

**B.Sc. BIOTECHNOLOGY  
SEMESTER-1<sup>ST</sup>(REPEAT)  
MICROBIOLOGY-I  
BBT-102**

**Duration: 3 Hrs.**

**Marks: 70**

**Part : A (Objective) = 20**

**Part : B (Descriptive) = 50**

**[ PART-B : Descriptive ]**

**Duration: 2 Hrs. 40 Mins.**

**Marks: 50**

**[ Answer question no. One (1) & any four (4) from the rest ]**

1. Define rhizosphere and describe the pathway for nodule formation in leguminous plant 10
2. Define fermenter with a neat diagram? Explain the production of beer with a flow chart diagram 10
3. Describe the mathematical derivation of bacterial growth curve and describe the difference between batch culture and synchronous culture 10
4. Describe any one technique for isolation of pure culture. 10
5. Define chemostat? Describe with a neat diagram 10
6. Describe the principle of phase contrast microscope? 10
7. Describe the S cycle with a neat diagram 10
8. Describe the structure of the bacterial cell wall with a neat diagram. 10

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**[ PART-A : Objective ]**

**Choose the correct answer from the following :**

**1X20=20**

1. The term animalculis was given by
  - a. Louis pasteur
  - b. Anton *von leewenhoeka*
  - c. Joseph Lister
  - d. Robert koch
2. Eutrophication is assocted with the accumulation of
  - a. Ammonium
  - b. Nitrate
  - c. Nitrite
  - d. Chloride
3. The temperature of an autoclave is
  - a. 180°c
  - b. 160°c
  - c. 121°c
  - d. 96°c
4. Conversion of sulphate to organic sulphur is associated by bacteria
  - a. Alteromonas
  - b. Thiobacillus
  - c. Chlorobium
  - d. Desulfovibrio
5. The cell wall of bacteria is made up of
  - a. Protein
  - b. Peptidoglycan
  - c. Lipopolysaccharides
  - d. Fattyacid
6. Shadowing of a specimen is associated with
  - a. Bright field microscope
  - b. Fluorescent microscope
  - c. Transmission electron microscope
  - d. Phase contrast microscope
7. Bacterial endospore is made up of
  - a. Malic acid
  - b. Mycolic acid
  - c. Teichoic acid
  - d. Dipicolinic acid
8. NAM &NAM is bonded by
  - a.  $\beta$  1,4 glycosidic bond
  - b.  $\alpha$ 1,4 glycosidic bond
  - c. Pentaglycin bond
  - d. Dipeptide bond
9. The significance of Mycobacterium sps is the presence of
  - a. Malic acid
  - b. Mycolic acid
  - c. Teichoic acid
  - d. None
10. Malolactic fermentation is associated in the production of
  - a. Beer
  - b. Wine
  - c. Saurkraut
  - d. All
11. HOP is a given in the production of beer as
  - a. Substrate
  - b. Antibacterial agent
  - c. Flavour
  - d. None of the above
12. The secondary metabolite production occurs in
  - a. Idiophase
  - b. Trophophase
  - c. Lag Phase
  - d. Death phase
13. Tubercle formation is associated in the disease
  - a. Typhoid
  - b. Tuberculosis
  - c. Diphtheria
  - d. Neisseria
14. Pasteurization and Fermentation was discovered by
  - a. Joseph lister
  - b. Louis Pasteur
  - c. Anton Von Leewenhoek
  - d. Robert Koch

15. Which one of the following is associated with Sexually transmitted disease

- a. Syphilis
- b. Cholera
- c. Botulism
- d. Typhoid

16. The presence of hopanoid is associated with

- a. Cell wall
- b. Flagella
- c. Plasma membrane
- d. Capsule

17. The dominant microorganism associated in the production of Saurkraut is

- a. Lactobacillus bulgaricus
- b. Leuconostoc mesenteroides
- c. E.coli
- d. Clostridium sps

18. The third amino acid associated with NAM is

- a. D-Alanine
- b. D-Glutamine
- c. L-Alanine
- d. L-Lysine

19. Nodule fixation is associated by the stimulation of

- a. Auxin
- b. Ricadhesin
- c. Nod gene
- d. Nif gene

20. Mycorrhizal formation is the association of

- a. Bacteria and plant roots
- b. Fungal and plantroots
- c. Actinomytes and plantroots
- d. All of the above

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# UNIVERSITY OF SCIENCE & TECHNOLOGY, MEGHALAYA



**[PART (A) : OBJECTIVE]**

Duration : 20 Minutes

Serial no. of the  
main Answer sheet

Course : .....

Semester : ..... Roll No : .....

Enrollment No : ..... Course code : .....

Course Title :

Session : ..... 2017-18 ..... Date : .....

### Instructions / Guidelines

- The paper contains twenty (20) / ten (10) questions.
- Students shall tick (✓) the correct answer.
- No marks shall be given for overwrite / erasing.
- Students have to submit the Objective Part (Part-A) to the invigilator just after completion of the allotted time from the starting of examination.

Full Marks	Marks Obtained
20	

Scrutinizer's Signature

Examiner's Signature

Invigilator's Signature