

M.Sc. BOTANY
First Semester (Repeat)
LOWER PLANT DIVERSITY-I
(MSB - 101)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. Describe the life cycle of *Puccinia* with suitable diagram. (10)
2. What are the different processes of genetic recombination in bacteria? Write briefly the different mechanisms of genetic recombination in bacteria. (2+8=10)
3. Describe the role of pigments in the classification of Algae. (10)
4. Write a note on transmission of plant viruses. (10)
5. What is the ecological significance of Lichens? Discuss in details the uses of Lichens. (2+8=10)
6. Write the post fertilization changes in *Polysiphonia* with suitable diagrams. (7+3=10)
7. Define virus. Discuss the life cycle of λ - bacteriophage. (2+8=10)
8. Describe with suitable diagram the ultrastructure of a bacterial cell. (10)

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×20=20

- The virus first crystallized was:
a. Pox virus b. TMV
c. CaMV d. None
- Which is a vegetative structure associated with Lichen thallus?
a. Isidia b. Soredia
c. Conidia d. both A and B
- Teichoic acid present in the cell wall of gram positive bacteria makes a covalent bond with:
a. N-acetyl mumaric acid b. N-acetyl glucosamine
c. Cell membrane lipids d. both a and c
- Affinities of λ repressor:
a. OR2>OR3>OR1 b. OR1>OR2>OR3
c. OR1>OR3>OR2 d. OR2>OR1>OR3
- Heteromorphic type of alternation of generation is found in:
a. *Dictyota* b. *Laminaria*
c. *Bactrachosperma* d. *Fucus*
- The algae part of the lichens is known as:
a. Phycobiont b. Mycobiont
c. Both d. None
- Usnea hanging from substratum is a:
a. Crustose lichens b. Foliose lichens
c. Fructiose lichens d. None of these
- Cro protein promotes:
a. Lytic cycle b. Lysogenic cycle
c. Excision d. Repair
- Chantransia stage is found in:
a. Chlorophyceae b. Xanthophyceae
c. Phaeophyceae d. Rhodophyceae

- One of the following bacteria is a good vector in genetic engineering:
a. *Bacillus thuriengenesis* b. *Agrobacterium tumefaciens*
c. *Escherichia coli* d. *Bacillus amyloglolfaciens*
- Some fungal tissues become very hard. Fruiting bodies are formed on such tissues. These tissues are called:
a. Porophore b. Stromata
c. Sclerotium d. Rhizomorphs
- Lichens are mainly classified on the basis of:
a. Fungal partner b. Algal partner
c. Both d. Chemical composition of cell wall
- The most important vitamin for the growth of bacteria is:
a. B-complex b. Vitamin A
c. Vitamin-D d. Vitamin C
- Name the algae which produce synzoospores.
a. *Chara* b. *Ulothrix*
c. *Vaucheria* d. *Volvox*
- High frequency recombination cells arise where:
a. they have multiple F plasmid.
b. F plasmid have been incorporated into bacterial cell.
c. conjugation and transformation happen at the same time.
d. bacterial chromosome do not break during conjugation.
- The algae which inhibits below the soil are called:
a. Saprophytes b. Cryptophytes
c. Cryophytes d. Edaphophytes
- The water bloom is formed by the algae:
a. *Chara* b. *Microcystis*
c. *Oscillatoria* d. *Nostoc*
- Chemical nature of prions is:
a. Protein b. Carbohydrate
c. Lipid d. Nucleic acid
- Cell containing many nuclei are called:
a. Coenocyte b. Hyphae
c. Mycelium d. Sporophore
- Chemolithotrophs are those bacteria which can utilize:
a. inorganic material as the energy source.
b. light as energy source.
c. organic compound as the electron source.
d. Crude oil as the carbon source.
