

**F. Y. B. Sc. (Biotechnology) SEM – II (CBCS - 2015 COURSE) :**

**WINTER - 2018**

**SUBJECT:- CELL BIOLOGY**

**W-2018-1172**

Day: Thursday  
Date: 25/10/2018

Time: 02.00 PM TO 05.00 PM  
Max. Marks: 60

**N.B.:**

- 1) Q1 and Q5 are compulsory.
- 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
- 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
- 4) Answers to Both the sections to be written in SEPARATE answer books.
- 5) Draw a labeled diagram WHEREVER necessary.

**SECTION - 01**

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) Write functions of lysosomes.
- b) What is role of F1 particles in mitochondria.
- c) Mention different cytoskeletal elements with their diameters.
- d) Write significance of  $\text{Ca}^{++}$  ATPase.
- e) Define the terms active and passive transport.
- f) Define mitosis and meiosis.

Q.2) Answer the following: (5 Marks X 2 = 10)

- a) Describe the structure of Fluid Mosaic Model and explain how it differs from previous models.
- b) Explain different types of cell shape and size related to functional state of cell.

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) Explain prokaryotic cell with suitable example.
- b) Describe the structure and functions of intermediate filaments.

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) Explain different types of blood cells with their functions.
- b) Explain structure of microtubules and add note on its functions.

**SECTION - 02**

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) Write role of ion channels in membrane transport.
- b) What is active transport?
- c) Mention types of signaling molecules.
- d) Sketch and label metaphase of mitosis.
- e) Define apoptosis and necrosis.
- f) Write significance of ionophores.

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) Explain, microtubules as a target in anticancer treatment.
- b) Define gametogenesis. Explain process of oogenesis.

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Write short note on ultrastructure of chloroplast.
- b) Explain different types of check points and their role in regulation of cell cycle.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) Explain the mechanism of signal transduction.
- b) Describe in brief prophase I of meiosis.

\*\*\*\*\*