

**B.Sc. MICROBIOLOGY  
FIFTH SEMESTER  
MEDICAL MICROBIOLOGY  
BMB-501**



[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

( Objective )

*Choose the correct answer from the following:*

*1 × 20 = 20*

1. In toxigenicity AB represents as:
  - a. A-Binding subunit, B-Toxic
  - b. AB toxic effect
  - c. A-Toxic, B-Binding subunit Latex microsphere agglutinated by HCG antibody
  - d. AB-Binding subunit all
2. Mantoux test is done for which disease?
  - a. Shigellosis
  - b. Traveller's Diarrhea
  - c. Salmonellosis
  - d. Tuberculosis
3. Which of the following genus of bacteria causes gastroenteritis in humans?
  - a. Salmonella
  - b. Enterobacter
  - c. Escherichia
  - d. Shigella
4. A positive pregnancy test indicates the following:
  - a. HCG mixed with a solution of antibody and agglutination takes place
  - b. Latex microsphere binds to the HCG antibody thereby inhibits agglutination
  - c. Latex microsphere agglutinated by HCG antibody
  - d. All
5. Fever Blisters is an eg of:
  - a. Endogenous disease
  - b. Quiescent Latency
  - c. Intermittent Latency
  - d. Toxigenicity
6. Infection disease cycle represents as:
  - a. Source of the pathogen-Susceptibility of the host-Transmission to the host-source of the pathogen-Exit
  - b. Susceptibility of the host-Transmission to the host-Source of the pathogen-the pathogen-Exit
  - c. Transmission to the host-source of the pathogen-Susceptibility-pathogen-Exit
  - d. The Pathogen-Source of the pathogen-Transmission to the host-Susceptibility of the host-Exit
7. Methicillin-resistant Staphylococcus aureus (MRSA):
  - a. HCG mixed with a solution of antibody and agglutination takes place is usually sensitive to vancomycin
  - b. Is more likely to cause deep-seated infection
  - c. Is often resistant to many antistaphylococcal antibiotics
  - d. May cause asymptomatic colonisation

8. Which of the following technique is known as Mancini Technique?
  - a. RIA
  - b. Complement Fixation
  - c. ELISA
  - d. Immunodiffusion
9. If an organism persists but remain inactive for long period of time usually for years is known as:
  - a. Intermittent latency ELISA
  - b. Quiscent Latency
  - c. Reservoir RID
  - d. Immunofluorescence
10. Antigens are separated based on their electrical charge:
  - a. Immunoelectrophoresis
  - b. Immunofluorescence
  - c. Immunodiffusion
  - d. ELISA
11. Sheep RBC is used as an indicator cells in which type of tests?
  - a. Immunodiffusion
  - b. Immunoelectrophoresis
  - c. Complement fixation
  - d. Immunoprecipitation
12. Detection of antigens based on the concentration of diffusion is known as:
  - a. Double diffusion agar assay
  - b. ELISA
  - c. RID
  - d. All of the above
13. Clostridium botulinum is associated with which type of toxins?
  - a. Exotoxin
  - b. Neurotoxin
  - c. Endotoxin
  - d. Enterotoxin
14. Who among the following recognized the importance of serological tests?
  - a. Louis Pasteur
  - b. Robert Koch
  - c. Rebecca Lancefield
  - d. Edward Jenner
15. Dyes such as Rhodamine B is used in which of the following tests?
  - a. Immunodiffusion
  - b. Immunofluorescence
  - c. Immunoprecipitation
  - d. ELISA
16. Neisseria gonorrhoea is a causative agent for:
  - a. Typhoid
  - b. Gonorrhoea
  - c. Syphilis
  - d. AIDS
17. Among the following which is a Sulpha Drugs?
  - a. Quinolone
  - b. Chloramphenicol
  - c. Sulphanilamide
  - d. Penicillin
18. Find out the Beta Lactam antibiotics from the following.
  - a. Penicillin
  - b. Methicillin
  - c. Carbencillin
  - d. All
19. The mode of action of Quinolone is to:
  - a. Disrupt the cell wall
  - b. The protein synthesis
  - c. Replication
  - d. Folic acid synthesis
20. What is the cell shape of the organisms belonging to the family Enterobacteriaceae?
  - a. Vibrio
  - b. Coccus
  - c. Bacillus
  - d. Spiral

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**( Descriptive )**

Time : 2 hr. 30 mins.

Marks : 50

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

1. a) Write a note on the microflora of Urinary Tract infection. 10  
b) Explain the laboratory diagnosis related to antibiotic sensitivity test with a neat diagram.
2. a) Define Toxigenicity. 2+5+3=10  
b) Find out the rate of infectious disease if the number of organism present is 200 with virulence rate 80 and host resistance rate is 20.  
c) Explain the mode of antigenicity and Binding toxins with a neat diagram.
3. a) Define Quellung reaction. 2+8=10  
b) Explain the test used to diagnosis measles, mumps or other viral infections with a neat diagram.
4. Write down the difference between exotoxin and endotoxin. Explain the mode of action of Diphtheria toxin with a neat diagram. 5+5=10
5. Explain the mechanism of direct and indirect ELISA with a neat diagram. 10
6. a) Describe the causative agent, mechanism, symptoms, laboratory diagnosis and treatment of HIV disease. 5+5=10  
b) Explain the mechanism of action of antiviral drugs with a neat diagram.
7. Define chemotherapy. Explain the mode of infection of drugs which inhibits the replication on microorganisms. 2+8=10
8. Define RID. Three standard solutions of different antigen concentrations (Ag1:10mg/dl, Ag2:50mg/dl and Ag3:200mg/dl) are plate on the agar with zone of diffusion 4mm, 3mm and 10mm respectively and an unknown (AgX) are placed on the agar with zone of diffusion 20 mg/dl. Find out the concentration of the unknown antigen with a neat diagram. 5+5=10

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