11/12/19 E

This question paper contains 4 printed pages.

Your Roll No. .....

Sl. No. of Ques. Paper	: **8165**	**J**
Unique Paper Code	: **32165101**	
Name of Paper	: **Biodiversity (Microbes, Algae, Fungi and Archegoniate)**	
Name of Course	: **Botany : Generic Elective (OC)**	
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, including Question No. 1 which is compulsory. All questions carry equal marks.*

1. (a) Define the following terms (attempt any *five*) :
   - (i) Heterocyst
   - (ii) Gametophyte
   - (iii) Cleistothecium
   - (iv) Trabeculae
   - (v) Cap cells
   - (vi) Apogamy
   - (vii) Protonema
   - (viii) Virion. 1×5=5

   (b) Give one word/example for the following (attempt any *five*) :

P.T.O.

(i) A fossil pteridophyte

(ii) An edible fungi

(iii) A gymnosperm also referred as *Sago Palm*

(iv) A virus that contains single stranded circular DNA

(v) An algae showing Gongrosira stage

(vi) A genus that bears largest ovule

(vii) A bacteria used for curd making. 1×5=5

(c) Match the following :

(i)	*Funaria*	(a) Cystocarp
(ii)	*Sphagnum*	(b) Fairy rings
(iii)	*Polysiphonia*	(c) Resurrection plant
(iv)	*Agaricus*	(d) Archegoniophore
(v)	*Selaginella*	(e) Peat moss 1×5=5

2. Differentiate between the following (attempt any *five*) :

(i) Gram-positive and Gram-negative bacteria

(ii) Isidium and Cephalodium

(iii) Macrandrous and Nannandrous species of *Oedogonium*

(iv) Liverworts and Mosses

(v) Plant viruses and Animal viruses

(vi) Transduction and Transformation

(vii) Chloronema and Caulonema. 5×3=15

3. Draw the well-labelled diagrams of the following (Attempt any *three*) :

(i) E.M. of a Bacterial Cell

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

(iii) L.S. of *Pinus* ovule

(iv) Asexual reproduction of *Rhizopus*

(v) Ultrastructure of *Chlamydomonas* cell

(vi) L.S. Sporophyte of *Funaria*. 3×5=15

4. (a) Justify giving reasons that "Bryophytes are amphibians of the plant kingdom." 3

(b) Describe various xerophytic and hydrophytic features in *Equisetum*. 7

(c) Discuss briefly the economic importance of Gymnosperms. 5

5. Write short notes on the following (attempt any *five*) :

(i) Economic importance of Pteridophytes

(ii) Heterokaryosis

(iii) Role of algae in industry

(iv) Archaebacteria

(v) Land characters of *Rhynia*

(vi) Significance of Heterospory

(vii) Coralloid roots of *Cycas*. 3×5

6. (a) Discuss the ecological and economic importance of Lichens. 5

(b) Discuss the alternation of generations in *Polysiphonia*. 5

(c) With the help of labelled diagrams only illustrate the life cycle of *Puccinia graminis*. 5

7. (a) Elaborate on the harmful and useful activities of *Penicillium*. 5

(b) Briefly describe the structure of gemma cup of *Marchantia*. 5

(c) Describe the stelar system of *Pteridophytes*. 5