

**F. Y. B. SC. (BIOTECHNOLOGY) SEM – II (CBCS - 2015
COURSE) : SUMMER - 2018**

Subject: Cell Biology

Day: **Wednesday**

Time **02.00 PM TO 05.00 PM**

Date: **11/04/2018**

S-2018-1048

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) What is meant by voltage gated channel?
- b) Explain, why mitochondria is said to be power house of cell?
- c) Write names of protein found in microfilament and microtubule.
- d) What is osmosis?
- e) Give any three types of proteins found in intermediate filament.
- f) Enlist the plastids with their functions.

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

- a) Describe the structure and functions of chloroplast.
- b) Differentiate between prokaryotic cell and eukaryotic cells.

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

- a) Explain functions of lungs as membranous bags.
- b) What are leak channels? How it is differs from voltage gated and ligand gated channels.

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

- a) Explain basic structure of bacterial cell.
- b) Explain in brief Structure, function and significance of Na^+ / K^+ ATPase and Ca^{++} ATPase.

SECTION - 02

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

- a) What is phosphotransferase system?
- b) Define active and passive transport.
- c) Define the terms endocytosis and exocytosis.
- d) What happens in G1 phase of cell cycle?
- e) What are intracellular receptors?
- f) Explain in brief S phase of cell cycle.

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

- a) Describe the structure of mitochondria and give its functions.
- b) Differentiate between spermatogenesis and oogenesis.

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

- a) What determines the direction that ions move through an ion channel?
- b) What is cell division? Differentiate between mitosis and meiosis.

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

- a) With the help of neat labeled diagrams describe various stages of mitosis.
- b) Describe in brief about extracellular matrix with its significance.
