B.Sc. BIOTECHNOLOGY
SECOND SEMESTER (REPEAT)
MICROBIOLOGY-II
BBT-202

(Use separate answer scripts for Objective & Descriptive)

Duration: 3 hrs. **Full Marks: 70**

(PART-A : Objective)

Time: 20 min. **Marks: 20**

Choose the correct answer from the following: ***1X10=10***

1. Chlamydiales fall under Bergey's Manual of
   a. Section 10 b. Section 9
   c. Section 8 d. Section 11

2. Mad Cow disease is caused due to
   a. Viral infection b. Bacterial infection
   c. Neurological disorder d. Altered Prp protein

3. Tobacco Mosaic Virus is an e.g. of
   a. Bacteriophage b. Icosahedral Capsid
   c. Helical Capsid d. Complex Virus

4. Formation of Erythema and Edema is an e.g. of
   a. Hypersensitivity type 1 b. Hypersensitivity Type II
   c. Hypersensitivity Type III d. Hypersenitivity Type IV

5. Antigenic shift and antigenic drift is a characteristic of
   a. HIV b. Influenza virus
   c. Vaccinia Virus d. Pox Virus

6. Azidothymidine or Zidovudine undergoes mode of action by
   a. Binding to the 30s subunit b. Misreading of genetic code
   c. Binding to the 50s subunit d. Interferes with reverse transcriptase enzyme

7. Rabies virus is characterized by capsid with
   a. Icosahedral shape b. Bullet Shaped
   c. Complex symmetry d. Helical Symmetry

8. Mushroom is an e.g. of
   a. Zygomycota b. Basidiomycota
   c. Ascomycota d. Deuteromycota

9. Formation of histamines are observed in
   a. Hypersensitivity type III b. Hypersensitivity Type I
   c. Hypersensitivity Type II d. Hypersensitivity Type IV

10. Zymononas mobilis is used during the production of
    a. Citric acid b. Alcohol
    c. Lipase d. Acetic acid

Fill in the Blanks: ***1X10=10***

1. Penicillin is a _____type of antibiotics.
2. Viral RNA genome is complimentary to viral mRNA is known as _____strand.
3. Spike protein that are exposed on the outer envelope surface are _____&_____.
4. Para-amino benzoic acid is a structural analogue of _____.
5. DNA gyrase is inhibited by _____.
6. Aeration in a fermenter is obtained by _____.
7. Lactobacillus & Bifidobacterium are well known _____.
8. The key intermediate of ED pathway is _____.
9. The infection produced by virus which causes local lesions known as _____.
10. Serum sickness is an e.g. of _____.

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(PART-B : Descriptive)

Time: 2 hrs. 40 min. **Marks: 50**

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

1. **a.** Explain the process of hypersensitivity type II. 5+5=10
   b. Define fermenter? Draw and explain the production of alcohol.
2. Define mutation? Describe spontaneous mutation with a proper diagram. 2+8=10
3. Define Chlamydia? Describe the developmental system in Chlamydia with a neat diagram. 2+8=10
4. Write a note on probiotics and prebiotics and its importance. 5+5=10
5. Explain with a diagram the cultivation of virus in chick embryo and purification by density gradient method. 5+5=10
6. Draw and explain the difference between ED pathway and EMP pathway. 5+5=10
7. Describe the mode of action of drug Penicillin and azidothymidine. 8+2=10
8. What is lytic and lysogenic cycle? Describe the process of generalized transduction. 2+8=10

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