

B.Sc. BIOTECHNOLOGY
First Semester (Repeat)
MICROBIOLOGY-I
(BBT - 02)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. Describe the mathematical derivation of bacterial growth curve and describe the difference between batch culture and synchronous culture. (10)
2. Describe the process of cell mediated immunity in antigen affecting intestinal tract. (10)
3. Describe the receptor mediated endocytosis exotoxin. (10)
4. Describe the principle of phase contrast microscope. (10)
5. Describe the structure of the bacterial cell wall with a neat diagram. (10)
6. Describe any one technique for isolation of pure culture. (10)
7. Define chemostat. Describe with a neat diagram. (10)
8. Define rhizosphere and describe the pathway for nodule formation in leguminous plant. (10)

B.Sc. BIOTECHNOLOGY
First Semester (Repeat)
MICROBIOLOGY-I
(BBT - 02)

Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×10=10

1. The term animalculis was given by
a) Louis pasteur b) Anton von leewenhoek
c) Joseph Lister d) Robert koch
2. Conversion of sulphate to organic sulphur is associated by bacteria
a) Alteromonas b) Thiobacillus
c) Chlorobium d) Desulfovibrio
3. Eutrophication is associated with the accumulation of
a) Ammonium b) Nitrate
c) Nitrite d) Chloride
4. Nodule fixation is associated by the stimulation of
a) Nod gene b) Auxins
c) Nif gene d) Rhicadesin
5. The cell wall of bacteria is made up of
a) Protein b) Peptidoglycan
c) Fatty acids d) Polysaccharide
6. The temperature of an autoclave is
a)180°C b)160°C c) 121°C d) 96°C
7. Shadowing of a specimen is associated with
a) Phase contrast microscope b) Bright field microscope
c) Fluorescent microscope d) Transmission electron microscope
8. Bacterial endospore is made up of
a) Malic acid b) Fatty acid
c) Dipicolinic acid d) Mycolic acid
9. NAM &NAM is attached by
a) β 1,4 glycosidic bond b) Dipeptide bond
c) Penta glycin cross bridge d) α 1,4 glycosidic bond

10. The significance of Mycobacterium tuberculosis is the presence of

- a) Teichoic acid
- b) Malic acid
- c) Mycolic acid
- d) None of the above

II. Fill in the blanks:

1×10=10

- a) The product made from the plant extract of Humulus is known as _____.
- b) The formula for magnification in microscope is _____.
- c) The relation between the bacterial growth curve and time is associated with _____.
- d) The primary stage of the bacterial growth is termed as _____.
- e) Swan necked flask was discovered by _____.
- f) Conversion of malic acid by bacteria into lactic acid and carbon dioxide is known as _____.
- g) C fixation can occur through the activities of _____ & _____ microorganism.
- h) E.coli is a Gram _____ bacteria.
- i) The causative agent for typhoid is _____.
- j) The full form of BCG is _____.
