

2406000102030701-S
(SUPPLEMENTARY EXAM) FEBRUARY-2025
SECOND MBBS
MICROBIOLOGY (PAPER - I) (NEW) (OMR)

[Time: As Per Schedule]

[Max. Marks:100]

Instructions:

1. Fill up strictly the following details on your answer book
 - a. Name of the Examination: **SECOND MBBS**
 - b. Name of the Subject: **MICROBIOLOGY (PAPER - I) (NEW) (OMR)**
 - c. Subject Code No: **2406000102030701-S**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

SECTION-I

Q.1 Multiple Choice Questions (MCQ)

20

1. Which of the following is a Gram-positive cocci that grows in clusters?
 - A. Staphylococcus aureus
 - B. Streptococcus pyogenes
 - C. Neisseria meningitidis
 - D. Escherichia coli
2. The classical pathway of complement activation is triggered by:
 - A. Lipopolysaccharides
 - B. Antigen-antibody complexes
 - C. Lectins binding to pathogens
 - D. Alternative surface molecules

3. The vector for transmission of malaria is:
- A. Culex mosquito B. Aedes mosquito
C. Anopheles mosquito D. Sandfly
4. The primary site of replication for Hepatitis B virus is:
- A. Pancreas B. Intestine
C. Liver D. Spleen
5. Escherichia coli is most commonly associated with:
- A. Skin infections B. Urinary tract infections
C. Meningitis D. Endocarditis
6. Which immunoglobulin is present in the highest concentration in serum?
- A. IgA B. IgE
C. IgM D. IgG
7. The causative agent of typhoid fever is:
- A. Salmonella typhi B. Vibrio cholerae
C. Shigella dysenteriae D. Clostridium perfringens
8. Which of the following is an anaerobic Gram-positive rod?
- A. Clostridium difficile B. Pseudomonas aeruginosa
C. Klebsiella pneumoniae D. Proteus mirabilis
9. Which hepatitis virus is most commonly transmitted via the fecal-oral route?
- A. Hepatitis B B. Hepatitis C
C. Hepatitis D D. Hepatitis A

10. Which organism is a common cause of bacterial endocarditis on prosthetic valves?
- A. Staphylococcus epidermidis B. Staphylococcus aureus
C. Escherichia coli D. Enterococcus faecalis
11. The Widal test is used for diagnosing:
- A. Cholera B. Enteric fever
C. Tuberculosis D. Dengue fever
12. Which immunological cell type is primarily involved in granuloma formation?
- A. Neutrophils B. Macrophages
C. T lymphocytes D. Plasma cells
13. The causative organism of amoebic dysentery is:
- A. Giardia lamblia B. Entamoeba histolytica
C. Cryptosporidium parvum D. Shigella dysenteriae
14. The toxin responsible for the symptoms of tetanus acts on:
- A. Peripheral nerves B. Neuromuscular junctions
C. Central nervous system D. Skeletal muscles
15. The characteristic stool appearance in cholera is described as:
- A. Bloody stool B. Rice water stool
C. Mucus-filled stool D. Foamy stool
16. Which test is commonly used to detect antibodies in autoimmune diseases?
- A. ELISA B. Coombs test
C. Immunofluorescence assay D. Western blot

17. *Helicobacter pylori* is most commonly associated with:
- A. Gastric ulcers B. Diarrhea
C. Liver abscess D. Pancreatitis
18. A common cause of bacterial peritonitis in cirrhotic patients is:
- A. *Escherichia coli* B. *Klebsiella pneumoniae*
C. *Enterococcus faecalis* D. *Salmonella typhi*
19. The Ziehl-Neelsen stain is used to identify:
- A. Gram-negative bacteria B. Acid-fast bacilli
C. Fungi D. Parasites
20. Rocky mountain spotted fever is due to
- A. *R. rickettsii* B. *R. prowazekii*
C. *R. typhi* D. *R. conorii*

SECTION-II

Q.2 Essay-type Question. 12

Describe in detail about the structure and function of various lymphoid organs and cells of immune system.

Q.3 Answer in Brief (Any 4 out of 5) 28

1. Describe the differences between innate and adaptive immunity.
2. Describe in detail the structure & Function of the Bacterial Cell wall~write methods of Demonstration of cell wall.
3. Write a short note on the mechanism of action of bacterial endotoxins.
4. Draw the two common complement activation pathways and describe the importance of complement in health and disease.
5. Replication of viruses.

SECTION-III**Q.4 Essay-type Question.****12**

A 35-year-old male presents with high-grade fever, fatigue, and new onset of a heart murmur. Blood culture grows *Streptococcus viridans*.

1. What is the likely clinical condition? **02**
2. Discuss the pathogenesis of this condition. **05**
3. Describe the laboratory diagnosis and treatment options. **05**

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

1. Pyrexia of unknown origin: definition, causes and diagnostic test used
2. Explain the pathogenesis and clinical features of amoebic liver abscess.
3. Discuss the role of *Helicobacter pylori* in peptic ulcer disease.
4. Explain the laboratory diagnosis of Hepatitis B virus infection
5. Importance of effective communication skills in Doctor-Patient relationship.
