

# 2019 Scheme

Q.P. Code: 216001

Reg. no.: .....

Second Professional MBBS Degree Regular/Supplementary Examinations

August 2025

## Microbiology Paper II

Time: 3 Hours

Total Marks: 100

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers
- Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

### 1. Multiple Choice Questions

(20x1=20)

The responses for MCQ questions (Q.No. i to Q.No. xx) shall be written in the space provided for answering MCQ questions at page No. 51 of the answer book (the inner portion of the back cover page (PART III)). Responses for MCQs marked in any other part/page of the answer book will not be valued

Read the following clinical history and select the most appropriate response for questions i - v

A 5 year old girl presented to paediatric O P with complaints of fever and loose stools for one day. Mother noticed presence of blood in stool. Stool microscopy showed no motile trophozoites. Plenty of pus cells and RBC were seen

- What is your provisional diagnosis
  - Bacillary dysentery
  - Amoebic dysentery
  - Viral gastroenteritis
  - Giardiasis
- Most common causative agent
  - Entamoeba
  - Shigella
  - Giardia
  - Rota virus
- Virulence mechanism of the above condition
  - Invasion
  - Preformed toxin
  - Endo toxin
  - Capsule
- Enrichment medium used for stool culture
  - Glucose broth
  - Brain heart Infusion broth
  - Selenite F broth
  - Carry Blair medium
- Name the complication following the above condition
  - Liver abscess
  - Empyema
  - Ulceration of the small intestine
  - Haemolytic uraemic syndrome

Question numbers vi - x are multiple response type questions. Read the statements & mark the answers appropriately.

- Specific serological test for laboratory diagnosis of Streptococcal sore throat is,
  - 1) Anti-Streptolysin O test (ASO test)
  - 2) C-reactive protein(CRP) test
  - 3) Rheumatoid factor (RF) test
  - 4) Anti-deoxyribonuclease test
  - a) 1, 2 are correct
  - b) 1, 2, 3 are correct
  - c) 1, 4 are correct
  - d) 3, 4 are correct
- All are nematodes inhabiting in the small intestine
  - 1) Ascaris lumbricoides
  - 2) Trichuns trichura
  - 3) Strongyloides stercoralis
  - 4) Ancylostoma duodenale
  - a) 1, 2, 3 are correct
  - b) 2, 3, 4 are correct
  - c) 1, 3, 4 are correct
  - d) 1, 2, 3, 4 are correct
- Causative agents of acute viral meningitis is
  - 1) Coxsackie virus
  - 2) ECHO virus
  - 3) Mumps virus
  - 4) Varicella zoster virus
  - a) 1, 2, 3, 4 are correct
  - b) 1, 2, 3 are correct
  - c) 2, 3, 4 are correct
  - d) 1, 3, 4 are correct
- The family paramyxoviridae includes
  - 1) Mumps virus
  - 2) Rhinovirus
  - 3) New castle disease virus
  - 4) Respiratory syncytial virus
  - a) Only 2 is correct
  - b) 1, 2, 3 are correct
  - c) 1, 4 are correct
  - d) 1, 3, 4 are correct
- Amoebae causing diseases in humans are
  - 1) Entamoeba histolytica
  - 2) Entamoeba dispar
  - 3) Acanthamoeba species
  - 4) Entamoeba gingivalis
  - a) 1, 2 are correct
  - b) 1, 3 are correct
  - c) 1, 4 are correct
  - d) 3, 4 are correct

Question numbers xi – xv are single response types

- The stain not used for Corynebacterium is
  - a) Albert
  - b) Kinyoun
  - c) Ponder
  - d) Neisser
- The capsule of Streptococcus pneumoniae in CSF can be demonstrated by
  - a) India ink
  - b) Latex agglutination
  - c) Precipitation with antisera
  - d) All of the above
- Primary agents of pyogenic meningitis includes all of the following EXCEPT
  - a) Streptococcus pneumoniae
  - b) Haemophilus influenzae
  - c) Neisseria meningitidis
  - d) Streptococcus agalactiae

(FTO)

- xiv. Informed consent includes
  - a) Willing acceptance of a medical intervention by a patient
  - b) Adequate disclosure by the doctor of the nature of intervention
  - c) Explanation about risks and benefits and also its alternatives
  - d) All of the above
- xv. Humans acquire Ancylostoma infection by
  - a) Ingestion of larva
  - b) Ingestion of fertilised egg
  - c) Penetration of skin by filiform larva
  - d) Ingestion of either eggs or larva

Question numbers xvi – xx consists of two Statements-Assertion (A) and Reason (R). Answer these questions by selecting the appropriate options given below.

