

B. Sc. DEGREE EXAMINATION, NOVEMBER 2022  
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY  
FIRST SEMESTER

COURSE : MAJOR – CORE  
PAPER : ALGAE, FUNGI AND LICHENS  
TIME : 3 HOURS

MAX.MARKS:100

SECTION – A

ANSWER ALL QUESTIONS

(18 x 1=18 marks )

I. CHOOSE THE CORRECT ANSWER:

(5x1=5)

- \_\_\_\_\_ are the sites of nitrogen fixation.  
a) hormogones      b) heterocysts      c) akinetes      d) chromoplasm
- Name the structure in *Sargassum* thallus that helps in floating by increasing its buoyancy\_\_\_\_\_.  
a) holdfast      b) air bladders      c) assimilators      d)receptacles
- Identify in which of the following forms, the entire thallus becomes holocarpic at the time of reproduction \_\_\_\_\_.  
a) *Albugo*      b) *Synchytrium*      c) *Agaricus*      d)*Puccinia*
- Select the primary host of *Puccinia* \_\_\_\_\_.  
a) barley plant      b) wheat plant      c) barberry plant      d) rye plant
- \_\_\_\_\_ are responsible for the conversion of rocks into the soil and enriching the soil required for the plants growth.  
a) lichens      b) algae      c) fungi      d) none of the above

II. FILL IN THE BLANKS:

(5x1=5)

- In *Volvox*, the thallus is made up of hollow sphere called as \_\_\_\_\_.
- At maturity the female gametophytes in *Gracilaria* are easily identified by the presence of \_\_\_\_\_.
- \_\_\_\_\_ is popularly called as white rust fungus.
- \_\_\_\_\_ is commonly called as cup fungus.
- The type of lichens that are pedant, hair like, shrubby and cup like are known as \_\_\_\_\_.

III. TRUE OR FALSE:

(3x1=3)

- The reserve food material in *Sargassum* is fucosan.
- The uredospores are stalked, multicellular, oval and binucleate structures.
- In *Chara*, the main axis is made up of dimorphic branches.

**IV. MATCH THE FOLLOWING:****(5x1=5)**

- |                     |   |                      |
|---------------------|---|----------------------|
| 14. <i>Caulerpa</i> | - | zoospores            |
| 15. <i>Navicula</i> | - | saprophytic fungus   |
| 16. Oomycete        | - | fungus filaments     |
| 17. <i>Agaricus</i> | - | siphonaceous thallus |
| 18. Rhizines        | - | siliceous cell wall  |

**V. ANSWER ANY SIX QUESTIONS:****Each answer should not exceed 50 words.****(6x3=18)**

19. Write about the structure of filaments of *Oscillatoria*.
20. List any three economic importance of algae.
21. What is meant by dikaryotic mycelium?
22. Determine the vegetative structure of *Cercospora*?
23. Mention the role of phycobiont and mycobiont partners in lichens.
24. Enumerate any three characteristic features of the class Myxophyceae.
25. Describe the external features of basidiocarp.
26. Write the structure and function of heterocyst.
27. What are obligate parasites? Give an example.

**SECTION B**

**ANSWER ANY FOUR QUESTIONS. EACH ANSWER SHOULD NOT EXCEED 200 WORDS. DRAW DIAGRAMS WHEREVER NECESSARY. (4x6=24)**

28. Describe the structure and reproduction of *Nostoc*.
29. Explain the morphological features of thallus in *Sargassum*.
30. Illustrate the process of asexual method of reproduction in *Albugo*.
31. Determine the structure of uredospores and teleutospores produced on the primary host of *Puccinia*.
32. Describe the structure and reproduction of foliose lichen.
33. Define apothecium. Explain the structure of apothecium.

**SECTION C**

**ANSWER ANY TWO QUESTIONS. EACH ANSWER SHOULD NOT EXCEED 1000 WORDS. DRAW DIAGRAMS WHEREVER NECESSARY. (2x20=40)**

34. Outline the classification of algae proposed by F.E.Fritsch (1935). Add a note on the characteristics of algal classes.
35. Illustrate the process of reproduction and life cycle pattern in *Sargassum*.
36. Discuss the general characteristics of major fungal classes and economic importance of Fungi.
37. List out the general characteristics and economic importance of lichens.

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