

**F.Y.B.Sc. SEM – II (CBCS 2018 COURSE) : SUMMER - 2019**  
**SUBJECT : MICROBIOLOGY : MICROBIAL NUTRITION, GROWTH & CONTROL**

Day : Monday  
Date : 15/04/2019

**S-2019-0785**

Time : 11.00 A.M TO 02.00 PM  
Max. Marks : 60

---

**N. B. :**

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

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

- a) Describe the action of heavy metals and hydrogen peroxide in controlling microbial growth.
- b) With proper examples classify the organisms based on the requirement of P<sup>H</sup>
- c) With a diagrammatic representation describe the spread plate and pour plate methods for obtaining pure cultures.

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

- a) Discuss the principle and action of high pressure and osmotic pressure in controlling microbial growth.
- b) What are the various indirect methods for estimating bacterial numbers?
- c) What is a complex media? Discuss the various anaerobic growth media.

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

- a) Enlist the eight precautions to be taken while working in Microbiology laboratory.
- b) Discuss the freeze drying and cryopreservation methods of preserving bacterial cultures.
- c) What is a culture media? Describe the various special culture techniques.

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

- a) Generation time
- b) Halophiles
- c) Detergents as disinfectants
- d) Turbidostat

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

- a) What is the damage caused to proteins due to the action of microbial controlling agents?
- b) Discuss the various Carbon Hydrogen and Oxygen sources used by the micro-organisms as nutrients.
- c) Write a note on agar overlay method of culture preservation.
- d) Discuss the various selective culture media.
- e) What is the role of an effective disinfecting agent? Discuss with any two examples.

\* \* \* \* \*

---