturation and renaturation,

Specify the characteristics of thermodynamics of melting of the double helix, kinetics of unwinding of the double helix

Write down the classification and characteristics of Characteristics and functions of bacterial DNA polymerases

Identify the characteristics of Mechanism of prokaryotic DNA replication

Identify in details with application, if applicable,
Nearest neighbor frequency analysis.

Identify the classification and characteristics of
Eukaryotic DNA polymerases and mechanism of
replication.

Learn in details with application, if applicable,
Telomere synthesis-telomerase

Deliberate the classification and characteristics
of Replication of viral DNA, rolling circle model

Identify the details of Inhibitors of replication

Identify the characteristics of Characteristics and
function of bacterial RNA polymerases

Specify the classification and characteristics of
mechanism of transcription and regulation.
Write down in details with application, if
applicable, Eukaryotic RNA polymerases-
transcription factors, mechanism of transcription
and regulation.

Identify the details of Post transcriptional
modifications of mRNA

Identify the characteristics of Processing of tRNA
and rRNA.

Specify the characteristics of Inhibitors of
transcription

Deliberate the details of Ribozyme technology:
mechanism of action and applications.

Deliberate the characteristics of Genetic code,
Wobble hypothesis

Write down the details of Ribosome assembly,
mechanism of activation of amino acids.

Specify the classification and characteristics of
Mechanism of translation in prokaryotes and
eukaryotes

Deliberate in depth Differences between
prokaryotic and eukaryotic protein synthesis
Understand the characteristics of nhibitors of
protein synthesis

Deliberate the classification and characteristics
of posttranslational modifications of proteins
Understand in depth Control of translation in
eukaryotes (Antisense RNA, Heme and
interferon).

Write down in details with application, if applicable, Operon model-Inducible and repressible systems, lac, gal, trp, his and arabinose operon

Learn in details with examples Attenuation, positive and negative regulation

Learn the classification and characteristics of role of cAMP and CRP in the expression of lac genes

Learn in details with application, if applicable, catabolite repression, regulation of eukaryotic gene expression

Write down in details with examples DNA binding motifs of transcription factors

Identify the characteristics of posttranscriptional control

Write down in details with application, if applicable, Protein localization and Targeting

Understand in details with examples DNA damage- alkylation, deamination, oxidation, UV radiation.

Deliberate in details with examples Repair mechanisms- photo reactivation, excision repair, post replication repair, mismatch repair and SOS repair

Identify the characteristics of transcriptional and post transcriptional gene silencing

Identify in details with application, if applicable, RNAi pathway (si RNA and mi RNA).

Learn in details with application, if applicable, Introduction, renewable and non-renewable sources of energy

Learn the details of Environmental pollution- water pollution, soil pollution and air pollution-sources

Deliberate in details with application, if applicable, Xenobiotic compounds and their sources, Biomagnification, Bioindicators

Identify in details with examples Biomonitoring: Biosensors and biochips.

Identify the details of Water as a scarce natural resource, water management including rain water harvesting. Waste water characteristics

Learn in depth waste water treatment-physical, chemical, biological processes.

Understand the classification and characteristics of Reverse osmosis and ultra filtration.

Treatment of industrial effluents

Identify the characteristics of Bioleaching of ores to retrieve scarce metals

Learn in details with examples Bio-mining

Learn the details of Biodiesel production from Jatropa, Pongamia and Castor.

Learn the characteristics of Concept and principles, Bioremediation using microbes

Understand in details with application, if applicable, In situ and ex situ bioremediation, biosorption and bioaccumulation of heavy metals

Learn the characteristics of Phytoremediation, bioremediation of xenobiotics (heavy metals, pesticides, oil slicks, plastic)

Learn in details with application, if applicable, Bioremediation of soil and water contaminated with hydrocarbons and surfactants, biofilms.

Understand in depth Microorganisms involved in the degradation of plant fibre, cell wall, lignin, fungal de-lignification and pulping of wood
Write down in details with examples Pitch problems in pulp and paper processes and solving by enzymes or fungi

Learn in details with application, if applicable, Hemicellulases in pulp bleaching. Solving slime problem in the pulp and paper industry
Deliberate the details of Reduction of organochlorine compounds in bleach plant effluents

Understand in details with application, if applicable, Solid wastes: Sources and management, waste as a source of energy

Identify the classification and characteristics of Production of oils and fuels from solid waste, composting, vermiculture

Write down in details with examples Biogas production, methanol production from organic wastes, byproducts of sugar industries.

Learn the details of Global warming, ozone depletion

Write down in depth UV-B, green house effect and acid rain, their impact and management
Specify in depth Biodiversity and its conservation, status of biodiversity, hotspots, Red data book.

Understand the characteristics of Computer softwares- operating system- Windows, UNIX, Linux

Write down in details with examples Application software- word processor, spread sheet.

Introduction to statistical software (SPSS).

Understand the characteristics of Structure, architecture, Advantages, types (LAN, MAN & WAN)

Learn the details of Network protocols- Internal protocol (TCP/IP)

Understand the details of File transfer protocols (FTP), WWW, HTTP, HTML, URL.

Specify in depth C Programming and PERL- Algorithm and flowchart

Identify in details with application, if applicable, Structure of C program, Header file, Global declaration, Main function, variable declarations
Deliberate in details with application, if applicable, Control statement-conditional and unconditional - sub functions

Identify the classification and characteristics of Introduction to PERL, Application of Bioperl.

Specify in details with application, if applicable, Introduction - Relational Databases Management (RDMS) - Oracle, SQL, Database generation.

Identify the classification and characteristics of Datamining and applications, accessing

bibliographic databases- Pubmed

Specify in depth Nucleic acid sequence databank – NCBI and EMBL.

Deliberate in depth Protein sequence databank- NBRF- PIR, SWISSPROT.

Understand the details of Structural databases - protein data Bank (PDB). Metabolic pathway data bank (Pub gene)

Write down in depth Microbial genomic database (MBGD), Cell line database (ATCC), Virus data bank (UICTVdb).

Specify the details of Sequence alignment -
Global and Local alignment, scoring matrices.
Specify in details with examples Pair wise
comparison of sequences, Multiple Sequence
alignment of sequences

Identify the details of Identification of genes in
genomes and Phylogenetic analysis with
reference to nucleic acids and protein sequences
Write down in depth Identification of ORFs,
Identification of motifs.

Identify the details of Introduction to protein
structure - secondary structure prediction

Specify the details of tertiary structure prediction

Identify the classification and characteristics of
protein modelling- principles of homology and
comparative modelling

Identify the classification and characteristics of
Threading, structure evaluation and validation
and ab initio

Understand the classification and characteristics
of Modelling, Applications - Molecular docking -
Autodoc

Understand the classification and characteristics
of Plant tissue culture: Media composition and
types

Write down the characteristics of Plant tissue
culture: hormones and growth regulators

Specify the classification and characteristics of
explants for organogenesis, somaclonal variation
and cell line selection, production of haploid
plants and homozygous cell lines.

