2024

3rd Semester Examination (CCFUP : NEP)

BOTANY

Paper : MJ 3-T (Single Core Major)

(Cell Biology)

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*** of the following · 2×5=10

1. What do you mean by GERL system?
2. What are G and Q banding?
3. Differentiate endocytosis and exocytosis.
4. What are COP I and COP II vesicles?
5. What is constitutive heterochromatin?
6. What is an occluding junction?
7. Give an example of intracellular receptor.
8. Why does mitochondria treated as semiautonomous organelle?

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Group - B

Answer any ***four*** of the following · 5×4=20

9. Explain active, passive and facilitated transport mechanisms across biological membranes.

10. Compare Anaphase I and Anaphase II of meiosis with respect to chromosomal behaviour. Illustrate with a labelled diagram. 3+2

11 Describe endosymbiotic theory of origin of eukaryotic cells.

12. What is calmodulin? State its function in cell signaling. 1+4

13. What are integrins and cadherins protein? State their role in cell adhesion. What do you mean by gap junction? 2+2+1

14. Give a schematic outline of generalised Ras-Raf MAP kinase cascade pathway.

Group - C

Answer any ***one*** of the following · 10×1=10

15. What is nucleosome model? Describe higher order structure of chromatin. What are polytene and lampbrush chromosomes? 2+5+3

16. Briefly describe the structure of lampbrush chromosome. Describe the structure of the thickest cytoskeleton fibre in the cell. State the function of cytoskeleton. 3+4+3
