

BACHELOR OF SCIENCE (CBCS-2018 COURSE)
F. Y. B. Sc. Sem-II :SUMMER- 2022
SUBJECT : MICROBIOLOGY : MICROBIAL NUTRITION, GROWTH &
CONTROL

Day : Monday
Date : 4/7/2022

S-18331-2022

Time : 11:00 AM-02:00 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.
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Q.1 Attempt **ANY TWO** of the following: **(12)**

- a) Classify the microorganisms based on the two major nutritional requirements.
- b) Discuss the nutrient agar slant and freeze drying methods of preserving bacterial cultures.
- c) With the help of a graph discuss the various phases of a normal growth curve.

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

- a) What are halophiles? Classify the types of halophiles with a suitable example.
- b) Describe the common macronutrients used by microorganisms.
- c) What is a culture media? Discuss with example complex media.

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

- a) Briefly summarize the ways in which microorganisms obtain nitrogen and phosphorus from the environment.
- b) Explain the role of radiation and filtration as physical methods for microbial control.
- c) Give the significance and write the procedure for obtaining pure cultures by streak plate method.

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

- a) Differential media
- b) Acidophiles
- c) Culture collection center
- d) Bacterial division

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

- a) What are the various methods for isolating anaerobic bacteria?
- b) Give the significance of motile organism.
- c) How does the microbial control agent damage the proteins of a cell?
- d) What safety precautions are undertaken in the Microbiology laboratory?
- e) Discuss any three methods of direct measurement of microbial growth.
- f) Differentiate between sterilization and disinfection.