Specify the details of Micro propagation, somatic
embryogenesis, protoplast culture and somatic
hybridization

Identify the details of Selection and
maintainance of cell lines, cryopreservation,
germplasm collection

Specify in details with application, if applicable,
conservation, plant tissue culture certification.
Plant transformation techniques

Identify the characteristics of Mechanism of DNA transfer – Agro bacterium mediated gene transfer, Ti and Ri plasmids as vectors, role of virulence genes

Explain in details of design of expression vectors; 35S promoter, genetic markers, reporter genes, viral vectors

Direct gene transfer methods-particle bombardment, electroporation and microinjection.

Understand the classification and characteristics of Binary vectors, plasmid vectors-pBluescript IIs, pBin19, pGreen vectors

Deliberate in depth Transgene stability and gene silencing

Understand the characteristics of Metabolic engineering of plants

Application of plant cell culture for the production of useful chemicals and secondary metabolites

Write down in depth Plant cell culture for the production of pigments, flavanoids, alkaloids

Write down the classification and characteristics of mechanism and manipulation of shikimate pathway

Identify the characteristics of Production of Industrial enzymes, biodegradable plastics

Understand in details with application

Production of therapeutic proteins, edible vaccines

Understand in depth Production of antibiotics using transgenic technology

Importance of plant growth regulators, auxin, gibberlins, cytokinins, abscisic acid, acetylene.

Understand in depth Mechanism of biological nitrogen fixation

Write down in details with application and Uses of Biofertilizers and production

Specify in details with examples Importance of VAM, Rhizobium, Azotobacter, Mycorrhiza, Actinorrhiza

Identify in depth Vermicomposting technology

Specify the details of Role of Biopesticides

GM Technology and application

Write down in details with application of GM Technology in crop improvement, production and fortification of Bt Cotton, Bt brinjal

Specify the classification and characteristics of GM Technology in Herbicide resistance, viral resistance, bacterial resistance, fungal resistance crops.

Understand in details with application of GM Technology in Golden rice and transgenic sweet potato. resistance, viral resistance, bacterial resistance, fungal resistance crops.

Write down the characteristics of Strategies for engineering stress tolerance. transgenic plant Current status of transgenic plants in India and other countries
Ethical issues associated with GM crops and GM food

Explain about labeling of GM plants and products. Importance of integrated pest management and terminator gene technology
Impact of herbicide resistance crops and super weeds
Deliberate in depth about RNAi and antisense RNA technology for extending shelf life of fruits and flowers

Role of ACC synthase gene and polygalacturonase Mechanism involved in softening and ripening of fleshy fruits
Post-harvest protection of cereals, millets and pulses

Introduction to Animal Cell Culture
Write down the details of cell culture laboratory- design, layout and maintenance.
Methods of sterilization for equipments and instruments
Preparation of Media and types of media used for cell culture
Maintenance of primary and established cell lines in cell culture
Properties of cultured cells
Understand in details with examples
Characterization of cultured cells
Deliberate in depth Scope of Stem cells and Tissue Engineering

properties of embryonic and adult stem cells and identification

Specify in details with application of biomaterials used in tissue engineering

Three dimensional culture and transplantation of engineered cells.

Understand in details with application, Tissue engineering - skin, bone and neuronal tissues

Specify in details with application, if applicable,

Methods involved in the production of transgenic animals

Deliberate the details of importance and applications of transgenic animals

Understand in depth Gene knock out and mice models for tackling human diseases.

Write down in depth methods of cloning and their importance with reference to domestic animals.

Specify the characteristics of IVF- technology for live stock and humans.

Understand the classification and characteristics of Applications of Animal Biotechnology:

Improvement of biomass, disease resistant, recombinant vaccines for poultry and live stock pharming

Understand in details with application, if applicable, Pharmaceutical products produced by mammalian cells - plasminogen activator, erythropoietin

Understand the details of Pharmaceutical products produced by mammalian cells - blood clotting factors, glycoprotein hormones

Write down the characteristics of Pharmaceutical products produced by mammalian cells - interleukins, interferons

Specify the characteristics of Cell culture based vaccines.

Understand in details with examples Bioethics in Biodiversity and resource management

Specify the characteristics of Ethical issues associated with consumptions of genetically modified foods.

Deliberate the classification and characteristics of Ethical implication of human genome project,

Understand in details with examples international ethical and legal issues connected with human genome diversity research
Identify the characteristics of Genetic studies of ethnic races.

Understand in depth Testing of drugs on human volunteers,
Deliberate the classification and characteristics of cell cultures as alternative for animal models for research

Identify in details with examples animal and human cloning- ethical and social issues, organ transplantation and xeno transplantation.
Learn the characteristics of The Cartagena protocol on biosafety

Understand the details of Key to the environmentally responsible use of biotechnology

Write down the details of Ethical implications of biotechnological products and techniques
Understand the details of Biosafety regulations and national and international guidelines with regard to rDNA technology, transgenic science, GM crops,.

Write down in details with application, if applicable, Experimental protocol approvals, levels of containment. Guidelines for research in transgenic plants.

Write down the classification and characteristics of Good manufacturing practice and Good lab practices (GMP and GLP).
Understand the details of Use of genetically modified organisms (crippling organisms) and their release to environment.
Deliberate in details with application, if applicable, Scope and importance of Genetic Engineering
Learn the details of Tools of Genetic Engineering
Enzymes; Non-specific endo & exo nucleases, DNase, RNase

Deliberate in details with examples restriction endonucleases- types, nomenclature, recognition sequences and mechanism of action

Specify in depth Role of Kinases, phosphatases, polynucleotide phosphorylase, polynucleotide kinases

Understand in details with application, if applicable, Ligases - types and mechanism of action.

Specify in depth General characteristics of vectors and construction of vectors

Specify in depth Lambda based vectors, cosmids, phagemids, minichromosomes

Learn the classification and characteristics of Shuttle vectors, Ti plasmids, vectors for animals
Specify in details with examples BAC"s, YAC"s vectors

Deliberate in depth Gene Cloning Strategies and Construction of Gene Libraries:

Learn the characteristics of Isolation and purification of RNA, synthesis of cDNA

Specify in details with examples isolation of plasmids, cloning cDNA in plasmid vectors

Specify in details with application, if applicable, cloning cDNA in bacteriophage vectors

Specify the characteristics of cDNA library

Identify in details with application, if applicable, Isolation and purification of DNA, preparation of DNA fragments and cloning.

Understand the classification and characteristics of Construction of genomic libraries

Deliberate the classification and characteristics of In vitro packaging of λ phage and amplification of libraries.