- a) Both A and R are true and R is the correct explanation of A
  - b) Both A and R are true and R is not the correct explanation of A
  - c) A is true but R is false
  - d) A is false but R is true
- xvi. **Assertion:** Polio virus causes acute flaccid paralysis  
**Reason:** Polio virus destroys anterior horn cells of spinal cord
  - xvii. **Assertion:** Influenza virus is a segmented RNA virus  
**Reason:** Influenza virus shows antigenic variability
  - xviii. **Assertion:** Pulmonary tuberculosis is diagnosed by Acid Fast Staining  
**Reason:** Mycobacterium tuberculosis is the only acid fast Mycobacterium
  - xix. **Assertion:** Aspergillus is a dimorphic fungus  
**Reason:** Aspergillus causes pulmonary infections
  - xx. **Assertion:** Characteristic perianal itching is produced during night by Enterobius vermicularis  
**Reason:** NIH swab is used for the diagnosis of Enterovirus vermicularis

**Essays**

(2x10=20)

- 2. A 48-year-old lady presented with history of low grade evening rise of temperature and productive cough for past 3 months. She also gave history of weight loss and loss of appetite. Chest x ray showed nodular infiltrate in the apical area of the left lobe of the lung
  - a) What is the provisional diagnosis
  - b) Discuss the laboratory diagnosis as per the national programme for elimination of the disease
  - c) Name Four first line microbicidal drugs
  - d) Discuss the measures for elimination of this disease
- 3. A ten-year-old boy was bitten by a dog and later developed fever, headache, anxiety, agitation, and nervousness. He had difficulty in drinking water along with intense thirst. Attempt to drink water brought painful spasm of the pharynx and larynx with violent choking. After few days he died
  - a) What is the disease in the above case
  - b) Discuss the ante mortem and postmortem laboratory diagnosis
  - c) Name Three non-neural vaccines
  - d) Discuss the pre and post exposure prophylaxis of this disease

(1+4+2+3)

(1+3+3+3)

(6x6=36)

**Short Essays**

- 4. Name Four cestodes. Discuss in detail cysticercosis
- 5. Enumerate Four agents causing viral diarrhea. Discuss the pathogenesis, laboratory diagnosis (2+2+2)
- 6. Classify hepatitis virus. Write about the lab diagnosis and prophylaxis for hepatitis A virus (1+3+2)
- 7. A 40-year-old cattle rearer presented with abdominal pain for past one year with no history of vomiting, jaundice, fever or loss of weight. Abdominal ultrasound suggested cystic swelling in the liver. Total leucocyte count was 8800/micro litre and eosinophil count was 6%. He was operated and cyst is removed and it was sent for investigation. Characteristic hyaline glasslike membrane filled with sand and fluid was found.
  - a) What is the probable diagnosis
  - b) Explain in brief the life cycle and lab diagnosis of the etiological agent
- 8. Discuss in detail bacterial food poisoning
- 9. Name Four bacterial zoonosis. Discuss in detail any one of them (2+4)

(6x4=24)

**Short Answers**

- 10. Give at least four examples for emerging infection. Add a note on Nipha virus (2+2)
- 11. Name four examples of opportunistic infection in HIV positive patients. Add a note on cryptococcal meningitis (2+2)
- 12. Enumerate congenital viral infection. Add a note on congenital cytomegalovirus infection (2+2)
- 13. What are the four principal of bioethics. Write about non maleficence (1+3)
- 14. Write the morphology, life cycle and lab diagnosis of Giardiasis (1+1+2)
- 15. Write in brief about the lab diagnosis of Diphtheria

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