

M.Sc. BOTANY
FIRST SEMESTER
LOWER CRYPTOGAMS
MSB-101

(Use separate answer scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

[PART-A : Objective]

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

1. Synzoospores are asexual reproductive bodies of:
a. Chara
b. Volvox
c. Vaucheria
d. Ectocarpus
2. Amylase stars are found in:
a. Chara
b. Ectocarpus
c. Fucus
d. Vaucheria
3. Auxospores have the chromosome number:
a. x
b. 2x
c. 3x
d. 4x
4. The red snowball found in the Alpine regions:
a. Chlorella
b. Haematococcus
c. Oscillatoria
d. Nostoc
5. Chntrasia stage is found in:
a. Batrachospermum
b. Polysiphonia
c. Vaucheria
d. Cladophora
6. In which of the following, lipopolysaccharides is a major constituent of outer membrane of the cell wall?
a. Gram +ve bacteria
b. Gram -ve bacteria
c. Fungi
d. Mycoplasma
7. The hook and filaments of flagella are composed of:
a. Keratin
b. Flagellin
c. Gelatin
d. Casein
8. Single or clusters of flagella at both poles is known as:
a. Monotrichous
b. Peritrichous
c. Amphitrichous
d. None of these
9. Membrane infolding in bacteria that initiate DNA replication is:
a. Mesosomes
b. Carboxysomes
c. Magnetosomes
d. Nucleosomes
10. The ability of bacteria to change their morphological form frequently is termed as:
a. Lysogeny
b. Pleomorphism
c. Alteromorphism
d. None of these

11. Edward Jenner developed first vaccine from:
 - a. Cowpox
 - b. Chicken cholera
 - c. Anthrax
 - d. Rabies
12. Who stated "contagium vivum fluidum"?
 - a. Beijerinck
 - b. Ivanowski
 - c. Stanley
 - d. D'Herelle
13. The fungal genetics was studied first in:
 - a. *Fusarium oxysporum*
 - b. *Penicillium italicum*
 - c. *Trichoderma herzianum*
 - d. *Neurospora crassa*
14. Heterothallism of fungi was discovered by whom?
 - a. A. F. Blackeslee
 - b. Dodge and Shear
 - c. Florey
 - d. Persoon
15. Who was the founder of mycology and plant pathology in India?
 - a. B. B. Mundkar
 - b. Cunningham
 - c. Edward J. Buttler
 - d. Mahadevan
16. Who worked on the haplobiontic, diplobiontic and haplodiplobiontic life cycle of yeast?
 - a. Guilliermond
 - b. Buller
 - c. Bakshi
 - d. L. Hansker
17. The asexual spore of *Mucor* is known as:
 - a. Zoospore
 - b. Aplanospore
 - c. Arthrospore
 - d. Conidia
18. *motA* is a:
 - a. Packaging protein
 - b. Late protein
 - c. DNA synthetic protein
 - d. Early protein
19. Prions are:
 - a. Proteins
 - b. Carbohydrates
 - c. Nucleoproteins
 - d. Nucleic acids
20. Lytic cycle is maintained by gene:
 - a. Cro
 - b. cI
 - c. N
 - d. cII

== ** ==

(PART-B : Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. What are the main criteria for the classification of Algae? Discuss the role of pigments in the classification of Algae. 2+8=10
2. Describe the post fertilisation changes of *Batrachospermum* and *Polysiphonia* with diagrams. 5+5=10
3. Define growth. Describe the different phases of growth of a batch culture. 2+8=10
4. Write on: 5+5=10
 - a) Transformation
 - b) Transduction
5. Write an illustrated account on the isogamous, anisogamous and oogamous type of sexual reproduction in fungi with proper diagram. 10
6. Give a vivid description of different types of asexually reproducing spores of fungi with proper diagrams. 10
7. Write an account on the different types of fructification of ascomycota. 10
8. Discuss the life cycle of T₄ bacteriophage. 10

== *** ==