Specify the details of Advanced cloning strategies

Deliberate the details of use of adaptors and linkers, homopolymer tailing in cDNA cloning

Write down in depth of cloned DNA molecules, Write down the details of Selection, screening and analysis of recombinants

Learn the characteristics of blotting techniques, sequencing methods.

Deliberate the classification and characteristics of Purification strategies of expressed His- tagged proteins.

Understand in details with application, if applicable, Transformation Techniques

Deliberate in details with examples Purification of vector DNA, restriction digestion, end modification, cloning of foreign genes, (from mRNA, genomic DNA, synthetic DNA) transformation screening, selection, expression and preservation.

Deliberate the details of Purification of vector DNA, restriction digestion, end modification, cloning of foreign genes, (from mRNA, genomic DNA, synthetic DNA) transformation screening, selection, expression and preservation.

Identify the details of Transformation and transfection techniques,
Deliberate the characteristics of Physical and chemical method for preparation of competent cell

Understand the details of Method of DNA transfer to yeast, mammalian and plant cells, transformation and transfection efficiency
Learn the classification and characteristics of Labelling and Detection Techniques of DNA, RNA, Protein By Radioactive and non-radioactive isotopes

Identify the details of DNA sequencing by enzymatic and chemical methods
Deliberate in details with application, if applicable, Methods of nucleic acid hybridization; Southern, Northern and Western Blotting techniques.

Understand the classification and characteristics of Chemical Principle and strategies in synthesis of Genes
Specify in details with application, if applicable, Oligonucleotide synthesis and application, synthesis of complete gene.

Understand the characteristics of PCR, methodology, essential features of PCR, primers
Identify in depth types of PCR-Nested, inverse, RAPD-PCR, RT-PCR (real time PCR),
Identify in details with examples Applications of PCR.

Specify the classification and characteristics of Scope and importance of bioprocess engineering technology

Deliberate in depth structure of Bioreactor and their working mechanism

Understand the details of Fermentation media and Fermentation Process

Deliberate the classification and characteristics of fermentation processes for the production of Ethanol, citric acid, penicillin, riboflavin, amylase, protease, biodegradable plastic

Specify the details of Fermented foods

Learn in depth Plant tissue culture, micropropagation, transgenic plants, crop improvement

Specify in details with application, if applicable,

Bt cotton, Bt brinjal, golden rice,

Deliberate in details with application, if applicable, production of enzymes,

biodegradable plastics, therapeutic proteins, edible vaccines.

Write down the characteristics of Animal cell culture,

Deliberate in depth transgenic animals

Specify in details with examples IVF technology for livestock improvement,

Identify the classification and characteristics of pharmaceutical products, plasminogen activator, blood clotting factors, interleukins, vaccines

Learn the classification and characteristics of Microbial diseases of humans

Deliberate the classification and characteristics of AIDS, Hepatitis B, Rabies, Typhoid, STDs,

Write down in details with application, if applicable, Tb, plague, malaria, amoebiasis

Identify the details of treatment of

cancer, tumors, diabetes, anemia, gene therapy

Understand the details of Environmental

Pollution of Air, water, soil

Understand in details with application, if applicable, waste water management

Learn the details of bioremediation,

biodegradation, biowaste treatment

Learn in depth global warming, ozone depletion, acid rain

Learn the classification and characteristics of

Impact of nanotechnology

Learn in details with application, if applicable,

protein based applications, nanobiosensors

Learn the details of drug and gene delivery by tagging into nanoparticles

Learn the classification and characteristics of risk potential of nanomolecules

Write down in details with examples IPR- intellectual property rights
Identify in details with application, if applicable, patenting of biotech products
Learn in details with examples ethical issues related to consumption of GM crops
Understand the details of ethical implication of Human Genome Project

Write down in details with application, Plant tissue culture: Media composition and types
Identify the characteristics of Industrial and institutional visit
Understand in depth Visiting the Sugarcane Industry
Learn the classification and characteristics of Visiting the Dairy Industry and storage condition of milk
Write down in depth Institutional visit for National centre of oceanography
Write down in depth Pharma company visit and learn the technology of manufacture of tablets, ointments and syrups
Deliberate in details with application, if applicable, Scope and importance of bioprocess engineering technology
Specify in details with examples development and strain improvement of industrially important microorganisms

Understand the classification and characteristics of Typical structure of advanced Bioreactor
Learn the details of working mechanism of Bioreactor
Deliberate the details of Heat transfer and Mass transfer of Bioreactor
Specify in depth Specialised bioreactors- Airlift bioreactor, Tubular bioreactors, Membrane bioreactors

Write down the characteristics of Specialised bioreactors- bioreactors, Fluidized bed reactor, Packed bed reactors and Photo bioreactors
Identify the characteristics of Fermentation media- Natural and synthetic media

Deliberate the classification and characteristics of Strategies for media formulation
Specify in depth sources of carbon, nitrogen, vitamins and minerals

Deliberate the details of Role of buffers, precursors
Learn in details with examples Role of inhibitors, inducers and antifoam agents

Learn the characteristics of Types of fermentation processes-submerged fermentation, surface or solid state fermentation

Specify the details of fermentation processes- batch fermentation, continuous fermentation
Understand the classification and characteristics of kinetics of fermentation process, bioprocess control

Understand in details with examples monitoring of variables-temperature, agitation, pH and pressure

Learn the characteristics of Downstream processing

Deliberate in details with examples cell disruption, precipitation methods, solid-liquid separation

Specify in depth liquid-liquid extraction, filtration, centrifugation, chromatography

Learn the characteristics of Lyophilization and spray dry technology

Learn the characteristics of crystallization, biosensors-construction and applications

Deliberate the details of Food processing: food preservation, and spoilage.

Deliberate the details of Sterilization and pasteurization of packed food

Write down the classification and characteristics of canning and packing of foods

Deliberate in depth Immobilization and Biotransformation

Identify the details of Methods of immobilization, adsorption, crosslinking, ionic bonding, entrapment, encapsulation

Identify in depth Advantages and industrial applications of Immobilization of enzymes and whole cells.

Learn the characteristics of Biotransformation of antibiotics, steroids and their applications

Write down the characteristics of Production of Industrially important products: Alcohol: Ethanol, glycerol, butanol

Write down in depth Production of Industrially important products: Acetone; Organic acids: citric, acetic, and gluconic acid

Specify the classification and characteristics of Production of Industrially important products: Amino acids: lysine, glutamic acid

Write down the details of Production of Industrially important products: Antibiotics: penicillin, streptomycin, tetracycline
Understand in details with application, if applicable, Production of Industrially important products: Vitamins: riboflavin,

Deliberate the details of Production of Industrially important products: Recombinant protein- Insulin, hepatitis-B vaccine
Learn the classification and characteristics of Production of Industrially important products: Fermented foods-sausages, olives, bread, idly and acidophilus milk.
Identify the classification and characteristics of Intellectual Property Rights (IPRs) and Entrepreneurship
Specify the classification and characteristics of Intellectual Property Rights (IPRs) and Entrepreneurship
Deliberate the classification and characteristics of IPRs– implications for India, WTO, WIPO, GATT, TRIPS.

