



RAN-2406000102030701-S

Second Year M. B. B. S. Examination October - 2025

Microbiology (Paper - I)

Time: 3 Hours]

[Total Marks: 100

સૂચના : / Instructions

(1) ઉપરોક્ત દશવિધ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.

Fill up strictly the above details on your answer book.

Seat No.:

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Student's Signature

SECTION - 01

Q. 1. MCQ

(01×20=20)

- A person who has recovered from a disease but still continues to harbor and shed the pathogen is called
 - Healthy carrier
 - Chronic carrier
 - Convalescent carrier
 - Incubational carrier
- The earliest immunoglobulin synthesized by the foetus
 - IgG
 - IgE
 - IgA
 - IgM
- Protozoan parasite associated with diarrhea in HIV seropositive patients is all EXCEPT
 - Cryptosporidium parvum
 - Entamoeba coli
 - Cystoisospora belli
 - Cyclospora species
- All are secondary Lymphoid Organ except
 - Spleen
 - Bone marrow
 - Lymph node
 - MALT
- Naturally acquired active immunity is acquired through which of the following processes?
 - Vaccination
 - Drinking colostrum
 - By birth
 - Infection with disease causing organism followed by recovery
- The immunoglobulin predominant in Chronic infection is:
 - IgA
 - IgG
 - IgM
 - IgE
- Stains used I staining malarial parasites are all except
 - Leishman stain
 - Fields stain
 - Giemsa stain
 - Albert stain
- Which hepatitis virus is transmitted via the fecal-oral route?
 - Hepatitis B
 - Hepatitis C
 - Hepatitis A
 - Hepatitis D

9. The following phenomenon is responsible for antibiotics resistance in bacteria due to slime production
 - A. Co-aggregation
 - B. Biofilm formation
 - C. Mutation evolving and altered target site for antibiotics
 - D. Mutation evolving a target bypass mechanism
10. Dengue Hemorrhagic fever is caused by
 - A. Type I dengue virus
 - B. Reinfection with the same serotype of dengue virus
 - C. Reinfection with a different serotype of dengue virus
 - D. Infection in an immunocompromised host.
11. Most common agent causing native valve endocarditis is
 - A. S.aureus
 - B. S.epidermidis
 - C. Viridans streptococi
 - D. Eterococci
12. Contact dermatitis is which type of Hypersensitivity?
 - A. Type I
 - B. Type II
 - C. Type III
 - D. Type IV
13. A sudden rise in number of cases of a communicable disease in a limited geographic area is called
 - A. Epidemic
 - B. Endemic
 - C. Sporadic
 - D. Outbreak
14. Most reliable and easy method of sterilization of surgical supplies is
 - A. Autoclaving
 - B. ETO sterilization
 - C. Gamma radiation
 - D. Hot air oven
15. The gold standard for malaria diagnosis is:
 - A. Peripheral blood smear
 - B. Rapid diagnostic tests
 - C. ELISAfor antigens
 - D. PCR
16. Bacterial capsule can be best demonstrated by:
 - A. Gram staining
 - B. Acid-fast staining
 - C. Negative staining
 - D. Albert staining
17. Mechanism of direct transfer of free DNA
 - A. Transformation
 - B. Conjugation
 - C. Transduction
 - D. Transposition
18. The cheapest & most widely used disinfectant for HIV infected material is
 - A. Hypochlorite solution
 - B. Lysol
 - C. Formaldehyde
 - D. Mercuric chloride
19. Gram-stain morphology of Bacillus anthracis is:
 - A. Tennis racket appearance
 - B. Bamboo stick appearance
 - C. Drumstick appearance
 - D. Spectacle glass appearance
20. All of the following antimicrobial agents act on cell membrane, except
 - A. Gramicidin
 - B. Daptomycin
 - C. Polymyxins
 - D. Vancomycin

SECTION - 02

Q. 2. Essay (12)
 Define hypersensitivity Reaction. Classify and compare various hypersensitivity reactions based on their important characteristics. Describe mechanism, clinical manifestations, detection and treatment of Type I Hypersensitivity reaction. (1+5+6)

Q. 3. Answer in Brief (Any 4 out of 5) (28)
 1. Enumerate various methods of sterilization. Describe about Autoclave.

2. Bacterial growth curve
3. Enumerate various methods of Horizontal gene transfer. Write details of conjugation.
4. Various Modes of transmission of Bacterial infections.
5. Difference between Innate and acquired immunity.

SECTION - 03

Q. 4. Essay (12)

A 23-year-old male is brought to medical OPD with complaints of profuse diarrhea, vomiting & abdominal pain since 1 day. The patient was immediately managed for dehydration & his stool (rice watery) was sent to Microbiology Laboratory for investigations.

1. What is the most likely diagnosis. (01)
2. Describe the pathogenesis of this condition. (05)
3. Describe the laboratory diagnosis of this infection. (06)

Q. 5. Answer in Brief (Any 4 out of 5) (28)

1. Pre and Post exposure prophylaxis of Hepatitis B Virus.
2. Enumerate anemia causing parasites. Write morphology and life cycle of Hook Worm.
3. Laboratory diagnosis of Candidiasis.
4. Laboratory diagnosis of *P. falciparum*.
5. Lymphatic filariasis.