

U.G. 5th Semester Examination - 2020**MOLECULAR BIOLOGY****[PROGRAMME]****Discipline Specific Elective (DSE)****Course Code : MBG-DSE-T-501****(Cell Biology)**

Full Marks : 40

Time : 2½ 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** questions from the following:

2×5=10

- Mention two characteristics features of prokaryotes and eukaryotes.
- What are archaebacteria? Give one example.
- Why is virus known as bridge between living and non-living?
- What is hypertonic solution?
- What are centromere and telomere?
- What is the difference between smooth ER and rough ER?
- State two functions of mitochondria.

h) Write down the features of Diplotene of meiosis.

2. Answer any **two** questions from the following:

5×2=10

- What are the features of S and M phase of cell cycle? Give one example of tumor suppressor gene. 4+1
- What is the difference between Heterochromatin and Euchromatin? What is satellite chromosome? 3+2
- What are the functions of Golgi body? What is Cis and Trans face of Golgi body? 3+2
- What is the significance of crossing over? Why meiosis-I is called reduction division? 3+2

3. Answer any **two** questions from the following :

10×2=20

- Write short notes on any **two**: 5+5
 - Fluid Mosaic model of Plasma membrane
 - Cell cycle check points
 - Functions of Chloroplast
- State the properties of cytoskeleton. What are the compositional features of intermediate filaments? What are the functions of cytoskeleton? 3+3+4

c) What do you mean by constitutive and facultative heterochromatin? What is linker DNA? What is histone octamer? 4+2+4

d) Describe the mechanism of $\text{Na}^+ - \text{K}^+$ ATPase pump in membrane transport. What are uniport and coport channels? What is plasmolysis? 5+3+2
