



বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

**B.Sc. (Honours) in AGRICULTURE
2nd Semester Examination 2022**

PAPER—AGS-202

AGRICULTURAL MICROBIOLOGY

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

1. Answer any *ten* questions. 10×2
- (a) What is alternative nitrogenase ?
- (b) What do you mean by symbiotic nitrogen fixing system ?
- (c) Why some xenobiotic compounds are recalcitrant ?
- (d) State the characteristics of biopesticides.
- (e) Mention two organelles which are present in eukaryotes but not in prokaryotes.

- (f) What are the benefits at biofertilizers?
- (g) Explain diauxic growth.
- (h) What is endospore and mention its function?
- (i) When does a lag phase usually not occur?
- (j) Define bioremediation.
- (k) What is transformation?
- (l) What is hartig net?
- (m) What is the meaning of photolithotrophs?
- (n) What is heterocyst?
- (o) Name two antibiotic producing fungi.

2. Answer any six questions.

6×5

- (a) How different group of N_2 fixing microorganism protect nitrogenase enzyme from oxygen?
- (b) Describe the process of transduction with proper diagram.
- (c) Define generation time. How would you calculate generation time and growth rate?
- (d) Write the roll of microbes in Agriculture.
- (e) What are the characters of an Hfr strain?

- (f) What is biogeochemical cycle? How it is operated in case of phosphorous in our environment?
- (g) What is Bt-cotton? How is it work?
- (h) Describes different types of commercialized biofertilizers and their mode of action.
- (i) Write down the different bacterial plasmid and their roles.
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