

Name. _____		Printed Pages:01		
Student Admn. No.: _____				
<b>School of Biomedical Science</b> <b>Summer Term Examination – July - August 2024</b> <b>[Programme: B.Sc. Medical Biotechnology ] [Semester: I ) [Batch: 2020-23]</b>				
Course Title: Cell and Molecular Biology		Max Marks: 100		
Course Code: BBBMBT1002		Time: 3 Hrs.		
<b>Instructions:</b>	1. All questions are compulsory. 2. Assume missing data suitably, if any.			
		K Level	COs	Marks
<b>SECTION-A (15 Marks)</b>		<b>5 Marks each</b>		
1.	Describe the splicing mechanism of pre-mRNA.	K1	CO1	5
2.	Describe the structural and functional features of DNA.	K1	CO2	5
3.	What role does the rough ER play in the modification and folding of proteins? Describe the functions of Golgi apparatus.	K1	CO3	5
<b>SECTION-B (40 Marks)</b>		<b>10 Marks each</b>		
4.	Describe the role of helicase, primase, topoisomerase, DNA polymerase I, DNA polymerase III, DNA polymerase II, SSB proteins, RNase H and ligase in DNA replication.	K2	CO2	10
5.	What are the different types of mutation? Elaborate on different DNA repair mechanisms BER, NER, MMR, NHEJ.	K3	CO4	10
6.	Elaborate on the role of GPCR, inositol triphosphate, cAMP in cell signaling.	K3	CO3	10
7.	What are the important functions of mitochondria and lysosomes? Elaborate using diagram.	K3	CO3	10
<b>SECTION-C (45 Marks)</b>		<b>15 Marks each</b>		
8.	Describe the process of initiation, elongation and termination of transcription in prokaryotes. Elaborate the roles of RNA polymerase, Termination proteins like Rho.	K4	CO2	15
9.	Describe the different stages of mitosis and meiosis with the help of a diagram.	K3	CO3	15
10	Elaborate the role of pRb and p53 in cell cycle highlighting their role with respect to cancer.	K4	CO3	15