



বিদ্যাসাগর বিশ্ববিদ্যালয়

**VIDYASAGAR UNIVERSITY**

**B.F.Sc. 1st Semester Examination 2021**

**PAPER—BFSC-104**

**FUNDAMENTALS OF MICROBIOLOGY**

*Full Marks : 70*

*Time : 3 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.*

**THEORY**

1. Answer any *ten* questions.

10×2

(a) Write full form of NAG & NAM present in bacterial cell wall.

(b) State the functions of pilli.

(c) Define selective media with example.

(d) What is sterilization?

- (e) State the importance of protozoa in aquatic environment.
- (f) Differentiate between Gram positive and Gram negative bacteria.
- (g) Why do bacteria form biofilm?
- (h) What is the unique character of Mycoplasma?
- (i) Why do bacteria form endospore?
- (j) What is F-plasmid?
- (k) State the role of Cyanobacteria in aquatic field.
- (l) Name two viruses which produce diseases in fish.
- (m) What are the special features of archaebacteria?
- (n) What is frame shift mutation?
- (o) Name any two extremophiles with their significance.

**2.** Answer any six questions.

6×5

- (a) Discuss bacterial growth curve with diagram.
- (b) State different methods of microbial culture preservation.
- (c) Write a short note on marine microbiota.
- (d) Briefly describe transduction process.
- (e) Draw and discuss about bacterial flagella.

(f) Define stain with example. Why do the gram negative bacteria lose crystal violet colour after alcohol wash in gram staining process?

2+3

(g) Write a short note on sewage treatment.

(h) Write down the economic significances of aquatic microbes.

(i) Briefly describe the carbon cycle.

(j) State different factors influencing the growth of aquatic microbes.

### **PRACTICAL**

Answer any *two* questions.

2×10

1. Enlist different parts of a compound microscope. State their function.  
5+5
2. State the antibiotic sensitivity test of bacteria.
3. Write down the Gram Staining procedure of bacteria.
4. Write down the plate culture method of bacteria.

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