

## **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Describe the historical development in the field of microbiology in detail.
- Q.24 Explain growth curve in detail.
- Q.25 Explain the types of microorganism in detail.

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**1st Sem. / Food Technology**

**Subject : Basic Microbiology**

Time : 3 Hrs.

M.M. : 60

## **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Who is known as the father of Microbiology?
- a) Edwin John Butler
  - b) Ferdinand Cohn
  - c) Robert Koch
  - d) Antoni van Leeuwenhoek
- Q.2 Which of the following is used in electron microscope?
- a) Electron beams and magnetic fields
  - b) light waves
  - c) magnetic fields
  - d) electron beams
- Q.3 The respiratory chain of bacteria is associated with the \_\_\_\_\_
- a) cytoplasmic membrane
  - b) cell wall
  - c) cytoplasm
  - d) mitochondrial membrane

- Q.4 Growth of bacteria or microorganisms refer to \_\_\_\_\_  
a) changes in the total population  
b) an increase in number of cells  
c) an increase in the size of an individual organism  
d) an increase in the mass of an individual organism
- Q.5 Which of the following method can be used to determine the number of bacteria quantitatively?  
a) Spread-plate  
b) Streak-plate  
c) Pour-plate and spread plate  
d) Pour plate
- Q.6 What are the cell wall structural components of fungi?  
a) peptidoglycan  
b) cellulose  
c) chitin  
d) chitin, cellulose or hemicellulose

### SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 A \_\_\_\_\_ is an instrument that magnifies objects otherwise too small to be seen, producing an image in which the object appears larger.
- Q.8 Bacteria are classified based on their shape. (True/False)
- Q.9 Write ful form of HTST.

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- Q.10 \_\_\_\_\_ is a series of sequential dilutions that are performed to convert a dense solution into a more usable concentration.
- Q.11 Write two examples of macro nutrients needed for microbial growth.
- Q.12 Psychrophiles can grow in the range of \_\_\_\_\_ temperature.

### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 What is staining and what are its purposes?
- Q.14 What is radiation?
- Q.15 Differentiate between sterilization and pasteurization.
- Q.16 Draw neat and clean diagram of microscope and explain its parts.
- Q.17 Define cell. Enlist various cell organelles.
- Q.18 Define spread plating.
- Q.19 Differentiate between simple and differential staining.
- Q.20 Define growth curve. Draw the bacterial growth curve showing all phases.
- Q.21 Explain the structure of fungi and its different parts.
- Q.22 Differentiate between gram positive and gram negative bacteria.

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