

U.G. 2nd Semester Examination - 2021**ZOOLOGY****[HONOURS]****Course Code : BZOCCCHC 202****Course Title : Cell Biology**

Full Marks : 30

Time : 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 **ten** questions: 1×10=10
- a) What is prion?
 - b) What is the significance of Gap junction?
 - c) What are desmosome?
 - d) Mention one function of RER.
 - e) What are oxysomes?
 - f) State the function of Nucleolus.
 - g) What is CENP-A?
 - h) What happens if M checkpoint fails?
 - i) What is MTOC?

- j) What is MPF?
- k) State the role of cyclin.
- l) Why cyclin A declines in G₂ phase of cell cycle?
- m) Why G-protein is named so?
- n) Give two examples of BH₃-only protein.
- o) Explain why it is important to regulate cell cycle.

2. Answer any **five** questions: 2×5=10
- a) What do you mean by facilitated transport? Give an example.
 - b) What is the composition of nucleosome core particle?
 - c) What do you mean by tumor suppressor gene? Give example.
 - d) What are the differences between Euchromatin and Heterochromatin?
 - e) What is apoptosome?
 - f) Explain the role of executioner caspase.
 - g) Differentiate apoptosis and necrosis.
 - h) What do you mean by endosymbiotic hypothesis?

3. Answer any **two** questions: $5 \times 2 = 10$
- a) Explain the role of APC/C in cell cycle regulation with schematic diagram. 5
 - b) Explain the role of p21 and retinoblastoma gene in cell cycle regulation. $2\frac{1}{2} + 2\frac{1}{2}$
 - c) Differentiate in a tabular form mitochondrial dependent and independent pathway. 5
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