

B.Sc. Semester - 3 (CBCS) Examination
Nov/Dec. -2021 [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 in short: (04)
- (1) State the names of phase commonly found in *Batrachospermum* life cycle.
 - (2) What is difference between Heterocyst and Akinates in *Nostoc*.
 - (3) Single filament of *Nostoc* without mucilage sheath is known as
 - (4) Give the name of motile unicellular Algae.
- Q - 1 (B) Answer any one in brief: (03)
- (1) Discuss cell structure of *Nostoc*
 - (2) Give the classification of *Batrachospermum*
- Q - 1 (C) Answer any one in detail: (07)
- (1) Justify the statement "Algae causing biological disturbance"
 - (2) Describe sexual reproduction in *Batrachospermum*
- Q - 2 (A) Answer in short: (04)
- (1) Which typical enzymes are secreted by yeast?
 - (2) Give the name of organelle found between plasma membrane and cell wall.
 - (3) In haplobiontic life cycle of Yeast after sexual reproduction how many spores are produced?
 - (4) Define "Trichogyne" with reference to *Aspergillus* fungi.
- Q - 2 (B) Answer any one in brief: (03)
- (1) Discuss "Budding" in Yeast
 - (2) Describe haplo-diplobiontic type of sexual reproduction in Yeast.
- Q - 2 (C) Answer any one in detail: (07)
- (1) Describe sexual reproduction in *Aspergillus*
 - (2) Discuss industrial application of *Saccharomyces* and *Aspergillus*.
- Q - 3 (A) Answer in short: (04)
- (1) State the difference between Primary and secondary protonema.
 - (2) State the differences between Funarial Rhizoids and Marchantial Rhizoids.
 - (3) What is Archegonium?
 - (4) If the chromosome number in the leaf of *Funaria* is 20, what will be the chromosome number in the spores?
- Q - 3 (B) Answer any one in brief: (03)
- (1) Describe mature antheridial structure of *Funaria* with diagram.
 - (2) Describe mature archegonial structure of *Marchantia* with diagram.
- Q - 3 (C) Answer any one in detail: (07)
- (1) Describe sporophytic structure of *Funaria*.
 - (2) Describe sporophytic structure of *Marchantia*
- Q - 4 (A) Answer in short: (04)
- (1) Which types of steles can be observed in rhizomes and rachis of *Adiantum*
 - (2) Siphonosteles are present in which plant?
 - (3) Hypodermal layer of *Adiantum* rhizome is made up of which tissues?
 - (4) The leaves bearing sporangia is known as

- Q - 4 (B) Answer any one in brief: (03)
- (1) Discuss anatomical structure of *Adiantum* petiol.
 - (2) Discuss Telome theory.
- Q - 4 (C) Answer any one in detail: (07)
- (1) Describe sexual reproduction in *Sellaginella*
 - (2) Discuss heterospory condition is primitive steps for development of seed.
- Q - 5 (A) Answer in short: (04)
- (1) *Tectona grandis* belongs to family
 - (2) Write down the floral formula of Amaryllidaceae family with two examples.
 - (3) Give any two Botanical name of Euphorbiaceae family
 - (4) Give the scientific name of Harada, Baheda plants.
- Q - 5 (B) Answer any one in brief: (03)
- (1) Give the classification, floral formula and floral diagram of Acanthaceae family.
 - (2) Describe *Pinus* female cone.
- Q - 5 (C) Answer any one in detail: (07)
- (1) Describe *Pinus* mature Ovule
 - (2) Describe the Commelinaceae family
