

**Time: Three Hours****Max. Marks: 100 Marks****MICROBIOLOGY – PAPER II (RS-4)****Q.P. CODE: 1031****(QP contains two pages)**

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

**LONG ESSAYS****2 x 10 = 20 Marks**

1. A two year old boy was brought to the hospital with history of high fever with vomiting and drowsiness. On examination the child has neck rigidity and other signs of meningitis. CSF examination was suggestive of bacterial meningitis
  - a) List the bacteria causing acute meningitis
  - b) Describe the pathogenesis of meningococcal meningitis
  - c) Describe in detail sample collection and laboratory diagnosis of meningitis
  - d) Discuss prevention of meningococcal meningitis
2. During the current pandemic, a 32 year old male who travelled from Britain developed fever, sore throat and loss of smell. On the 6<sup>th</sup> day he developed difficulty in breathing and drop-in oxygen saturation. CT thorax showed patches in lungs
  - a) Mention the etiological diagnosis
  - b) Discuss in detail the sample collection and laboratory diagnosis of this patient
  - c) What precautions are to be followed by health care workers?
  - d) How to segregate and handle the biomedical waste while caring for this patient?

**SHORT ESSAYS****8 x 5 = 40 Marks**

3. Laboratory diagnosis of Bacterial vaginosis.
4. Laboratory diagnosis and treatment of Lympho-Granuloma Venereum (LGV).
5. Discuss Laboratory diagnosis of urinary tract infections.
6. Discuss pathogenesis, clinical features and laboratory diagnosis of Dengue fever.
7. Laboratory diagnosis of pulmonary TB.
8. Prophylaxis of Poliomyelitis.
9. Laboratory diagnosis and prevention of mucormycosis.
10. Define opportunistic infection and describe predisposing factors involved in opportunistic disease.

**SHORT ANSWERS****10 x 3 = 30 Marks**

11. Post exposure prophylaxis of Rabies.
12. Lesions caused by HSV 2.
13. What is Prion disease? Mention three Prion diseases?
14. Mention three Arboviruses transmitted by mosquitoes
15. Enumerate three bacteria causing zoonosis
16. Laboratory diagnosis of diphtheria
17. Describe Weil-Felix test.
18. Discuss pathogenesis of pulmonary plague
19. Management of needle stick injury.
20. Mention the three components of standard precautions in health care delivery.



- 21 i) False statement regarding Japanese B encephalitis
- A. It is caused by flavivirus
  - B. Transmitted by Aedes mosquito
  - C. Endemic in India
  - D. Man is dead end host
- 21 ii) The type of diphtheria with highest mortality is
- A. Pharyngeal
  - B. Nasal
  - C. **Cutaneous**
  - D. Conjunctival
- 21 iii) Rabies is identified by
- A. **Guarnieri** bodies
  - B. Negri bodies
  - C. Cowdry bodies
  - D. Paschen body
- 21 iv) Which of the following is correct about Prions?
- A. Destroyed by autoclaving at 121 degree C
  - B. Long incubation period
  - C. Immunogenic
  - D. Nucleic acid present
- 21 v) All of the following viruses cause viral meningitis **EXCEPT**
- A. Enteroviruses
  - B. Herpes simplex virus
  - C. Arbovirus
  - D. Rotavirus
- 22 i) Carrom coin appearance of colonies is seen for
- A. S. pyogenes
  - B. Viridans streptococci
  - C. S. agalactiae
  - D. S.pneumoniae
- 22 ii) Neonatal meningitis acquired through infected birth canal is due to
- A. S. pyogenes
  - B. Viridians streptococci
  - C. S.agalactiae
  - D. S.pneumoniae
- 22 iii) All of following bacteria can cause acute bacterial meningitis **EXCEPT**
- A. Neisseria meningitidis
  - B. Streptococcus pneumoniae
  - C. Haemophilus **influenzae**
  - D. Neisseria **gonorrhoeae**
- 22 iv) Human acquired cysticercus cellulosae infection is **NOT** caused by
- A. Ingestion of contaminated vegetables
  - B. Autoinfections
  - C. Reverse peristalsis
  - D. Ingestion of contaminated pig's meat
- 22 v) Most common manifestation of Toxoplasma gondii in immunocompromised adult
- A. Lymphadenopathy
  - B. Chorioretinitis
  - C. Myocarditis
  - D. Encephalitis

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