

SAPTHAGIRI NPS UNIVERSITY
MBBS PHASE II University Examinations August / September– 2025
SUBJECT: MICROBIOLOGY PAPER-2 (QP CODE: 1012)

Your answer should be specific to the question asked.

Draw neat, labelled diagrams wherever necessary.

Maximum Marks: 100

Date: 30/08/2025

Time: 3 hrs

I. Long Essays:

2X10=20 Marks

1. A 3-year-old boy was admitted to the hospital with complaints of high-grade fever, headache, rashes, vomiting and neck stiffness. On examination, Kernig's sign and Brudzinski's signs were positive. Gram smear of CSF sample revealed plenty of neutrophils with Gram- negative diplococci with adjacent sides flattened (half-moon shaped). (2+3+2+3)
 - i. What is your probable clinical diagnosis and the etiological agent?
 - ii. Describe the pathogenesis of this clinical condition.
 - iii. Discuss the laboratory diagnosis.
 - iv. Add a note on treatment and preventive measures.
2. A 65-year-old male patient was admitted with history of fever, sore throat, body pain, loss of taste and smell and difficulty in breathing. Oxygen saturation was < 90 %. CT scan of chest showed ground glass opacities. (1+3+3+3)
 - i. What is the probable diagnosis? Name the aetiological agent.
 - ii. Describe pathogenesis and clinical manifestations of this condition.
 - iii. Enumerate microbiological and non-microbiological tests to diagnose this condition.
 - iv. Discuss the infection control measures to prevent transmission of this clinical condition.

II. Short Essays:

8X5=40 Marks

3. A 61-year-old male known HIV patient presented with headache, altered mental status and loss of vision. Negative staining of CSF revealed round budding yeast cells with surrounding clear refractile halo. (2+3)
 - a. What is the probable diagnosis? Name the aetiological agent.
 - b. Discuss laboratory diagnosis.
4. Post- exposure prophylaxis of rabies.
5. Neat labelled diagram of Influenza virus. Discuss its antigenic variations. (2+3)
6. Congenital toxoplasmosis.
7. Laboratory diagnosis of bubonic plague.
8. Gonococcal urethritis.
9. Bacterial vaginosis.
10. Polio vaccines.

III. Short Answers

10X3=30 Marks

11. Name three human oncogenic viruses with their associated malignancies.
12. Name three bacterial bioterrorism agents.
13. Enumerate free- living amoebae affecting CNS.

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14. List three genital infections caused by *Chlamydia trachomatis*.
15. Tropical pulmonary eosinophilia.
16. Name three bacterial zoonoses.
17. Enumerate agents causing deep mycosis.
18. Enumerate Non- treponemal tests for syphilis.
19. Enumerate common forms of pulmonary aspergillosis.
20. Sequential steps after needle stick injury.

IV. MCQs

10X1=10 Marks

21. i) All are causative agents of Atypical pneumonia EXCEPT:

- | | |
|------------------------------------|----------------------------------|
| a. <i>Chlamydia pneumoniae</i> | c. <i>Mycoplasma pneumoniae</i> |
| b. <i>Streptococcus pneumoniae</i> | d. <i>Legionella pneumophila</i> |

ii) Ribavirin is the drug of choice for:

- | | |
|--------------------------------|------------------|
| a. Rhino virus | c. Mumps virus |
| b. Respiratory syncytial virus | d. Measles virus |

iii) Hand- foot- and – mouth disease is caused by:

- | | |
|---------------------------|---------------------------|
| a. <i>Coxsackie virus</i> | c. <i>Mumps virus</i> |
| b. <i>Measles virus</i> | d. <i>Influenza virus</i> |

iv) ESKAPE pathogens include all, EXCEPT:

- | | |
|---------------------------------|-----------------------------------|
| a. <i>Enterococcus faecium</i> | c. <i>Streptococcus pyogenes</i> |
| b. <i>Klebsiella pneumoniae</i> | d. <i>Acinetobacter baumannii</i> |

v) Rat bite fever is caused by:

- | | |
|--------------------------------|--|
| a. <i>Borrelia recurrentis</i> | c. <i>Yersinia pestis</i> |
| b. <i>Leptospira</i> | d. <i>Streptobacillus moniliformis</i> |

22. i) Gram smear of exudate from painful genital ulcer showed pleomorphic Gram- negative coccobacillus with 'school of fish' appearance. Probable aetiologic agent is:

- | | |
|---------------------------------|-----------------------------------|
| a. <i>Treponema pallidum</i> | c. <i>Acinetobacter baumannii</i> |
| b. <i>Chlamydia trachomatis</i> | d. <i>Haemophilus ducreyi</i> |

ii) A 39- year- old male patient from Africa was admitted with abdominal pain, haematuria and dysuria. Urine microscopy revealed oval, non- operculated eggs with terminal spine. Probable aetiologic agent is:

- | | |
|---------------------------|-----------------------------------|
| a. <i>Taenia saginata</i> | c. <i>T. vaginalis</i> |
| b. <i>Taenia solium</i> | d. <i>Schistosoma haematobium</i> |

iii) Subacute sclerosing panencephalitis (SSPE) occurs as a complication after:

- | | |
|--------------|------------|
| a. Influenza | c. Measles |
| b. Mumps | d. Dengue |

iv) Which is correct about Prions?