Deliberate in details with application, if applicable, Patenting and the procedures involved in the application for patents and granting of a patent, compulsory licenses, patent search, Patent Cooperation Treaty (PCT)
Identify the characteristics of IPRs-legal implications, traditional knowledge commercial exploitation, protection.
Deliberate the characteristics of Potential entrepreneurship activities in biotechnology, product development, marketing, research and training units.
Understand in depth Industrial licensing, venture capital, Biotechnology Industries in India and the potential job opportunities.

Specify the characteristics of Microbial Diseases of Humans: mode of infection, symptoms

Understand the characteristics of Viruses (AIDS, Hepatitis- B, Rabies, HSV-1)
Write down in details with examples Bacteria (Typhoid, STD, TB, Plague)
Write down the characteristics of Fungi(Aspergillosis, Histoplasmosis, Cryptococcosis)
Specify the characteristics of Protozoa(Malaria, Amoebiasis)
Learn the details of Tumors, types of tumors, predisposing factors, cellular changes involved in tumor formation
Specify the characteristics of genes associated with cancer (oncogenes, tumor suppressive genes etc.)

Specify the classification and characteristics of methods of tumor detection, tumor markers
Learn in details with examples treatment of cancer-chemo therapy, radio therapy, immunotherapy and gene therapy.

Identify in details with application, if applicable, Human Diseases: Symptoms and treatment
Understand in depth Genetically inherited diseases: PKU, Alkaptonuria, Galactosemia
Identify in depth Von Gierke disease, Lesch-Nyhan syndrome, Gout
Learn in depth Sickle cell anemia, Beta Thalesimia and Diabetes
Identify in details with examples Evaluation of organ functions: liver, kidney, cardiac and gastric function tests
Write down the characteristics of Significance of biochemical markers-amino transferases, creatine kinase, LDH, amylase and γ -glutamyl trans-peptidase
Identify in depth types and synthesis of nanomaterials
Understand in depth protein-based nano structures, DNA-based nano structures
Specify the details of Applications of nanomaterials, nanobiosensors, drug and gene delivery

Deliberate the details of disease diagnostics and therapy, risk potential of nanomaterials.

Write down the characteristics of Molecular therapeutics: Drugs, drug receptors, Relationship between drug concentration and response, agonists, drug clearance.

Identify in details with examples biological half life, drugs accumulation, basic concepts of toxic effect.

Learn in details with application, if applicable, Gene therapy, barriers to gene delivery, overview of inherited and acquired diseases for gene therapy; Retro and adeno virus mediated gene transfer
Identify the characteristics of Liposome mediated gene delivery

Deliberate in details with application, if applicable, Cellular therapy; use of stem cells. Deliberate the details of Recombinant therapy; Erythropoietin; Insulin analogs and its role in diabetes. Streptokinase and urokinase in thrombosis

Specify the characteristics of Drug discovery:

Introduction, conventional drug design approaches

Deliberate in details with application, if applicable, irrational Vs rational, Lipinski's rule of five, ADME

Write down the classification and characteristics of Calculation of LD 50 and ED 50.

Understand the details of Acute, 40 subacute and chronic toxicity studies.

Specify in depth Irwin profile test, Drug development process (Preclinical , clinical and toxicological studies)

Identify in details with examples Novel Drug Development approaches - QSAR (quantitative structure activity relationship), Highthroughput screening.

Deliberate the classification and characteristics of Clinical Research: Past, Present and future

Learn in details with application, if applicable, Importance, Mile stones of regulations. FDA, US, Indian clinical research

Specify in depth global scenario of clinical research, Regulatory agency.

Specify the classification and characteristics of Designing clinical trials- History, principles, scheme for conducting clinical trials Specify in details with application, if applicable, planning defining, objectives, variables, study populations, testable hypothesis, prediction of errors and bioselection of appropriate study design

Deliberate the classification and characteristics of Ethical Issues in clinical research- Introduction, codes, declaration and guidelines, Informed consent, special issues

Specify the characteristics of Roles and responsibilities of IRBS, issues with ethics review. Write down in depth ICH-GCP- History of ICH, Objectives, ICH structure, Guidelines, Future of ICH.

Deliberate the details of Concept of genomics, structural genomics, Functional Genomics

Deliberate the characteristics of Transcriptomics, RNAmics proteomics, and metabolomics
Deliberate the characteristics of Genome sequencing
Identify in details with examples Fluorescence method, automated sequencing, shot-gun approach.
Understand the classification and characteristics of Clone contig method
Specify the details of Genome sequencing projects of E.coli. and yeast
Specify the details of Genome sequencing projects of human genome project.
Identify the classification and characteristics of Genome sequence data bases, expressed sequenced tags (ESTs)
Identify in depth Gene variation and Single Nucleotide Polymorphisms (SNPs)
Learn in details with examples disease association, diagnostic genes and drug targets, genotyping - DNA Chips, diagnostic assays, Genome sequence analysis.

Identify in details with application, if applicable, Principle, salient features & drawbacks of methods of gene prediction / gene modeling

Write down the characteristics of Genome Analysis, Genome Organization and Structure

Learn in depth Molecular markers, Hybridization based markers like (RFLP"s), (RAPD"s) and(AFLP)

Understand in details with examples Multiple arbitrary amplicon profiling using short oligonucleotide primers, SCAR, micro satellites Understand the classification and characteristics of length polymorphisms in simple sequences repeats (SSR and ISSR) Specify the characteristics of Approaches to mapping, fluorescence in-situ hybridization (FISH) - DNA amplification markers; Telomerase as molecular markers, T-DNA tagging, Transposon tagging

Specify in details with examples General structural features of Viral and Bacterial genomes

Specify in depth Organization of E.coli genome, Arabidopsis genome, Rice genome, Human genome, Unusual structure of Y chromosome, Chloroplast and Mitochondrial genomes. Understand the classification and characteristics of Commercializing the genomics, polymorphisms.

Understand in details with application, if applicable, Transcriptomes-transcripts of a tissue, use of Northern blot, subtractive and additive library, Rnase protection assay, RT-PCR

Specify the characteristics of Analysis of steady state gene expression by EST tags and cDNA library, Microarray techniques, sequence analysis of gene expression (SAGE). Learn the details of Massively parallel signature sequencing (MPSS), Expression profiling in human diseases. Specify the details of Orthologs, homologs, paralogs, gene evolution, protein evolution by exon shuffling, comparative genomics of closely related bacteria.

