

BACHELOR OF SCIENCE (CBCS-2018 COURSE)
S. Y. B. Sc. Sem-IV :SUMMER- 2022
SUBJECT : MICROBIOLOGY : APPLIED MICROBIOLOGY

Day : Monday
Date : 4/7/2022

S-18390-2022

Time : 03:00 PM-06:00 PM
Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat labelled diagrams **WHEREVER** necessary.

Q.1 Attempt **ANY TWO** of the following: **(12)**

- a) What are opportunistic bacterial pathogens? Describe any two.
- b) Discuss the principle, advantages and disadvantages of continuous and batch fermentation.
- c) How is activated sludge important in the waste water treatment?

Q.2 Attempt **ANY TWO** of the following: **(12)**

- a) How are bacterial diseases transmitted through water?
- b) Discuss the various steps in the primary screening of amino acid producers.
- c) Describe the process of Streptomycin production with a flow sheet diagram.

Q.3 Attempt **ANY TWO** of the following: **(12)**

- a) What is MPN test? Discuss its principle and applications in water analysis.
- b) How is the sterilization of the fermenter and medium carried out in a fermentation process?
- c) Discuss the principle, procedure and applications of BOD.

Q.4 Write short notes on **ANY THREE** of the following: **(12)**

- a) Concept of indicator organisms
- b) Aerators (Sparger)
- c) UltraViolet disinfection of water
- d) Antifoaming agents

Q.5 Attempt **ANY FOUR** of the following: **(12)**

- a) Write a note on- The Membrane Filter technique (MF)
- b) Give the significance of Giant Colony technique
- c) What is the significance of Bacteriophages in fecal pollution?
- d) What is Semisynthetic Penicillin?
- e) Discuss the role of Ozone as a disinfecting agent in water treatment process.
- f) Describe the role of any two raw materials used as a substrate in fermentation process.

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