(E) Lib. 11-12-19

*This question paper contains 3 printed pages.*

*Your Roll No.* .....

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| *Sl. No. of Ques. Paper* | : 8450 | J |
| *Unique Paper Code* | : 32165101 | |
| *Name of Paper* | : **Biodiversity (Microbes, Algae, Fungi and Archegoniatae)** | |
| *Name of Course* | : **Botany : G.E. for Honours** | |
| *Semester* | : **I** | |
| *Duration* | : **3 hours** | |
| *Maximum Marks* | : **75** | |

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

*Attempt five questions in all.*

*Question No. 1 is compulsory.*

*All questions carry equal marks.*

*Draw well-labelled diagrams wherever necessary.*

1. (a) Define any *five* of the following :
   (i) Hormogonia
   (ii) Columella
   (iii) Coenobium
   (iv) Plasmid
   (v) Endospore
   (vi) Heterophylly
   (vii) Cleistothecium. 5×1=5

   (b) Fill in the blanks :
   (i) Palmella stage is found in the genus ..... .

P.T.O.

(ii) Horsetail is the common name for ..... .

(iii) Alginic acid is present in the cell wall of the members of class ..... .

(iv) Viral particles occurring in nature without capsid are ..... .

(v) Stem rust in wheat is caused by genus ..... .

5×1=5

(c) Match the following :

| | |
|---|---|
| Hornwort | Virus |
| Winged pollen grain | *Cycas* |
| Gongrosira stage | *Pinus* |
| Capsomeres | *Anthoceros* |
| Coralloid root | *Vaucheria* |

5×1=5

2. Differentiate between any *five* of the following :

(a) Lytic and Lysogenic life cycle of bacteriophage

(b) Gram positive and Gram negative bacteria

(c) Plurilocular and Unilocular sporangia

(d) Antheridiophore and Archegoniophore of *Marchantia*

(e) Homospory and Heterospory

(f) Oogamy and Isogamy. 5×3=15

3. Write short notes on any *three* of the following :

(a) Heterocysts

(b) Economic importance of fungi

(c) Asexual reproduction in *Marchantia*

(d) Structure of Bacteriophage. 3×5=15



4. Draw well labelled diagrams of any *three* of the following :

(a) E.M. of *Chlamydomonas*

(b) V.S. of sporophyll of *Pteris*

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

(d) Structure of *Rhizopus* with sporangia. 3×5=15

5. (a) Bacteria boon or curse. Discuss. 6

(b) Give a detailed account of adaptations to land habit in bryophytes. 5

(c) Discuss parasexuality in Fungi. 4

6. (a) Discuss the disease cycle of *Puccinia graminis tritici*. 9

(b) Enumerate the xerophytic and hydrophytic characters of *Equisetum*. 6

7. (a) Compare Cyanophyceae, Chlorophyceae and Phaeophyceae on the basis of thallus structure, cell wall composition, pigments and reserve food material. Write one genera belonging to each class. 6

(b) Write the unique characteristics of *Anthoceros*. 5

(c) Write economic importance of gymnosperms. 4