Identify the characteristics of Concepts, Levels of metabolite analysis, metabolomics in humans

Write down the classification and characteristics of sample selection and handling, over view of different methods used for analysis of metabolites.

Identify in depth Metabolic regulation network at genome level, Basic concept of metabolic engineering

Write down in depth Expression analysis and characterization of proteins-separation of proteins-2D PAGE (2DGE), multiplexed analysis, multidimensional liquid chromatography

Specify the characteristics of high throughput screening by Mass spectrometry, MALDI-TOF, peptide fingerprinting

Understand the details of protein micro array antibody arrays, antigen arrays, general protein arrays, biochips.

Understand the details of Analysis of protein structures-Sequence analysis by Tandem Mass Spectrometry, structure prediction, X-ray, NMR and CD and Bio-informatic approaches

Specify in depth Protein-protein interactions-genetic, comparative genomic, biochemical approaches

Learn in details with application, if applicable, Large scale analysis of protein intractions-yeast two hybrid interaction screens, post-translational modification analysis, proteomics databases & analysis.

Write down in details with application, if applicable, cellular interactions and their environment

Deliberate in details with examples DNA and its replication

Write down in depth expression of genome

Write down the details of tools of genetic engineering and recombinant DNA technology

Identify the classification and characteristics of membrane system and organelles

Specify in details with examples science of inheritance and Mendelian principles

Write down the details of chromosomal basis of inheritance and linkage and crossing over

Write down in details with application, if applicable, non mendelian inheritance and extranuclear genes and somatic cell genetics
Understand in details with examples transposable genetic elements

Identify the classification and characteristics of cell division and chromosome aberrations

Specify in depth change in chromosome number and role of chromosome during evolution

Identify the details of evolution of sex chromosomes and chromosome in evolution

Understand the classification and characteristics of nucleus and chromosome structure

Deliberate in details with application, if applicable, biomolecules-carbohydrates, amino acids and proteins, lipids and nucleic acids

Write down in details with examples enzymes

Specify the classification and characteristics of bioenergetics and biological oxidation

Specify the details of metabolism-carbohydrates, amino acids and proteins, lipids and nucleic acids

Write down the classification and characteristics of excitability of cells

Write down in details with application, if applicable, excitability of cells

Learn in details with examples excitability of cells

Write down in depth membrane potentials

Understand the details of radiations in cells environment

Understand the classification and characteristics of cell water and homeostasis

Write down the characteristics of vital staining of mitochondria

Write down in details with examples study of mitosis in onion root tips

Identify in depth study of meiotic stages of a grasshopper testis

Understand the characteristics of study of X chromatin in human

Identify the characteristics of Demonstration and identification of sperms

Learn the classification and characteristics of study of Drosophila life cycle and external morphology

Specify in details with application, if applicable, Drosophila culture- media preparation and handling of flies

Write down the classification and characteristics of study of Drosophila mutants

Deliberate in details with examples mounting of sex comb of Drosophila melanogaster

Write down in details with application, if applicable, study of law of segregation and law of independent assortment in fruit flies

Specify the classification and characteristics of study of sperm shape abnormalities in mouse

Write down the classification and characteristics of study of meiosis in Laccotrephis and Sphaerodema

Identify in depth study of inversion

polymorphism in Chironomous/mosquito

polytene chromosome

Identify in depth study of chromosomal aberrations induced by chemicals and X rays in rat

Identify the characteristics of Feulgen staining of DNA in protozoa-Paramoecium

Learn in details with examples sodium potassium ATPASE ACTIVITY

Specify in depth ACETYL CHOLINE ESTERASE ACTIVITY

Deliberate the details of PREPARATION OF PHOSPHATIDES FROM EGG YOLK

Write down in details with application, if

applicable, DETERMINATION OF BLOOD

GLUCOSE AND SERUM CHOLESTEROL IN CLINICAL SAMPLES

Deliberate in details with examples

IOWRY/BRADFORD METHOD FOR ESTIMATION OF PROTEIN

Identify the classification and characteristics of

Identify the classification and characteristics of SORRENSEN'S METHOD FOR AMINOACID

ESTIMATION

Deliberate in details with examples Structure and properties of DNA

Identify in details with examples Transcription
Identify the characteristics of Translation
Learn in details with application, if applicable,
Regulation of gene expression

Understand the classification and characteristics
of gametogenesis,differentiation, fertilization
and development

Specify the characteristics of early vertebrate
development, morphogenetic and cell movement
Deliberate the characteristics of pattern
formation and metamorphosis
Learn in details with examples stem cells ,
cellular ageing and death

Specify the classification and characteristics of
mutagenic agents and their effects
Learn in depth DNA damage and repair

Write down the classification and characteristics
of cancer biology and carcinogenic agents
Understand the classification and characteristics
of cancer cytogenetics,cancer genes and
oncogenes
Write down the classification and characteristics
of tumour immunology, cancer diagnostics and
therapy
Identify in details with examples mutation and
mutagenesis
Deliberate in depth evolutionary theories
Learn in depth driving forces of evolution

Specify the classification and characteristics of
isolating mechanisms and speciation
Understand the characteristics of
molecularphylogenetics, human population
genetics and evolution
Identify the details of BIostatistics
Deliberate the characteristics of
BIOINFORMATICS
Deliberate in depth isolation of cellular DNA by
rapid method
Deliberate the details of estimation of cellular
DNA by standard method
Deliberate the characteristics of estimation of
concentration of DNA by agarose gel
electrophoresis

Identify the classification and characteristics of analysis of genomic DNA by agarose gel electrophoresis
Deliberate in depth study of isozymes by (PAGE) electrophoresis

Understand the details of NCBI,BLAST,FASTA,PAIRWISE AND MSA,RASMOL

Specify the classification and characteristics of study of early development of frog/ chick
Write down the characteristics of Mounting of chick embryos during development
Understand the details of study of imaginal discs in Drosophila
Learn the classification and characteristics of Studies of absorption spectra of nucleic acids and proteins

Specify in details with examples Frog- induction, spawning and early embryogenesis

Identify the classification and characteristics of differential gene expression-demonstration of ecdysone/heat induced gene expression in polytene chromosome of Drosophila
Understand the details of induction of chromosomal abnormalities by treating with cyclophosphamide-mitotic and meiotic chromosomes of rat
Learn the characteristics of genetic basis of insecticide resistance
Learn the classification and characteristics of susceptibility studies by using different insecticides in culicine mosquitoes
Identify in depth MTT assay
Identify in details with examples trypan blue dye exclusion test

Deliberate in details with examples quantitative characters in Drosophila:sternoplurals and acrostichals, mean and standard error
Specify the characteristics of calculation of change in gene frequency

Understand the details of applications of Hardy Weinberg principles and genetic problems

Deliberate the characteristics of experiments on genetic drift- population size and sampling error

Deliberate the classification and characteristics of studies on homology and analogy
Write down in depth Genetic Engineering and Tools of Genetic Engineering

