

APRIL/MAY 2019

**BBC11 — CELL BIOLOGY**

Time : Three hours

Maximum : 75 marks



**SECTION A — (10 × 2 = 20 marks)**

Answer ALL questions.

1. Write down the molecular composition of a eukaryotic cell.
2. When did the first cell come into existence?
3. What is the role of membrane carbohydrates?
4. Which type of transport involves energy? Why?
5. What is smooth endoplasmic reticulum?
6. Mention the subunits of prokaryotic and eukaryotic ribosomes.
7. Name the filament present in the cytoskeleton.
8. What are cilia?
9. What is Go phase?
10. Why is meiotic division mandatory in reproductive cells?

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SECTION B — ( $5 \times 5 = 25$  marks)

Answer ALL the questions.

11. (a) With a diagram, explain the structure of a prokaryotic cell.

Or

- (b) Comment on origin and evolution of cells.

12. (a) Explain the salient features of fluid mosaic model.

Or

- (b) Write short notes on membrane proteins.

13. (a) Give the structure and functions of cis and trans Golgi.

Or

- (b) With a neat diagram, explain the structure of lysosomes.

14. (a) Explain the structure and functions of cytoskeleton.

Or

- (b) Write short notes on filament and their structures.

15. (a) Brief a note on the role and significance of cell — cell communication.

Or

- (b) Draw an illustration of the different phases of cell cycle and explain.

SECTION C — ( $3 \times 10 = 30$  marks)

Answer any THREE questions.

16. Compare and contrast the structure of a prokaryotic cell and an eukaryotic cell.

17. Elaborately discuss on the different types of membrane proteins and their properties.

18. Write the morphology and function of Endoplasmic reticulum.

19. Elaborately discuss about the structure and functions of mitochondria.

20. Discuss in detail on the meiotic cell division.

