



RAN-2106000102030101

2nd Year M.B.B.S. Examination January - 2023

Microbiology : Paper - I

Time: 3 Hours |

[Total Marks: 100

સૂચના : / Instructions

- (1) નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવર્તી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

2nd Year M.B.B.S.

Name of the Subject :

Microbiology : Paper - I

Subject Code No.: 2106000102030101

Seat No.: _____

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Student's Signature _____

- (2) Draw a label diagram wherever required with blue pen/pencil only.
- (3) Short notes 100-150 words
- (4) Write heading of each question properly.

SECTION - 1A

(General Microbiology and Immunology)

- Que. 1** Define Hypersensitivity reactions, Classification of Hypersensitivity reaction, write in detail about mechanism of type 1 hypersensitivity reactions, write methods for detection of Type 1 hyper sensitivity reactions. **(12 marks)**
- Que. 2** **Write notes. (any four)** **(4 × 7 = 28 marks)**
- Principle, applications and modifications of Polymerase Chain Reaction in patient care.
 - Classification, types and diagnostic modalities of Immunodeficiency diseases.
 - Define vaccine. Describe National Immunization Schedule and the types of vaccines used in it.
 - Moist heat sterilization: methods, principle, application and control.
 - Mechanisms of transferable drug resistance in bacteria.

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Que. 3 Multiple Choice Questions.**(10 Marks)**

1. Which of the following is absent in Gram negative bacteria?
 - a. Peptidoglycan
 - b. LPS
 - c. Teichoic acid
 - d. Porin Channels
2. Resolution power of microscope can be improved by using?
 - a. Oil
 - b. Stain
 - c. Lenses
 - d. Condenser
3. Bacteria are uniformly stained in which of the following phase of growth curve?
 - a. Lag phase
 - b. Log phase
 - c. Stationary phase
 - d. Declining phase
4. All of the following are basic steps of PCR cycle **EXCEPT**:
 - a. Denaturation
 - b. Amplification
 - c. Extension
 - d. Gel documentation
5. The antibodies detectable in mothers milk are
 - a. IgG
 - b. IgA
 - c. IgG & IgA
 - d. IgG, IgA & IgM
6. If the infection occurs at a much higher rate than usual in a particular geographic area, it is known as:
 - a. Epidemic
 - b. Endemic
 - c. Hyper endemic
 - d. Sporadic
7. Active acquired immunity has following features **EXCEPT**
 - a. It involves active functioning of host's immune system
 - b. It is long lasting
 - c. There is no latent period
 - d. It is associated with immunological memory
8. A child with a history of repetitive intestinal worm infestation is likely to show an increase in the level of:
 - a. IgG
 - b. IgM
 - c. IgE
 - d. IgD
9. Type of hypersensitivity reaction in myasthenia gravis is:
 - a. Type I
 - b. Type II
 - c. Type III
 - d. Type IV

10. Application of skin graft for the second time from the same donor will result in:
- | | |
|------------------------|-------------------------|
| a. First set rejection | b. Second set rejection |
| c. Both | d. None |

SECTION - IB**(Infection of Blood stream, Cardiovascular system,
Gastrointestinal tract, Hepatobiliary system)**

Que. 1 A young adult female was admitted to the hospital with intense headache, abdominal discomfort for past 5 days. She had also developed fever which is of remittent type with gradual rise in a step ladder fashion. On examination, she was toxic with temperature of 101°F, tongue was coated and mild splenomegaly was present. **(12 marks)**

- What is the most probable etiological diagnosis?
- Describe the pathogenesis of this condition.
- Explain the choice of test, sample collection and laboratory diagnosis of the condition.
- Suggest preventive measures for the disease.

Que. 2 **Write notes. (any four)** **(4 × 7 = 28 marks)**

- Hepatitis B virus: pathogenesis, laboratory diagnosis and prevention
- Mycotic food poisoning.
- Pyrexia of unknown origin: definition, causes and diagnostic test used
- Two common hemo parasitic infections with pathogenesis and laboratory diagnosis of any one of them.
- Importance of effective communication skill in Doctor Patient relationship.

Que. 3 **Multiple Choice Questions** **(10 Marks)**

- Most common agent causing native valve endocarditis is:

a. S.aureus	b. S.epidermidis
c. Viridans streptococci	d. Enterococci
- Which of the following infections causes Megaloblastic anemia:

a. Babesia microti	b. Diphyllbothrium latum
c. Bartonella bacilliformis	d. Leishmania donovani

3. Antibodies against which of the following antigen appear in typhoid carrier:
 - a. Vi antigen
 - b. O antigen
 - c. H antigen
 - d. Capsular antigen
4. Which of the following is the infective form of the malaria parasite to man:
 - a. Merozoite
 - b. Sporozoite
 - c. Trophozoite
 - d. Gametocyte
5. Which of the following is responsible for transmission of HBV infection:
 - a. HBsAg
 - b. HBeAg
 - c. HBcAg
 - d. HBV DNA
6. Single most important agent of traveler's diarrhea is:
 - a. Enterotoxigenic E. coli
 - b. Enteroaggregative E. Coli
 - c. Campylobacter jejuni
 - d. Non Typhodal salmonella
7. Most common viral cause of gastroenteritis is:
 - a. Rotavirus
 - b. Norwalk virus
 - c. Adenovirus
 - d. Hepadnavirus
8. A 35 year old male patient presented with complains for chronic indigestion and having diarrhoea alternating with constipation. He is a traveller and frequently consumes beef. The most appropriate investigation of choice to be advised in this case would be:
 - a. Stool for toxin detection
 - b. Stool for occult blood
 - c. Stool for routine and microscopic examination
 - d. Stool concentration technique
9. Which of the following route has highest risk of transmission of HIV:
 - a. Sexual
 - b. Blood product
 - c. Needle/syringe
 - d. Mother to fetus
10. Definitive host for Echinococcosis is:
 - a. Man
 - b. Dog
 - c. Sheep
 - d. Pig