



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 1st Semester Examination, 2018

**BOTACOR01T-BOTANY (CC1)**

**PHYCOLOGY AND MICROBIOLOGY**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.*

1. Answer **all** questions briefly from the following: 1×5 = 5
  - (a) Name one Gram positive bacterium.
  - (b) Mention the principal source of bacterial amylase.
  - (c) What is plurilocular sporangium?
  - (d) What is phototroph?
  - (e) Name the principal reserve food materials found in Cyanophyceae.
2. Answer any **five** questions from the following: 3×5 = 15  
(At least **two** questions from each group)

**GROUP-A**

- (a) Describe the three domain system of classification. 3
- (b) Briefly describe the cell wall structure of a Gram negative bacterium. 3
- (c) Discuss the characteristic features of prion and viroid. 1.5+1.5
- (d) Draw, label and describe the different phases of bacterial growth curve. 1+2

**GROUP-B**

- (e) Discuss the salient features of the class Rhodophyceae. 3
- (f) Write a short note on algal biofertilizer. 3
- (g) Discuss the asexual reproductive structures in *Ectocarpus* sp. 3
- (h) Draw and label the male reproductive structure in *Chara* sp. 3

3. Answer any *four* questions from the following: 5×4 = 20  
(At least *two* questions from each group)

**GROUP-A**

- (a) Draw and describe the process of generalized transduction in bacteria. 2+3  
(b) Mention the economic importance of bacteria with reference to their role in agriculture and industry. 2.5+2.5  
(c) Draw and describe the different steps of lytic cycle in a bacteriophage. 2+3

**GROUP-B**

- (d) With suitable diagram discuss the cell structure of Cyanophyceae. 1+4  
(e) What is coenobium? With proper diagram give the asexual mode of reproduction in *Volvox* sp. 1+4  
(f) With neat labelled sketches, discuss the process of sexual reproduction in *Vaucheria* sp. 2+3

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