- | | |
|--------------------------------------|-------------------------|
| a. Destroyed by autoclaving at 121°C | c. Immunogenic. |
| b. Long incubation period | d. Nucleic acid present |

v) Q fever is caused by-

- | | |
|----------------------------------|---------------------------------|
| a. <i>Orientia tsutsugamushi</i> | c. <i>Chlamydia trachomatis</i> |
| b. <i>Coxiella burnetii</i> | d. <i>Rickettsia prowazekii</i> |

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SAPTHAGIRI NPS UNIVERSITY

MBBS PHASE II University RESIT Examinations October / November– 2025

SUBJECT: MICROBIOLOGY PAPER II (QP CODE: 1012)

Your answer should be specific to the question asked

Draw neat labelled diagrams wherever necessary

Maximum Marks: 100

Date: 30/10/2025

Time: 3 hrs.

I. Long Essays:

2X10=20 Marks

1. A 28-year-old male was admitted to the hospital with complaints of Low-grade fever, loss of appetite, and chronic cough with expectoration for past 6 weeks. Sputum examination revealed long slender and beaded acid-fast bacilli. (1+2+4+3)
 - a. What is your provisional diagnosis?
 - b. Describe pathogenesis of this condition
 - c. Mention laboratory diagnosis in detail.
 - d. Add a note on drug resistance that can occur in this etiological agent.
2. A one and half year-old child was brought to the emergency room with weakness in her right leg. On examination, her leg appeared flaccid, no deep tendon reflex or Babinski reflex elicited, although sensation was intact. Other limb examination was normal. Faecal sample sent to referral centre where polio virus type 1 was detected. (1+5+3+1)
 - a. What is the probable clinical diagnosis?
 - b. What is the pathogenesis and lab diagnosis of above clinical condition?
 - c. Add a note on vaccines.
 - d. What is VAPP and VDPV?

II. Short Essays:

8X5=40 Marks

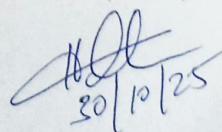
3. List the viruses causing meningitis and describe the lab diagnosis of viral meningitis.
4. Elaborate on laboratory diagnosis and prophylaxis of COVID-19.
5. Write a note on standard tests for Syphilis.
6. Write a note on laboratory diagnosis of Candidiasis.
7. Elaborate the clinical features and lab diagnosis of Plague.
8. Discuss the Post-exposure prophylaxis of Rabies.
9. Elaborate life cycle and mention THREE laboratory tests for diagnosis of Malaria. (3+2)
10. Describe Biomedical waste management.

III. Short Answers

10X3=30 Marks

11. List THREE bacteria causing Non-Gonococcal Urethritis.
12. Add a note on Malignant pustule.
13. Add a note on Genital herpes.
14. Name THREE parasites infecting CNS.
15. Name THREE parasites that passes through lung during their life cycle in man.
16. Draw a neat, labelled diagram of Roundworm egg.
17. Describe MRSA and its significance.
18. Name THREE Free living amoeba.
19. Instruct the house-keeping personnel on spill management.
20. Lab diagnosis of Cryptococcal meningitis

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IV. MCQs

10X1 = 10 Marks

21.

- i. Primary Amoebic Meningoencephalitis is caused by:
 - a. Giardia
 - b. Naegleria fowleri
 - c. Entamoeba histolytica
 - d. Leishmania
- ii. Mode of transmission of Toxoplasma gondii:
 - a. Mosquito bite
 - b. Blood transfusion
 - c. Ingestion of oocysts
 - d. Skin penetration
- iii. Which parasite causes haematuria due to bladder wall damage?
 - a. Fasciola hepatica
 - b. Schistosoma haematobium
 - c. Taenia saginata
 - d. Trichuris trichiura
- iv. Paragonimus westermani primarily affects following organ:
 - a. Liver
 - b. Brain
 - c. Lungs
 - d. Intestine
- v. The most common opportunistic fungal infection in AIDS is:
 - a. Histoplasmosis
 - b. Candidiasis
 - c. Dermatophytosis
 - d. Sporotrichosis

22.

- i. Donovanosis is caused by:
 - a. Klebsiella granulomatis
 - b. N. gonorrhoeae.
 - c. Entamoeba histolytica
 - d. Leishmania donovani
- ii. All of the following are example of slow viral disease EXCEPT
 - a. Eastern equine encephalitis
 - b. subacute sclerosing pan encephalitis.
 - c. progressive multifocal leukoencephalopathy
 - d. subacute spongiform viral encephalopathies.
- iii. Which of the following viral agent causes conjunctivitis?
 - a. Enterovirus 70
 - b. Orf Virus
 - c. Enterovirus 55
 - d. All of the above.
- iv. Japanese encephalitis is transmitted by:
 - a. Anopheles
 - b. Mansonia mosquito
 - c. Culex tritaeniorhynchus
 - d. Aedes aegypti
- v. Which of the following is not a zoonotic disease /infection?
 - a. Brucellosis
 - b. Anthrax
 - c. Rabies
 - d. Swimming pool granuloma

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