



General Instructions :

- (i) The question paper has five sections and 10 questions. All questions are compulsory.
- (ii) Section - A has 6 questions of 1 mark each; Section – B has one question of 2 marks; Section – C has one question of 3 marks; Section – D has one case-based question of 4 marks; and Section E has one question of 5 marks.
- (iii) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- (iv) Wherever necessary, neat and properly labeled diagrams should be drawn.

SECTION- A

1. Which of the following statements about Binomial nomenclature is not true? 1
 - (a) Generic name always begins with a capital letter whereas a specific name with a small letter.
 - (b) Scientific names should always be printed in Latin language.
 - (c) Scientific names are based on universally accepted principles.
 - (d) Name of the author appears after the specific epithet.
2. ICBN stands for 1
 - (a) International Code for Botanical Nomenclature
 - (b) International Council for Botanical Nomenclature
 - (c) Indian Council for Biological Nomenclature
 - (d) Indian Code for Biological Nomenclature
3. In plants, mosaic formation, leaf rolling and curling, vein clearing, etc. are the symptoms of 1
 - (a) Bacterial diseases (b) Mycoplasmal diseases (c) Viral diseases (d) Fungi diseases
4. Which of the following species of algae is used as a food supplement for the space travellers? 1
 - (a) *Laminaria* (b) *Gracilaria* (c) *Chlorella* (d) *Gelidium*

Question 5 and 6 consist of two statements- Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- A. Both A and R are true and R is the correct explanation of A.
- B. Both A and R are true but R is not the correct explanation of A.
- C. A is true but R is false.
- D. A is false but R is true

- 5- **Assertion:** Natural systems of classifications are widely accepted. 1
Reason: Natural classifications are based on external morphology only.
- 6- **Assertion:** Archaeobacteria can survive in extreme conditions. 1
Reason: Archaeobacteria have different cell wall structure as compared to other bacteria.

SECTION – B

- 7- Study the table given below and complete the blanks A to D: 2

Red Algae	Green Algae	Brown Algae
Rhodophyceae	Chlorophyceae	A
B	Starch	Mannitol, Laminarin
C	D	2 unequal flagella

SECTION – C

- 8 - a) The Figure given below depicts an edible fungus. Mention the class it belongs to and name the fruiting body formed in this organism. 3
b) Name two diseases of plants caused by fungi that belong to the same class.
c) Comment on the mycelium of this class.



SECTION - D

- 9- Read the following and answer the questions that follow: 4

In pteridophytes, the sporophyte produces spores through meiosis. The spores are produced by the sporangia in the spore mother cells. These spores germinate to give rise to gametophytes. The gametophytes bear male and female sex organs. Water is required for the transfer of antherozoids, the male gametes are released from the male sex organ to the mouth of the female sex organ. Fusion of the male gamete with the egg result in the formation of a zygote. The zygote thereafter produces a multicellular well-differentiated sporophyte. In the majority of the pteridophytes, all the spores are of the same similar kinds. However, some genera produce two kinds of spores.



- a) Name the male and female sex organs of pteridophytes.
b) Mention the pteridophytes which are heterosporous in nature.
c) What do megaspore and microspore germinate into?

OR

- c) Which event in pteridophytes is considered as a precursor to the seed habit?

SECTION – E

- 10- a) Give a suitable term for the virus that infects bacteria. Draw a neat diagram of the same and label any two parts. 5
b) Explain the terms phycobiont and mycobionts with reference to lichens.

OR

- a) Name the specialized cells meant for nitrogen fixation in cyanobacteria. Draw a neat diagram of a cyanobacteria that forms bloom in water bodies and label any two parts.
b) Mention any four criteria followed by R. H. Whittaker for classifying organisms into five kingdoms.
