

4. Infection with *Plasmodium falciparum* is suspected if the infected RBC is
 - A. Normal in size
 - B. showing multiple infections
 - C. Both (A) and (B)
 - D. shows motile form inside the RBCs

5. Which of these techniques is not used for cultivation of viruses
 - A. Inanimate culture media
 - B. Tissue culture
 - C. Animal inoculation
 - D. Embryonated egg

6. Rocky mountain spotted fever is due to
 - A. *R. rickettsii*
 - B. *R. typhi*
 - C. *R. prowazekii*
 - D. *R. conorii*

7. IgE
 - A. Protects body fluids
 - B. Protects body surfaces
 - C. Protects blood stream
 - D. Mediates reaginic hypersensitivity

8. Negri bodies of Rabies are
 - A. Intracytoplasmic eosinophilic inclusions with basophilic inner granules
 - B. Intracytoplasmic basophilic inclusions with basophilic inner granules
 - C. Intracytoplasmic acidophilic inclusions with basophilic inner granules
 - D. None of the above

9. Transduction is a method of gene transfer from one bacteria to another by
 - A. Passage of genetic material through sex pilli
 - B. Direct cell to cell contact and protoplasmic fusion
 - C. Plasmids transfer
 - D. Cross infecting Bacteriophages

10. In Gram's staining " Gull wing" shape is seen in
- A. *Yersinia pestis*
 - B. *Vibrio cholerae*
 - C. *Acinetobacter*
 - D. *Campylobacter*
11. CBNAAT is
- A. Chip based nucleic acid amplification test
 - B. Cartridge based nucleic acid amplification test
 - C. Both (a) and (b)
 - D. None of the above
12. Production of germ tube within 2 hours serves as identification character for
- A. *Ray fungus*
 - B. *Cryptococcus neoformans*
 - C. *Rhizopus*
 - D. *Candida albicans*
13. Which of the following parasites cause megaloblastic anemia
- A. *Diphyllobothrium latum*
 - B. *Taenia solium*
 - C. *Ancylostoma duodenale*
 - D. *Echinococcus granulosus*
14. RA factor in Rheumatoid arthritis is a/an
- A. Antigen
 - B. Auto-antibody
 - C. Hapten
 - D. Antibody
15. Graft between two individuals sharing same genetic constitution is referred to as
- A. Allograft
 - B. Isograft
 - C. Xenograft
 - D. Autograft
16. Which of these enzyme is not found inside the core of the virus
- A. DNA Polymerase
 - B. Reverse transcriptase
 - C. Neuraminidase
 - D. RNA Polymerase
17. Amastigote forms of *Leishmania donovani* are found in
- A. The cells of Reticuloendothelial system
 - B. Red blood cells
 - C. Culture media
 - D. Digestive tract of insect vector
18. RAST detects _____ hypersensitivity reaction
- A. Type I
 - B. Type II
 - C. Type III
 - D. Type IV

19. In PCR, denaturation occurs at
- A. 55°C
 - B. 72°C
 - C. 95°C
 - D. None of the above
20. Which of these is not a live attenuated vaccine
- A. TAB
 - B. MMR
 - C. Sabin's vaccine
 - D. BCG

SECTION 02
(General Microbiology, Immunology)

Q.2 Essay type question / clinical scenario based. (12 marks)

Enlist & Describe in Detail about methods of gene transfer and discuss the mechanisms of drug resistance in bacteria

Q.3 Short Note (any 4 out of 5) (7X4=28)

1. Mechanism of Bacterial Pathogenesis
2. Describe in detail the structure & Function of the Bacterial Cell wall & write methods of Demonstration of cell wall.
3. Write in detail about Immune complex mediated hypersensitivity reaction.
4. Classify immunity. Describe the various mechanism of innate/acquired immunity.
5. Draw the two common complement activation pathways and describe the importance of complement in health and disease.

SECTION 03
(Infections of Blood stream & Cardiovascular system, Gastro intestinal tract & Hepatobilliary system)

Q.4 Essay type question / clinical scenario based. (12 marks)

Enumerate Hepatitis Viruses and their mode of transmission. Describe viral markers, Treatment & Prophylaxis of Hepatitis B Infection.

Q.5 Short Note (any 4 out of 5)

(7X4=28)

1. A 35 year old male was admitted in casualty with complain of severe colicky abdominal pain. Patient gave H/O of stool passage of blood and mucus with foul smell for last few days. Wet mount stool preparation showed motile protozoa with pseudopodia. On examination tenderness in right hypochondrium and mild hepatomegaly is found.
 - a. What is the most probable cause for this condition? **(1 mark)**
 - b. Write pathogenesis of this condition. **(3 marks)**
 - c. Write the details of diagnostic modalities of above condition. **(3 marks)**

2. A 25 year old man from urban area admitted in hospital presented with high fever, headache, and retro orbital pain, sever back pain for 5 days and bleeding nose today morning. On examination rash are seen on the body. Blood reports shows platelet count is 20,000/mm³.
 - a. What is the most probable cause for this condition? **(1 mark)**
 - b. Write pathogenesis of this condition. **(3 marks)**
 - c. Write the details of laboratory diagnosis of above condition. **(3 marks)**

3. Enumerate the nematodes infesting intestine. Describe the life cycle, laboratory diagnosis of any one of them.

4. Classify Rickettsia. Describe the etiology, pathogenesis, laboratory diagnosis of spotted fevers.

5. Rheumatic Fever
