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Total No. of Pages : 02

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**B.Sc.(BT) (2014 to 2017) (Sem.-2)****GENERAL MICROBIOLOGY****Subject Code : BSBT-104****M.Code : 47032****Time : 3 Hrs.****Max. Marks : 60****INSTRUCTION TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

**SECTION-A****1) Answer briefly :**

- a) What is contribution of Robert Koch to microbiology?
- b) Explain in brief the term “asynchronous growth”.
- c) Write the products obtained by anaerobic fermentation of glucose.
- d) What is the importance of nitrogen fixing microbes?
- e) Define the term “chemostat”.
- f) Write the distinguishing characteristic of gram +ve and Gram –ve bacteria.
- g) Differentiate between yeast and fungi?
- h) Name the organism causing Lock jaw disease.
- i) What do you understand by the term heterotrophs.
- j) Explain the word “diauxic growth” in microbes.

### SECTION-B

- 2) Explain the different types of sterilization agents used.
- 3) Write the method used to determine the different phases growth in an organism.
- 4) Differentiate between the bright field and dark field microscopy.
- 5) Discuss the various chemical agents used as antimicrobials and sterilizing agents.
- 6) Discuss growth curve. Write the equation to determine the growth rate of an organism.

### SECTION-C

- 7) Discuss in detail the molecular methods used for production of a heterologous protein in a bacteria.
- 8)
  - a) Describe the Nitrogen fixing microbes and their role in agriculture
  - b) Explain the principle and working of electron microscope.
- 9) Elaborate on the cell wall structure of Gram<sup>+</sup> and Gram<sup>-</sup> bacteria with diagrams.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**