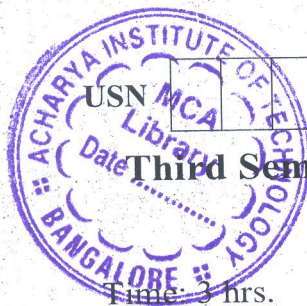


CBCS SCHEME

BBT301



Third Semester B.E./B.Tech. Degree Examination, Dec.2023/Jan.2024
Cell Biology and Genetics

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	Illustrate the structure and function of microtubules and add a note on covalent modification of microtubule proteins.	10	L2	CO2
	b.	Compare and contrast cytoskeletal elements.	10	L2	CO3
OR					
Q.2	a.	Plasmalemma / Plasma membrane should exhibit permeability and dynamicity. Elaborate it with physicochemical properties.	10	L3	CO3
	b.	Enumerate the structure and function of power house of cell.	10	L2	CO1
Module – 2					
Q.3	a.	Cells undergo a series of events to form a new cell. Outline.	10	L2	CO3
	b.	Nature as a dynamicity of producing two daughter cells with equal distribution of genetic material comment the detailed process.	10	L3	CO3
OR					
Q.4	a.	In detail explain the cell-cell signaling pathway of Eukaryotic cell.	10	L3	CO2
	b.	Compare and contrast the apoptosis pathway with its salient components.	10	L2	CO3
Module – 3					
Q.5	a.	Differentiate between passive, active and facilitated active transportation with examples.	10	L2	CO3
	b.	Distinguish between endocytosis and exocytosis with special emphasis on membrane trafficking.	10	L3	CO2
OR					
Q.6	a.	Explain the mechanism of Vesicular transport from golgi apparatus to mitochondria.	10	L2	CO2
	b.	Elaborate the mechanism of vesicular transport from endoplasmic reticulum to golgi complex.	10	L1	CO3
Module – 4					
Q.7	a.	Mendel as postulated couple of theories to explain inheritance demonstrate the law stated by Mendel taking suitable example.	10	L2	CO1
	b.	Describe all the experimental proof to suggest DNA in a genetic material.	10	L2	CO2
OR					
Q.8	a.	If both the alleles of a character are equally dominant in gene expression and as multiple alleles for its trait-relate the situation taking a case study.	10	L4	CO3
	b.	Stating law explain the complimentary gene interaction with suitable example.	10	L3	CO2
Module – 5					
Q.9	a.	Failure in separation of homologous chromosomes leads to anomalies elaborate	10	L2	CO2
	b.	Recessive genes for colour and clotting factor as an impact on inheritance pattern substantiate.	10	L2	CO2
OR					
Q.10	a.	Elaborate the sex determination in animals taking a suitable example.	10	L2	CO2
	b.	Justify the statement mutation results in novel genetic variation.	10	L2	CO3
