

BACHELOR OF SCIENCE (CBCS-2018 COURSE)

F. Y. B. Sc. Sem-II : WINTER- 2022

SUBJECT : MICROBIOLOGY : MICROBIAL NUTRITION, GROWTH & CONTROL

Day : Wednesday

Time : 02:00 PM-05:00 PM

Date : 7/12/2022

W-18331-2022

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) Explain effect of pH on growth of bacteria.
- b) Explain sulphur and phosphorous requirement of bacteria.
- c) Describe the process of sterilization by filtration.

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

- a) Describe pour plate technique.
- b) Define growth and explain measurement of growth by direct microscopic count method.
- c) Discuss the effect of low temperature on growth of bacteria.

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

- a) Describe differential media with example.
- b) Give the examples of microelements and their roles in microbial nutrition.
- c) Explain the mode of action of heavy metals on bacteria.

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

- a) Disinfection by phenol and phenolic compounds
- b) Streak plate technique
- c) Safety in microbiology laboratory
- d) Growth factors

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

- a) Enlist the nutritional types of microorganisms on the basis of carbon and energy source.
- b) Define generation time and list the different growth phases in bacteria
- c) Define sterilization and give the names of equipment's used for sterilization by moist and dry heat.
- d) Define auxotrophs and prototrophs.
- e) What are selective media? Explain with example.
- f) What are gaseous agents? Give their examples.

* * * *