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May 2026

B.Sc. (LS) VIth SEMESTER

Plant Biotechnology and Microbiology (BLS 601)

Time : 3 Hours] [Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part -B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART -A

1. Define the following :
   (a) Totipotency. (1.5)
   (b) Cryopreservation. (1.5)
   (c) Pure culture. (1.5)
   (d) Disinfection. (1.5)
   (e) Enriched medium. (1.5)
   (f) Viroids. (1.5)
   (g) Transposons. (1.5)

(h) Heterosis. (1.5)

(i) Polyploidy. (1.5)

(j) Culture medium. (1.5)

PART -B

2. (a) What are mutations, with the help of examples explain physical and chemical mutagens. (10)

(b) Write a short note on shapes and flagellar arrangement of bacteria. (5)

3. (a) Discuss the normal flora of healthy human host. (5)

(b) What is sterilization? Explain various methods of sterilization studied by you. (10)

4. Describe the methods of protoplast isolation, culture techniques, and its applications in plant biotechnology. (15)

5. (a) Discuss the applications and limitations of auto and allopolyploidy in plant breeding. (5)

(b) With the help of well labelled diagram distinguish between lytic and lysogeny cycle. (10)

6. (a) In detail explain how can you culture viruses in laboratory. (10)

(b) Write a short note on somaclonal variations. (5)

7. What are the various techniques used for isolation of pure culture microbes in laboratory. (15)
