Lib – 21/12/19 (M)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 8571 **J**

Unique Paper Code : 42161101

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

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

Semester : I

Duration : 3 Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all.
3. Question No. **1** is compulsory.
4. All parts of a question must be answered together.
5. Draw well-labelled diagrams wherever necessary.

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

   (i) Plasmids that can integrate into bacterial DNA are called _____ .

   (ii) _____ is the principal pigment of Phaeophyceae that imparts distinctive brown colour to the thallus.

P.T.O.

(iii) Aeciospore of *Puccinia* are found on the ventral surface of _____ leaf.

(iv) *Equisetum* is commonly known as _____ .

(v) Meristematic region is present in the _____ of *Anthoceros*.

(vi) Seed-scale complex is found in _____ .

(b) Define the following **(any five)** : (5×1=5)

(i) Prion

(ii) Eye spot

(iii) Columella

(iv) Primary protonema

(v) False indusium

(vi) Transfusion tissue

(c) Give **one** example for each of the following : (5×1=5)

(i) A virus having double stranded DNA as a genetic material.

(ii) In the oogonium of which genus a colourless mass of cytoplasm known as wanderplasm is formed.

(iii) The sterile diploid cells present in the capsule.

(iv) The air cavities present in the internode of *Equisetum*.

(v) The common name of *Cycas revoluta*.

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

(a) Transformation and transduction

(b) Unilocular and plurilocular sporangia

(c) Uredospore and teleutospore

(d) Antheridiophore and archegoniophore

(e) Strobilus of *Selaginella* and *Equisetum*

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

(a) Structure of *Chlamydomonas*

(b) L.S. of *Anthoceros* sporophyte

(c) T.S. *of Equisetum* internode

(d) T.S. of *Cycas* coralloid root

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

(a) Economic importance of viruses

(b) Economic importance of gymnosperms

(c) Asexual reproduction in *Marchantia*

(d) Hydrophytic and xerophytic characters of *Equisetum*

5. (a) Explain sexual reproduction in *Vaucheria* with the help of suitable diagrams. (5)

(b) Discuss the role of fungi in industry. (5)

(c) The sporophyte of *Funaria* is partially dependent. Justify the statement. (5)

6. (a) What is suphur shower? What features of pollen in *Pinus* makes it suitable for wind pollination? (3)

(b) Discuss the economic importance of bacteria giving suitable examples. (5)

(c) Describe life cycle of *Puccinia graminis tritici* with the help of suitable diagrams. (7)