



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 1st Semester Examination, 2022

CC1-BOTANY

PHYCOLOGY AND MICROBIOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

1. Answer any **five** questions from the following: 1×5 = 5
- (a) What is mesosome?
 - (b) What is prion?
 - (c) Give an example of dsRNA virus.
 - (d) What is pyrenoid?
 - (e) Give examples of any two edible algae.
 - (f) Which pigment is responsible for red colour in Rhodophyceae?
 - (g) Name two bacteria species used for the production of antibiotic.
 - (h) What are heterocyst?

GROUP-B

2. Answer any **three** questions from the following: 5×3 = 15
- (a) Highlight the economic importance of bacteria with special reference to their application in fermentation and medicine industry. 5
 - (b) With labelled diagram, describe briefly the structure of TMV (Tobacco Mosaic Virus). 2+3
 - (c) Describe the range of thallus organization in algae. 5
 - (d) What is conjugation? Explain briefly the process of conjugation in bacteria with suitable diagrams. 2+3
 - (e) Give a detailed account of the sexual reproduction of *Ectocarpus*. 5

GROUP-C

3. Answer any *two* questions from the following: 10×2 = 20
- (a) What is prophage? Describe the steps of lytic cycle of a mature virion with suitable diagram. 2+8
- (b) Give the outline of Fritsch's system of classification of algae. 10
- (c) What is palmella stage? Describe about the morphology and life cycle of *Chlamydomonas*. 2+4+4
- (d) Describe in detail the cell wall structure of gram-positive bacteria and explain how is it different from gram-negative bacteria with necessary diagram. 6+4

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