[This question paper contains 4 printed pages.]

Your Roll No.....

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Sr. No. of Question Paper : 1767

Unique Paper Code : 2162521101

Name of the Paper : Plant Diversity and Systematics

Name of the Course : **B.Sc. Life Sciences**

Semester : I

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **Four** questions in all, **first** question is compulsory.
3. **All** questions carry equal marks.
4. Attempt **all** parts of the questions together.
5. Draw well labelled diagrams wherever required.

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(a) Match the following **(any five)** : (1×5=5)

(i) Phaeophyceae	(a) Verticillaster
(ii) *Marchantia*	(b) Winged Pollen
(iii) Lamiaceae	(c) Laminarin starch
(iv) *Pinus*	(d) Spiral chloroplast
(v) *Spirogyra*	(e) Gemma Cup
(vi) TMV	(f) *Chlamydomonas nivalis*
(vii) Red Snow	(g) ssRNA

(b) Fill in the blanks **(Attempt any five)** : (1×5=5)

(i) _____ established the binomial system.

(ii) Number of teeth in the outer peristomial ring of *Funaria* is _____.

(iii) Spores bearing leaves of Pteridophytes are called _____.

(iv) According to ICN the name of the family should end with the suffix _____.

(v) _____ is an edible mushroom.

(vi) Ligulate and appendiculate scales are found in _____.

(c) Define the following **(Attempt any five)** : $(1 \times 5 = 5)$

(i) Heterocyst

(ii) Topotype

(iii) False indusium

(iv) *Nomen conservandum*

(v) Basidiocarp

(vi) Catkin

2. Draw well-labelled diagrams of **any three** : $(3 \times 5 = 15)$

(i) L.S. sporophyte of *Marchantia*

(ii) Coenobium of *Volvox* with daughter Coenobia

(iii) V.S. Sporophyll of *Pteris*

(iv) L.S. antheridial branch of *Funaria*

(v) Conidiophore of *Penicillium*

3. Differentiate between **any three** of the following : $(3 \times 5 = 15)$

(i) Lytic and Lysogenic cycle

(ii) Long shoot and Dwarf shoot of *Pinus*

iii) Natural and Phylogenetic system of classification

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(iv) Gymnosperms and Pteridophytes

(v) Homonym and Synonym

4. Write short notes on **(any three)** : (3×5=15)

(i) Mycoplasma

(ii) Chief characteristic features of Algae

(iii) Gram-positive and Gram-negative Bacteria

(iv) Asexual Reproduction in *Rhizopus*

(v) Adaptations in bryophytes which made them survive on land

(vi) Morphological types of lichens

5. (a) Discuss briefly the various food reserves and photosynthetic pigments in algae of major 4 classes studied by you. (8)

(b) Explain Bentham & Hooker's system of classification. Write its merits & demerits. (7)

6. (a) Write a short note on different modes of genetic recombination in bacteria explaining one of them in detail. (7)

(b) Discuss the principles of ICN. Explain principle of priority with its limitations. (8)

(1000)