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**3 (Sem-1/CBCS) BOT HC 1**

**2021**

**(Held in 2022)**

**BOTANY**

**(Honours)**

Paper : BOT-HC-1016

***(Phycology and Microbiology)***

Full Marks : 60

Time : Three hours

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

1. Answer the following as directed :  $1 \times 7 = 7$ 
  - (a) Name the major photosynthetic product in brown algae.
  - (b) Which parasitic algae causes the 'red rust disease of tea' ?
  - (c) What do you mean by photoautotroph ?

Contd.

(d) Streptomycin is produced by \_\_\_\_\_.  
(Fill in the blank)

(e) Who is known as the father of microbiology ?

(f) What do you mean by lophotrichous bacteria ?

(g) What do you mean by diatomite ?

2. Write short notes on the following :  $2 \times 4 = 8$

(a) Binary fission

(b) Heterocyst

(c) Carpogonium

(d) Prion

3. Write briefly on **any three** of the following :  $5 \times 3 = 15$

(a) Role of algae in biotechnology

(b) Storage products in algae

(c) Role of bacteria in agriculture

(d) Lysogenic cycle of bacteriophage

(e) Salient features of Phaeophyta.

4. Answer the following questions :  $10 \times 3 = 30$

(a) Give an account of carbohydrate metabolism in microbes.

**Or**

Describe the factors that affect microbial growth.

(b) Give a detailed account on the life cycle of *Oedogonium*.

**Or**

Give a detailed account on the life cycle of *Ectocarpus*.

(c) Describe the range of thallus organization and cell structure in Rhodophyta.

**Or**

Discuss the evolutionary significance of *Prochloron*.