

**B.Sc. BIOTECHNOLOGY  
SECOND SEMESTER  
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:**

**1×20=20**

1. Transposon was discovered by:  
a) Alexander Fleming                      b) Barbara Macklintonck  
c) Louis Pasteur                              d) Fannie Hasse
2. Ergotism is a disease caused by:  
a) Deuteromycota                              b) Ascomycota  
c) Zygomycota                                  d) Basidiomycota
3. Production of Edema & Erythema during PPD injection in case of person suffering from TB is due to:  
a) Type 11 hypersensitivity                  b) Type 1 hypersensitivity  
c) Type 111 hypersensitivity                  d) Type 1V hypersensitivity
4. Genes expressed only under certain environmental condition is known as:  
a) Point mutation                              b) Condition mutation  
c) Lethal mutation                              d) Biochemical mutation
5. Addition or deletion of one or two basepair within the coding region of the gene is known as:  
a) Spontaneous mutation                      b) Frameshift mutation  
c) Point mutation                                d) Induced mutation
6. Scrapie disease is caused due to:  
a) Protein folding                              b) Bacterial infection  
c) Cell wall degranulation                      d) Fungus
7. In cultivation of virus in chicken egg, the production of a local tissue lesions is known as:  
a) Pock    b) Plaque  
c) Colony formation                              d) Cytopathic lesions
8. Production of lactic acid is carried out by:  
a) Lactobacillus plantarum & L. brevis      b) Lactobacillus bulgaricus & L. brevis  
c) L. Bulgaricus & L. debreuckii              d) L. Lacti & L. plantarum

9. Spirulina is a type of:  
 a) Bacterial SCP                      b) Algal SCP  
 c) Fungal SCP                          d) Yeast SCP
10. Production of histamine is a hypersensitivity.  
 a) Type I                                b) Type II  
 c) Type III                              d) Type IV
11. Chlamydiales fall under Bergey's Manual of:  
 a) Section 10                          b) Section 9  
 c) Section 8                          d) Section 11
12. Mad Cow disease is caused due to:  
 a) Viral infection                      b) Bacterial infection  
 c) Neurological disorder              d) Altered Prp protein
13. Tobacco Mosaic Virus is an eg. of:  
 a) Bacteriophage                      b) Icosahedral Capsid  
 c) Helical Capsid                      d) Complex Virus
14. Formation of Erythema and Edema is an eg. of:  
 a) Hypersensitivity type I              b) Hypersensitivity Type II  
 c) Hypersensitivity Type III          d) Hypersensitivity Type IV
15. Antigenic shift and antigenic drift is a characteristic of:  
 a) HIV                                  b) Influenza virus  
 c) Vaccinia Virus                      d) Pox Virus
16. 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.
17. Rabies virus is characterized by capsid with:  
 a) Icosahedral shape                      b) Bullet Shaped  
 c) Complex symmetry                      d) Helical Symmetry
18. Mushroom is an example of:  
 a) Zygomycota                          b) Basidiomycota  
 c) Ascomycota                          d) Deuteromycota
19. Formation of histamines are observed in:  
 a) Hypersensitivity type III              b) Hypersensitivity Type I  
 c) Hypersensitivity Type II              d) Hypersensitivity Type IV
20. Zymomonas mobilis is used during the production of:  
 a) Citric acid                      b) Alcohol                      c) Lipase                      d) Acetic acid

**(PART B : Descriptive)**

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

**Marks: 50**

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

1. Write a note on probiotics and prebiotics and its importance. (5+5=10)
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. Draw and explain the difference between ED pathway and EMP pathway. (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. Describe the mode of action of drug Penicillin and azidothymidine. (8+2=10)
7. a) Define competent cell. Describe the mode of transformation with a neat diagram. (5)  
 b) Explain the process of hypersensitivity type 1. (5)
8. a) Describe the production of acetic acid with diagram. (5)  
 b) Define SCP & write briefly about algal SCP. (5)

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