

M.Sc. (Botany) (NEP Pattern) Semester-I
NEP-04-1 / 01MSCB4.1 Major Elective-I Paper-IV
Molecular Biology and Plant Biotechnology-I

P. Pages : 1

Time : Three Hours



GUG/S/25/15064

Max. Marks : 80

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- Notes : 1. All questions are compulsory & carry equal marks.
2. Draw neat labelled diagrams wherever necessary.

1. Describe in detail membrane architecture and functions of protein pumpus, channels and aquaporins on cell membrane. **16**

OR

Write note on:

- a) Structure & function of plasmodesmata. **8**
b) Structure of cell wall. **8**

2. Define cell division & Describe types and mechanism of cell division in general. **16**

OR

Write note on:

- a) Ultrastructure and functions of Endoplasmic Reticulum. **8**
b) Ultra-structure and functions of chloroplast. **8**

3. Describe in detail mechanism f DNA replication in prokaryotes. **16**

OR

Write note on:

- a) Forms of DNA. **8**
b) Ultrastructure of nucleus. **8**

4. Explain in detail principles and applications of Electrophoresis techniques used in molecular biology studies. **16**

OR

Write note on:

- a) Principle and applications of Electro Microscopy. **8**
b) Principle and applications of spectroscopy. **8**

5. Write short notes on:
- a) Receptors on cell membrane. **4**
b) Microtubule. **4**
c) Functions of Nuclear pores. **4**
d) ELISA. **4**
