

2024

2nd Semester Examination

ZOOLOGY (Honours)

Paper : C 4-T

[Cell Biology]

[CBCS]

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any **five** questions. 2×5=10

1. What is lysosomal storage disease?
2. What are the two types of Glycoproteins?
3. How endosymbiotic hypothesis describe the origin of mitochondria?
4. What are the functions of protooncogene?
5. How fluorescence adds an advantage in microscopy?
6. Write the importance of peroxisome.

P.T.O.

(2)

7. What are the functions of intermediate filaments?
8. Write the differences between Apoptosis and Necrosis.

Group - B

Answer any **four** questions. $5 \times 4 = 20$

9. What is lipid raft? Mention their dynamics. How their dynamics and heterogeneity influence cellular functions?
 $1+1+3$
10. How Golgi apparatus involve in protein sorting? Name the neurodegenerative disease associate with Golgi. What are *cis* and *trans* face of Golgi?
 $2+2+1$
11. How mitochondria plays the key factor in cellular respiration?
12. Describe the nuclear pore structure with suitable diagram.
13. How Ras-Raf pathway is regulated? What is the significance of Ras-Raf pathway?
 $3+2$
14. What is the smallest cytoskeletal filament? Write the function of that filaments. How microtubules influence the cell motility?
 $1+2+2$

Group - C

Answer any **one** question. $10 \times 1 = 10$

15. How different Cyclin and CDK influence the different stages of cell cycle? Describe it's schematic diagram.

(3)

What is apoptosis? Write the function of tumor suppressor gene. $6+2+2$

16. How phase contrast microscopes work? What is the principle of TEM? What are the applications of SEM in biology? What is cell line? $3+3+3+1$
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