GIET Main Campus (Autonomous)
Gunupur-765 022

Reg.No.: | | | | | | | | | | | | |

B.TECH. DEGREE EXAMINATION-NOV-DEC.2018
End Semester Examination
BBTPC3030-Microbiology
(Bio Technology Branch)

Time : 3 Hours **Maximum : 100 Marks** **Question Code: 131012**
Answer ALL Questions

PART A - (10 X 2 = 20 Marks)

1. (a) Fungal cell wall is made up of [CO1][PO1]
   1.Peptidoglycan
   2.Chitin
   3.cellulose
   4.lipopolysaccharides

   (b) Which of the following is not found in a bacterial cell wall? [CO1][PO1]
   1.Peptidoglycan
   2.teichoic acid
   3.Channel proteins
   4.chitin

   (c) 2-Aminopurine is a base analog of [CO2][PO1]
   1. Adenine 2. Guanine 3. Thymine 4. Cytosine

   (d) The generation time for E.coli is [CO2][PO1]
   a) 20 minutes
   b) 35 minutes
   c) 2 minutes
   d) 13 minutes

   (e) The average size of the cells in the exponential phase is [CO2][PO1]
   a) larger than the initial size.
   b) smaller than the initial size.
   c) equal to the initial size.
   d) maybe smaller or larger than the initial size.

   (f) Which of the following is a viral disease? [CO3][PO1]
   1.Botulism 2.Tetanus 3.Typhoid 4.Influenza

   (g) Aflatoxin is produced by [CO3][PO1]
   a) Aspergillus sp.
   b) Salmonella sp.
   c) Fusarium sp.
   d) Streptococcal sp

(h) The preservation technique using radiation is also known as [CO3][PO1]
a) cold sterilization
b) dry sterilization
c) heat sterilization
d) uperization

(i) Which of the following is not a quinolone antibiotic? [CO4][PO1]
1.ciprofloxacin
2.ofloxacin
3.norfloxacin
4.Carbenicillin

(j) Microbes found at the bottom of oceans are called [CO4][PO1]
a) limnos b) phytoplankton c) benthos d) zooplankton

PART B - (10 X 2 = 20 Marks)

2. (a) What are diazotrophic microbes? [CO1][PO1]

(b) What is sterilization, name two chemical reagents used in sterilization. [CO3][PO]

(c) Differentiate between transversion and transition mutation. [CO2][PO2]

(d) What are base analogs? Give examples. [CO2][PO1]

(e) What is nucleotide excision repair? [CO2][PO1]

(f) How water availability helps microbial growth in food and explain the advantages of lyophilization. [CO3][PO1]

(g) Give examples of some water borne diseases. [CO3][PO1]

(h) What are prions? Give examples of some diseases caused by prions. [CO3][PO1]

(i) What is flow net and what is its significance? [CO4][PO1]

(j) Give examples of some microorganisms living in air. [CO4][PO1]

PART C - (4 X 15 = 60 Marks)

3. (a) (i) Describe Acid Fast in detail with diagrams. [5][CO1][PO2]

(ii) What are the different classes of viruses, explain with diagrams. [10][CO1][PO1]

(or)

(b) (i) What is sterilization? Explain the different methods of sterilization briefly. [10][CO1][PO1]

(ii) Explain the role of bacterial capsule. Briefly explain capsule staining and the significance of each step in the process. [5][CO1][PO2]

4. (a) (i) What is transduction? Explain different types of transduction. [5][CO2][PO1]

(ii) Explain the different mutations in micro-organisms and categorize them accordingly.[10][CO2][PO1]

(or)

(b) (i) Describe microbial growth curve. Derive the formula for Generation/doubling time in a synchronous culture. [5][CO2][PO2]

(ii) What are the sexual reproduction methods of bacteria? Explain with proper diagram.[10][CO2][PO1]

5. (a) (i) Describe the mode of infection and pathogenesis of anthrax. [5][CO3][PO2]

(ii) With proper diagram explain the structure of HIV, explain the mode of infection and pathogenesis. [10][CO3][PO2]

(or)

(b) (i) With proper diagram explain the life cycle of Malaria paraiste. [7][CO3][PO1]

(ii) Give examples of different pathogenic bacteria, and briefly explain about their pathogenicity. [8][CO3][PO2]

6. (a) (i) What is Therapeutic index? How it is determined and what is its significance? [8][CO4][PO1]

(ii) Classify antibiotics. What is the mode of action of quinolone antibiotics? [7][CO4][PO1]

(or)

(b) (i) What is MPN test? Briefly describe each step with diagrams. [10]CO4][PO1]

(ii) Briefly describe microbiology of air and water. [10][CO4][PO1]