

**F. Y. B. SC. (BIOTECHNOLOGY) SEM – II (CBCS - 2015  
COURSE) : WINTER - 2017  
SUBJECT : CELL BIOLOGY**

Day : Monday  
Date : 30/10/2017

Time : 10.00 AM TO 01.00 PM  
Max. Marks : 60

**W-2017-0937**

**N.B.:**

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Draw neat and labeled diagrams **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.

**SECTION – I**

- Q.1** Attempt **ANY FIVE** of the following: [10]
- a) Enlist different types of plastids with their functions.
  - b) Give functions of Lysosomes.
  - c) Sketch and label late anaphase of Mitosis.
  - d) What is cell theory?
  - e) What is tight junction?
  - f) Differentiate between desmosomes and hemidesmosomes.
- Q.2** Attempt the following questions: [10]
- a) Differentiate between plant cell and animal cell.
  - b) Describe structure and functions of Nucleus.
- Q.3** Attempt the following questions: [10]
- a) Describe the structure and functions of Mitochondria.
  - b) With well labeled diagram describe typical structure plant cell.
- Q.4** Write short notes on **ANY TWO** of the following: [10]
- a) Structure and functions of lysosomes
  - b) Oogenesis process with its significance
  - c) Structure and functions of endoplasmic reticulum

**SECTION – II**

- Q.5** Attempt **ANY TWO** of the following: [10]
- a) What is passive transport? Explain how it differs from active transport.
  - b) Explain component of plasma membrane and mention role of membrane proteins for transport of materials.
  - c) Explain cell interaction in reference to gap junction, tight junction and plasmodesmata.
- Q.6** Attempt the following questions: [10]
- a) What is Mitosis? Explain stages of Mitosis in brief.
  - b) Describe in brief interphase of cell cycle.
- Q.7** Attempt the following questions: [10]
- a) Explain the process of apoptosis and mention how it differ from necrosis.
  - b) Describe mechanism of signal transduction.
- Q.8** What is ion channels? Explain in brief about leak channels, gated channels, [10]  
voltage gated channels and ligand gated channels.

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