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1 SEM TDC BOTH (CBCS) C 1

2022

(Nov/Dec)

BOTANY

(Core)

Paper : C-1

(Microbiology and Phycology)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. (a) Choose the correct answer of the following : 1×3=3
- (i) The principal pigment in *Phaeophyceae* is phycoerythrin / fucoxanthin / xanthophyll / phycocyanin.
- (ii) Female sex organ of *Rhodophyceae* is termed as carpogonium / oogonium / sporogonium / archegonium.

(iii) The algae *Chara* is called 'stonewort' because its plant body is encrusted with calcium bicarbonate / calcium carbonate / calcium chloride / calcium oxalate.

(b) Fill in the blanks of the following : 1+1=2

(i) The nucleus of bacteria is called as _____.

(ii) A bacterium without flagella is known as _____.

2. Write short notes on any three of the following : 4×3=12

- (a) Cell structure of *Chlamydomonas*
- (b) Role of algae in biotechnology
- (c) Nutritional types of bacteria
- (d) Structure of RNA virus

3. What are the criteria based on which algae are classified? Give a brief account of the classification of algae suggested by Fritsch.

3+9=12

Or

Describe the mode of sexual reproduction of *Oedogonium*. Do these algae have an alternation of generation? Draw the diagram of the life cycle of *Oedogonium*.

7+1+4=12

(3)

4. What do you mean by genetic recombination? Give an account of conjugation in bacteria. $3+9=12$

Or

Distinguish between the following : $6+6=12$

- (a) Archaeobacteria and Eubacteria
(b) Gram-positive and Gram-negative bacteria

5. What is bacteriophage? Describe with diagram the lytic and lysogenic cycle of bacteriophage. $2+5+5=12$

Or

How are viruses classified? Discuss the Baltimore's system of classification of viruses. $3+9=12$