Write down the details of Gene Cloning, Gene Libraries and Transformation Techniques
Identify the classification and characteristics of Screening and Selection, Labelling Nucleic acid Protein

Specify the classification and characteristics of In vitro Translation and Hybridization Techniques
microbial genetics

Write down in depth Gene Regulation in plants

Deliberate in depth Applied genetics of plants
Specify the details of Protoplast technology

Understand in details with examples Biofertilizer
Specify in details with examples Basics of Human Genetics

Learn the characteristics of Genetic mapping of complex traits and Chromosomal Syndromes
Write down in details with application, if applicable, Genetic Disorders

Write down the characteristics of Diagnosis, Genetic Councelling, Therapy and Ethics

Specify the classification and characteristics of Isolation of nucleic acid from different source

Deliberate the classification and characteristics of Restriction enzyme digestion of DNA and molecular weight estimation

Write down in details with examples Transformation

Write down in depth blotting techniques
Bacterial culture, Gram staining , extraction of DNA from bacteria

Replica Plating

Isolation of bacteriophage from sewage water
Methyl green pyronin staining, Toluidine blue sttaining

protoplast technology

Write down in details with examples HUMAN GENETICS

Deliberate the characteristics of normal and abnormal human karyotype

Understand the details of Lymphocyte culture

Learn in details with application, if applicable, Banding techniques

Write down in details with application, if applicable, Differential staining of Human blood and its study

Identify in details with application, if applicable, Blood cell counting

Write down in details with examples Paper chromatography-aminoacid

Specify in depth TLC -eye pigment

Learn the characteristics of RNA ESTIMATION ORCINOL

Learn in details with examples DNA ESTIMATION DPA METHOD

Understand in depth ESTIMATION OF ASCORBIC ACID

Write down the characteristics of RETE OF ACTIVE TRANSPORT OF GLUCOSE

Deliberate in details with examples

ORGANIZATION OF GENOMES

Specify in details with examples MAPPING GENOMES

Understand the classification and characteristics of GENOMICS

Write down the details of PATTERN OF GENOME EVOLUTION

Deliberate the details of OVERVIEW, CELL AND TISSUES OF IMMUNE SYSTEM

Deliberate in details with examples ANTIGENS, IMMUNOGLOBULINS AND T CELL RECEPTORS

Learn the details of BLOOD COMPOSITIONS AND ITS DISORDERS

Deliberate the details of TRANSFUSION MEDICINE

Deliberate the details of HUMAN DISEASES

Understand in depth PHARMACODYNAMICS AND PHARMACOKINETICS

Identify the classification and characteristics of MOLECULAR THERAPEUTICS

Learn in details with examples

NANOBIOTECHNOLOGY, GENETICS AND SOCIETY

Write down the details of INTRODUCTION TO CELL AND TISSUE CULTURE

Deliberate in depth GENE TRANSFER IN PLANTS
Identify in details with application, if applicable, ANIMAL TISSUE CULTURE-REQUIREMENT AND METHODS

Write down in details with application, if applicable, CELL LINES, ORGAN CULTURE, LARGE SCALE CULTURES AND APPLICATION OF ANIMAL TISSUE CULTURE

Deliberate the characteristics of Radial immunodiffusion assay

Learn the details of ELISA

Deliberate in details with application, if applicable, TC/DC blood count

Write down in details with application, if applicable, dna ISOLATION AND ELECTROPHORESIS

Understand in details with application, if applicable, ESTIMATION OF CELLULAR DNA BURTON'S METHODIS

Identify in depth sTUDY OF SERUM PROTEIN BY ELECTROPHORESIS

Learn the details of PAGE/ISOZYME /HEMOGLOBIN

Nature of the bonds, VSEPR theory, Electronativity of the compounds

Clear information of Baranes, Phospazenes, SN compounds. Structure and bonding relation is also explained

This topics are very useful to the students in their real life. Depth information is explored in this unit
This unit will introduce to the all new invention in nuclear chemistry and in depth knowledge of nucleus

Write down the classification and characteristics of Nature of bonding in organic molecules

Write down the details of Reaction Mechanisms- reactive intermediates and effect of structure on reactivity

Specify in depth Methods of determining mechanisms

Understand the classification and characteristics of Stereochemistry- isomerism & Conformational analysis

Specify the synthesis , stereochemistry and characteristics of Carbohydrates

Deliberate in details with examples Heterocyclic compounds

Understand the biological importance and synthesis of Vitamins

Specify in depth Kinetics of homogeneous catalysis-kinetics of auto catalytic reactions, kinetics of acid-base catalysed reactions.

Comparison of enzyme catalysed and chemical catalysed reactions, Mechanism (Lock and Key theory), Kinetics of enzyme catalyzed reactions – Henri-Michaelis- Menten mechanism, Specify in details with examples Surface chemistry- Types of adsorption isotherms, Effect of temperature on adsorption, Mechanical adsorption, Estimation of surface area using BET equation

Specify in details with application, if applicable, Derivation and Application of Schrödinger wave equation

Specify the classification and characteristics of Approximate methods: Need for approximate methods. Perturbation method. Rayleigh Schrödinger perturbation theory for time-independent non-degenerate system. Application to electron in a box under the influence of an electric field.

Specify in depth Chemical Dynamics-I 13h A. Macroscopic and microscopic kinetics, Review of theories of reaction rate-Collision theory and Transition state theory, Comparison of collision theory with transition state theory, Arrhenius equation- characteristics,

BIOPOLYMER INTERACTIONS, TRANSPORT OF IONS Ion transport through cell , BIOSENSORS Definition, types, sensors for environmental, medical, food safety and biosecurity applications. Synthetic Molecular Receptors, Fatty acid metabolism:

Concepts of Medicinal Chemistry, Classification and nomenclature of Drugs, Drug Discovery, Concept of Prodrugs and soft drugs.

Write down in details with examples

BIOENERGETICS

The effect of temperature and pH on ΔG . Methods of determination of free energy changes

Understand the details of Use of ultrasound and Microwaves in organic synthesis

Identify in details with examples ionic liquids and polymer supported reagents in organic synthesis

Understand the characteristics and applications of Phase transfer catalysis and crown ethers

Understand the details of Multi-component reactions

Identify the radical present in the mixture i.e. two acid radicals and two basic radicals and one rare earth

Students will come to know the method of preparation, separation of preparation of complexes

Quantitative estimation infers the composition of complexes

Write down in depth . Acid hydrolysis of methyl acetate at lab temperature.

Write down the characteristics of . Velocity constant for the saponification of ethyl acetate. Identify in details with examples 5. Estimation of Fe^{2+} ions concentration in the given solution by titration of FAS versus KMnO_4 through colorimetric method.

Deliberate in details with application, if applicable, 8. Determination of partial molar volume of solute – H_2O system by apparent molar volume method.

