[This question paper contains 4 printed pages]

Your Roll No. : .....

Sl. No. of Q. Paper : **195** **I**

Unique Paper Code : 42161101

Name of the Course : **B.Sc.(Prog.)**

Name of the Paper : Biodiversity (Microbes, Algae, Fungi and Archegoniatae

Semester : I

Time : 3 Hours ***Maximum Marks : 75***

Instructions for Candidates :

(a) Write your Roll No. on the top immediately on receipt of this question paper.

(b) All parts of a question must be answered together.

(c) Attempt a total of **five** questions, including Question No. **1** which is compulsory.

(d) Draw well labelled diagram wherever necessary.

1. (a) Define the following (any **five**) : $5 \times 1 = 5$

(i) Coenobium

(ii) Zygospore

P.T.O.

(iii) Sporophyll
(iv) Endospore
(v) Sulphur shower
(vi) Heterophylly
(vii) Cleistothecium

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

(i) Viruses infecting fungi are called..... .....

(ii) Main biochemical constituent of bacterial cell wall is..... .....

(iii) Early blight of Potato is caused by .....

(iv) Bryophytes are non vascular plants i.e. they lack ..... and .....

(v) ..... is a heterosporous pteridophyte.

(vi) Sago is obtained from .....

(vii) Young leaves of *Cycas* show .....vernation.

(c) Match the following : 5 × 1 = 5

(i)	Winged pollen grain	(i)	*Chlamydomonas*
(ii)	Horse tail	(ii)	*Pinus*
(iii)	Cup shaped chloroplast	(iii)	Virus
(iv)	Columella	(iv)	*Equisetum* spp.
(v)	Capsomere	(v)	*Rhizopus*

2. Differentiate the following (any **three**) : 3 × 5 =15

(i) Perithecium and Apothecium
(ii) Conceptacle and Receptacle
(iii) Lytic and Lysogenic cycle
(iv) Manoxylic and Pycnoxylic wood
(v) Sporophyte of *Marchantia* and *Funaria*

3. Draw well labelled diagrams of the following (any **three**) : 3 × 5 =15

(i) Structure of T_2 phage
(ii) Carposporophyte of *Polysiphonia*
(iii) V.S. thallus of *Marchantia*
(iv) V.S. of gill of *Agaricus*
(v) T.S. of Coralloid root of *Cycas*

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

(i) With the help of suitable diagram briefly explain Stelar evolution in Pteridophytes.
(ii) Write different adaptations seen in Bryophytes for terrestrial habitat.

(iii) With the help of suitable diagram explain structure of a bacterial cell.

(iv) Discuss different modes of nutrition in Fungi.

(v) Explain sexual reproduction in *Fucus* with the help of suitable diagram.

5. Attempt any **three** of the following : $3 \times 5 = 15$

(i) Illustrate the life cycle of nannandrous species of *Oedogonium*.

(ii) Discuss hydrophytic and xerophytic characters of *Equisetum*.

(iii) Discuss stages of life cycle of *Puccinia* on Primary host plant along with the pathological symptoms seen on the host.

(iv) Discuss alternation of generation in Bryophytes with the help of a suitable example.

(v) Discuss generalized transduction in Bacteria.

6. Attempt the following (any **three**) : $3 \times 5 = 15$

(i) Importance of Bacteria in Industry.

(ii) Discuss ecological and economic importance of *Sphagnum*.

(iii) Economic use of Fungi.

(iv) Discuss the role of algae in Industry.

(v) Discuss general characteristics of Ascomycetes.