# 2024

## 3rd Semester Examination (CCFUP : NEP)

## BOTANY

MIDNAPORE CITY COLLEGE ESTD 2017 CENTRAL LIBRARY

### 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?

P.T.O.

MIDNAPORE CITY COLLEGE ESTD 2017 CENTRAL LIBRARY

## 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

---

MIDNAPORE CITY COLLEGE ESTD 2017 CENTRAL LIBRARY