

B.Sc. Semester - 3 (CBCS) Examination
Oct/Nov - 2023 [NEW COURSE]
Botany-B301(Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Q-1 **A) Answer very shortly** (04)
- 1) Give an examples of nonmotile unicellular algae.
 - 2) What is eye spot? Give its importance.
 - 3) Give an examples of unbranched filamentous algae.
 - 4) State the function of “Pyrenoid”
- B) Answer shortly (Any one)** (03)
- 1) What is **Heterocyst**? Describe its structure and function.
 - 2) Describe the vegetative structure of *Batrachospermum*
- C) Answer in detail (any one)** (07)
- 1) Describe the sexual reproduction of *Batrachospermum*
 - 2) Justify the statement “Algae causing biological disturbances”
- Q-2 **A) Answer very shortly** (04)
- 1) What do you mean by heterothallic fungi?
 - 2) State any two industrial application of Yeast.
 - 3) Ergosterol is the major sterol found in the membranes of fungi, in contrast to the cholesterol found in the membranes of animals and phytosterols in plants. True or False?
 - 4) The cell walls of filamentous fungi are mainly composed of _____ compounds?
- B) Answer shortly (Any one)** (03)
- 1) Describe the vegetative structure of Yeast
 - 2) Describe the asexual reproduction in *Aspergillus*
- C) Answer in detail (Any one)** (07)
- 1) Describe the Heplobiontic and diplobiontic life cycle in Yeast.
 - 2) Discuss the industrial application of *Aspergillus*
- Q-3 **A) Answer very shortly** (04)
- 1) Which type of conductive tissues are present in Bryophytes
 - 2) How will you distinguish the male and female thallus of *Marchantia*?
 - 3) How many peristome are present in *Funaria*?
 - 4) In bryophytes the male and female gametes are produced through reduction division, true or false?

- B) Answer shortly (Any one)** (03)
- 1) Describe the Axis (stem) Anatomy of *Funaria*
 - 2) Describe the mature structure of *Funaria* **Archegonium**
- C) Answer in detail (Any one)** (07)
- 1) Describe the mature structure of *Funaria* Sporophyte
 - 2) Describe the mature structure of *Marchantia* Sporophyte
- Q-4 **A) Answer very shortly** (04)
- 1) Who gave the concept of stele.
 - 2) Among the entire stele, which is the most primitive type of stele?
 - 3) Define telome theory
 - 4) Define Atactostele
- B) Answer shortly (Any One)** (03)
- 1) Explain the stem anatomy of *Sellaginella*
 - 2) Describe mature Strobili of *Sellaginella*
- C) Answer in detail (Any one)** (07)
- 1) Describe T. S. of Sori in *Adiantum*
 - 2) Describe the gametophytic stage of *Sellaginella*
- Q-5 **A) Answer very shortly** (04)
- 1) What is Scale leaves and Foliage leaves?
 - 2) Give any two plants botanical name belongs to Combretaceae family.
 - 3) Give the venacular name of *Barleria prionitis*
 - 4) Give the families names belongs to Bicarpellatae series
- B) Answer shortly (Any one)** (03)
- 1) Describe the xerophytic characters of Pinus Needle
 - 2) Describe the floral characteristics of Apiaceae family
- C) Answer in detail (Any one)** (07)
- 1) Describe the mature structure of Pinus male cone
 - 2) Describe the Euphorbiaceae family with examples, floral formula and floral diagram.
