

U.G. 5th Semester Examination - 2021**MOLECULAR BIOLOGY****[PROGRAMME]****Discipline Specific Elective (DSE)****Course Code : MBG-DSE-T-501****(Cell Biology)**

Full Marks : 40

Time : $2\frac{1}{2}$ Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** : 2×5=10
- Mention the difference between nucleoid and nucleus.
 - What are thermophiles? Give one example.
 - What is capsid? Mention one function of it.
 - What do you mean by plasmolysis and deplasmolysis?
 - What do you mean by receptor and ligand?
 - What is Cis face of Golgi body?
 - What is facilitated diffusion?
 - Write down the features of Diakinesis of meiosis.

[Turn Over]

2. Answer any **two** : 5×2=10
- Why p53 is called the Guardian of the genome?
From which gene it is produced? 4+1
 - What is the difference between Euchromatin and Heterochromatin? What is the role of telomerase? 3+2
 - What are the functions of Chloroplast? What are the roles of chloroplast DNA? 3+2
 - Why plasma membrane is called semi permeable membrane? What happens when a cell is placed in hypertonic solution? 3+2
3. Answer any **two** : 10×2=20
- Write short notes on any **two**: 5+5
 - Structure and functions of Golgi body
 - Nucleosomal organization of chromatin
 - Role of protein kinases in cell cycle
 - State the structural features of nuclear pore complex and its role in ion exchange. What are the functions of nuclear matrix? 6+4
 - Briefly describe the carbohydrate metabolism in eukaryotic cell. Name the complexes that constitute the electron transport chain in mitochondria? 6+4

- d) Describe the types of vesicle transport and their functions. What do you mean by protein sorting?
Mention two functions of cytoskeleton?

5+3+2
