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**1 SEM TDC BOTH (CBCS) C 1**

**2 0 2 2**

( 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 / archeogonium.

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( Turn Over )

( 2 )

(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

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( Continued )

( 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

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