

NOVEMBER/DECEMBER 2018

**BBC11 — CELL BIOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. State the postulates of cell theory.
2. What is a nucleolus?
3. When and Who proposed the fluid mosaic model?
4. What is facilitated diffusion?
5. Mention the sites of protein synthesis in the cell.
6. What is autophagy? Where does it occur?
7. Give any two functions of mitochondria.
8. What are microtubules?
9. What occurs during G1 and S phase of cell cycle?
10. Define Mitosis.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Brief the essentiality of water in life.

Or

- (b) Write any five differences between prokaryotic and eukaryotic cells.

12. (a) Write briefly about the membrane carbohydrates and their role.

Or

- (b) Outline the salient features of the fluid mosaic model of membranes.

13. (a) Explain the structure and functions of lysosomes.

Or

- (b) Brief a note on the structure and functions of golgi apparatus.

14. (a) Enumerate the functions of mitochondria.

Or

- (b) Discuss about the chemistry and functions of microtubules.

15. (a) Brief a note on cell recognition.

Or

- (b) Discuss about the structure and types of chromosomes.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Draw and explain the structure of an eukaryotic cell.

17. Elaborate the various methods of cellular transport mechanisms.

18. Discuss in detail about the types and structure of endoplasmic reticulum.

19. Write an essay on the types of cytoskeleton and its functions.

20. Outline the process of meiosis with suitable illustrations.