



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Honours Examinations 2022

(Under CBCS Pattern)

Semester - IV

Subject : MICROBIOLOGY

Paper : C 9-T

Environmental Microbiology

Full Marks : 40

Time : 2 Hours

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

The figures in the margin indicate full marks.

1. Answer any **four** of the following questions : 5×4=20
- (a) What are biosurfactants? Give an example of biosurfactants. What is pesticide degradation? 2+1+2
- (b) Write short notes on : (i) amensalism, (ii) Predation. 2¹/₂+2¹/₂
- (c) What are extremophiles and oligotrophs? What is microbial succession? 1¹/₂+1¹/₂+2
- (d) Cytoplasmic membrane of psychrophiles contains a higher amount which fatty acid—Why? Give an example of a hyperthermophile and a psychrophile. 3+2

P.T.O.

(e) Write note on solid waste management. 5

(f) What are Symbiotic and non symbiotic interactions? Give an example of each case.
(2+2)+(1/2+1/2)

2. Answer any *two* of the following questions : 10×2=20

(a) What are BOD and COD? What is Trickling filters and where is it used? What is potable water? 3+5+2

(b) Describe the procedure of Multiple Tube Fermentation Test and membrane filter technique to determine the potability of water. 5+5

(c) Give the significance of nitrogenase enzyme. Give two examples of diazotrophs. Differentiate between nitrification and denitrification. Give two examples of denitrifying bacteria. 3+2+3+2

(d) Give two examples of cellulolytic bacteria. Write note on microbial decomposition of cellulose. What is hemicellulose? 2+6+2
