

(Total No. of Questions -8)

(Total No. of Pages- 1)

B.Sc. V Semester Examination (CBCS)

BOTANY

Course No. : UBOTE-501

Time Allowed: 3 hours

Maximum Marks – 80

**Note:** All the questions carry equal marks. Candidates are required to answer any four questions.

1. Illustrate the structure of plasma membrane as suggested by fluid mosaic model and discuss its functions.
2. Describe the ultra structure of nuclear membrane with specific emphasis on nuclear pore complex (NPC).
3. Write illustrated notes on the following terms
  - (a) Pachytene I and Zygotene I
  - (b) synaptonemal complex
  - (c) repetitive DNA
4. Discuss the structure and importance of telomere.
5. Define transcription and describe the regulation of gene expression in prokaryotes by *lac* operon model.
6. Write short notes on the following terms
  - (a) duplications
  - (b) aneuploidy
  - (c) euploidy
7. Write illustrated notes on the following terms
  - (a) Ac-Ds elements
  - (b) IS and Tn elements
8. Define translocation and illustrate the consequences of translocation on meiotic segregation of chromosomes.