Identify in details with application, if applicable, Verification of Beer's Law for Cu^{2+} ions Identify the details of 2. Conductometric titration of weak acid versus weak base.

Specify the characteristics of 3. Dissociation constant of weak acid (CH_3COOH) by conductometric method.

Write down the classification and characteristics of 5. Conductometric titration of strong acid versus strong base

Understand in details with application, if applicable, 6. Determination of single electrode potential of Cu^{2+}/Cu and estimate the given unknown concentration

Deliberate the characteristics of 9. Titration of weak acid against a strong base using quinhydrone electrode and calculation of pK_a and K_a values of the weak acid

Deliberate the characteristics of Electrochemistry of solutions: Ionic atmosphere, Debye-Huckel theory for the problem of activity coefficient, Debye-Huckel limiting Law, Stability of metal complexes, CFSE values and their applications of metal complexes, Useful to determine the term symbols, spectral properties of the metal complexes Helpful in determination of oxidation states and geometry of the complexes, detail explanation of magnetic properties

Learn the basic principles of Photochemical reaction of transition metal complexes

Deliberate the classification and characteristics of Metal-Ligand equilibria in solution

Specify the characteristics of addition reactions
Deliberate in depth elimination reaction

Identify in depth Aromatic substitution reactions

Write down the different types of
Rearrangement reactions with suitable examples
Learn the classification and characteristics of
Amino acids and Peptides

Specify the details of Thermodynamics: Concepts of partial molar properties – partial molar free energy, chemical potential, partial molar volume and its significance.

Identify the classification and characteristics of Apparent molar volume method. Concept of fugacity; Determination of fugacity by graphical method and compressibility factor method

Specify the characteristics of Thermodynamics-II
13h Sackur-Tetrode equation for entropy of translation function. Relation between equilibrium constant and partition function. Understand in details with application, if applicable, Thermodynamic criteria for non-equilibrium states-Phenomenological Laws and Onsager's reciprocity relations

Understand the classification and characteristics of Electrochemistry-I Electrochemistry of solutions: Ionic atmosphere, Debye-Huckel theory for the problem of activity coefficient, Identify the details of determination and measurement of interfacial tension as a function of applied potential difference across the interface.

Write down the classification and characteristics of Structure of electrified interface: Helmholtz theory, Guoy- Chapman theory, Stern model. Overpotential:

Definition of groups, subgroups, cyclic groups, conjugate relationships, classes, simple theorems in group theory. Symmetry elements and symmetry operations, Unifying principles

Rotations of molecules, rigid diatomic molecule-rotational energy expression, Rotational spectra of polyatomic molecules, Stark effect, techniques and instrumentation

Vibrations of molecules, Diatomic vibrating rotor

Vibration-rotation spectra of polyatomic molecules, Techniques and instrumentation, FTIR

Classical theory of the Raman effect, Structure determination from Raman and IR spectroscopy Structure determination from Raman and IR spectroscopy, Electronic spectra of polyatomic molecules

Understand in depth Electronic Spectroscopy
12h Born-Oppenheimer approximation, vibrational coarse structure, intensities by Franck-Condon principle, Dissociation energy, rotational fine structure, Fortrat diagram,
Specify the details of Matrices
Learn the details of differential calculus

Specify the characteristics of Integral calculus

Write down in details with examples Probability
Gravimetric estimation of an ion from mixture of two solutions
Volumetric determination of specific ion from mixture of two solutions

Deliberate in depth 3. Determination of dissociation constant of a given indicator by colorimetric method

Write down the classification and characteristics of 1. Study the hydrolysis of methyl acetate in presence of two different concentrations of HCl and report the relative strength.

Deliberate the classification and characteristics of 2. Study the hydrolysis of methyl acetate in the presence of HCl at different temperatures and report the energy of activation.

Specify in details with examples 4. Study of kinetics of autocatalytic reaction between KMnO_4 versus oxalic acid.

Deliberate in details with application, if applicable, 1. Acid mixture versus NaOH

Identify the details of 4. Determination of strength of HCl, CH_3COOH and CuSO_4 versus NaOH by pH metry

Write down the classification and characteristics of 6. $\text{K}_2\text{Cr}_2\text{O}_7$ versus FAS

Learn in details with examples 8. KMnO_4 versus FAS

Identify in depth 7. Acid mixture versus NaOH

Identify in details with examples 10.

Determination of pK_a value of phosphoric acid by pH meter.

Deliberate the characteristics of 3. Strong acid with salt versus NaOH

Specify in depth Structure of electrified interface:

Helmholyz theory, Guoy- Chapman theory, Stern model. Overpotential: Concentration

overpotential and activation overpotential,

Derivation of Butlervolmer equation

Identify in details with application, if applicable,

Aliphatic nucleophilic and electrophilic

substitution reactions

Understand the characteristics of Free-radical chemistry

Deliberate the characteristics of Photochemistry

Identify in details with application, if applicable,

Pericyclic reactions- electrocyclic & sigmatropic reactions

Deliberate in depth Biochemical mechanisms

Introduction, classification. Pheromones in pest control. Synthesis of different insect pheromones
Write down the structure elucidation and synthesis of Terpenoids and Carotenoids

Classification, structure elucidation, synthesis and biosynthesis of different Alkaloids
Structure elucidation and synthesis of haemin, chlorophyll-a and vitamin-B12
Structure elucidation and synthesis of nucleosides and nucleotides
Introduction, nomenclature, classification and biological role of prostaglandins. Structure elucidation, synthesis and stereochemistry of PGE1, PGE2 and PGE3

Learn the details of organic preparations stage 1

Write down the classification and characteristics of organic preparation one stage 1

Identify the classification and characteristics of cyclisation reaction

Understand in details with examples substitution reaction

Deliberate in depth Cannizzaro reaction

Deliberate in details with examples estimation of nitro group by reduction

Specify the details of estimation of by nitrogen from Kjeldahl's method

Write down the details of estimation of by acid in presence of an amide

Deliberate in details with application, if applicable, estimation of ester in presence of acids

Learn in depth synthesis of hydantoin

Specify in details with application, if applicable, benzamide from benzophenone

Learn in details with application, if applicable, benzoic acid from benzoin

Write down the details of organic preparations stage 2r 1

Identify the details of titrimetric estimation of amino acids

Deliberate in details with application, if applicable, saponification value of oil

Identify in details with application, if applicable, estimation of glucose by Fehling's method

Deliberate in details with examples estimation of keto group

Understand the classification and characteristics of estimation of phenols

Specify in details with application, if applicable, iodine value of oil

Understand in depth Applications of organometallic compounds in complexation, de-complexation, protecting & destabilizing reactions, coupling & cyclization and redox reactions

Understand the classification and characteristics of Carbonylation reactions using Zr, Fe, Co and Pd complexes

Write down the characteristics of Applications of organo-Zn, Li, Cu, Se, Te, Al, Si, Sn, Ce & Hg compounds in organic synthesis

Specify in depth Synthesis and characteristics of small-ring, benzofused and six-membered heterocycles with two or more heteroatoms

Understand the characteristics of Synthesis and characteristics of seven & large membered heterocycles, mesoionic compounds and heterocycles containing P, As, Sb and Bi
Learn the characteristics of protecting groups of important reactive functional groups (alcohols, amines, carbonyls).

Write down the characteristics of Carbon-carbon disconnections

Deliberate the classification and characteristics of stereochemistry and optical activity in the absence of chiral atoms optical activity due to presence of hetero atoms.

Write down the details of stereochemistry and optical activity in the absence of chiral atoms,

Understand in depth Atropisomerism

Specify the classification and characteristics of trans annular reactions

Learn the classification and characteristics of determination of absolute and relative configurations of the compounds

Learn the details of retrosynthetic analysis by disconnection approach.

Identify the characteristics of C-C and C-N bond forming reactions

Specify in details with application, Reagents in organic synthesis
Write down the applications of oxidizing agents in organic synthesis

Identify in details with application, if applicable, reduction reactions in organic synthesis

Specify the characteristics of Asymmetric Synthesis- Stereoselectivity, Acyclic stereoselection, Diastereoselection in cyclic systems and Enantioselective synthesis:

Learn the Structure elucidation and synthesis of streptomycin, penicillins, cephalosporin-C, chloromycetin and tetracyclins
Learn Antipyretics, analgesics and non steroidal anti-inflammatory drug, Antidiabetics, Antihistamines, Antiviral, Antineoplastic agents, cardiovascular drugs

Learn the general mode of action and Synthesis of different local anti-infective agents

Understand Isolation, structure and structural elucidation of sterols and bile acids
Write down in details Basics of drug receptor interactions. Theories of drug activity. Hansch equation. Computer-aided drug design and molecular modeling
Write down about neurotransmitters, CNS depressants, general anaesthetics, mode of action of hypnotics, sedatives, anti-anxiety drugs, benzodiazepines, buspirone, neurochemistry of mental diseases
Learn the details of preparation of nbs from succinic acid

Understand in details with examples preparation of benzphenacalone from benzophenone

Identify the classification and characteristics of preparation of anthrone from anthracene
Identify in details with application, if applicable, synthesis of stilbene
Specify the characteristics of synthesis of benzocaine from 4 nitro benzoic acid
Write down the details of uv ir and nmr and mass spectro

Introduction, Magnetic properties of nuclei-
Resonance condition, CIDNP, Nuclear Overhauser
effect

Types of CMR spectra-uncoupled, proton
decoupled, SFORD

PD, ESI, MALDI

Classification of mass spectrometers, Mass
spectrum, Composite problems

Application of UV, IR, NMR and mass methods in
the structural elucidation of organic compounds

Understand the characteristics of systematic
analysis and identification of organic compounds

Deliberate the details of Stereochemistry

Identify in depth Properties of water and
thermodynamics

Identify the details of Bio-inorganic chemistry

Identify the details of Mechanisms of Bio-organic
reactions and rearrangements

Learn the classification and characteristics of
Free radicals, heterocyclic systems

Learn the classification and characteristics of
Carbohydrates

Learn in details with examples Lipids

Deliberate the characteristics of Amino acids and
proteins with structural aspects

Specify in depth Protein folding pathways

Identify the characteristics of Nucleic acids with
structure, sequencing and synthesis

Learn in details with application, if applicable,
Microscopic techniques and fluorescent
microscopy

Learn in depth Biocalorimetry and manometry
techniques

Identify in details with examples Radioisotopic
methods of analysis

Understand the classification and characteristics
of Quantitative biochemical measurements

Understand the classification and characteristics
of Biochemical investigations, extractions and
centrifugation

Identify the classification and characteristics of
Tissues, cytoskeleton and cellular dynamics

Learn in details with examples Nervous, muscular systems
Understand the characteristics of Digestive and excretory systems

Identify in details with application, if applicable, Cardiovascular and respiratory systems
Write down the classification and characteristics of Endocrine system details
Identify the details of Oxidative stress and Antioxidants
Write down in details with examples Vitamins and Energy metabolism
Understand the characteristics of Nutrition in various age groups
Identify the classification and characteristics of Nutritional aspects of carbohydrates, lipids and proteins
Learn the details of Macro, micro and ultra trace minerals

Understand in details with application, if applicable, Experiments related to preparation of buffers; Acetate, phosphate and tris buffer.
Understand the classification and characteristics of Experiments related to determination of saponification, acid value, Iodine value, Pka, PI and phytic acid

Deliberate in depth Experiments related isolation of potato starch and liver glycogen

Understand the characteristics of Experiments related hydrolysis of starch and estimation of purity by HJ and somogy methods
Specify the details of Experiments related analysis of water by EDTA method
Specify in depth Experiments related to estimation of Pi by FS method

Write down in details with examples Experiments related isolation of nucleic acids and absorption spectra of nu acids and proteins

Deliberate the classification and characteristics of Experiments related estimation of sugars by dns, anthrone and nelson method
Identify in details with application, if applicable, Experiments related to proteins by lowrys method and estimation of tyr by millons, and lysind, trp estimation

Understand in depth Experiments related to estimation of DNA and RNA-DPA and orcinol method

Deliberate in details with examples Introduction to enzymes and enzyme catalysis

Learn the classification and characteristics of Kinetics of single sub and bisub enzyme reaction
Learn the characteristics of Investigation of active site of enzyme and mechanism of coenzymes

Understand the characteristics of enzyme inhibition

Understand in details with examples Allostery of enz action

Understand the classification and characteristics of chromatography techniques

Specify the classification and characteristics of gas chromatography

Write down in details with examples spectroscopic techniques

Learn the classification and characteristics of proteomics

Write down in depth Bioinformatics

Identify the details of Carbohydrate metabolism

Deliberate the characteristics of glycogen and starch metabolism

Identify the characteristics of lipid metabolism

Identify the details of photosynthesis

Write down in details with application, if applicable, introduction to biomembranes

Deliberate in depth membrane proteins and topology of memb proteins

Understand the characteristics of membrane transport

Specify the characteristics of intracellular compartments

Identify the details of biogenesis of lipid bilayers

Learn the characteristics of bacteriology and euk microorganisms

Specify in details with examples staining and pure culture techniques

Deliberate in depth control of microbial growth

Deliberate the classification and characteristics of food, dairy and medical microbiology

Understand the characteristics of virology

Quantitative genetics

Learn the classification and characteristics of

Illustrate the bacterial and viral genetics

Learn in details with application, if applicable,

Biochemical genetics

Learn in details with examples viral genetics