

**Time: Three Hours****Max. Marks: 100 Marks****MICROBIOLOGY – PAPER I (RS-4)****Q.P. CODE: 1030****(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 35 year old male came with history of intravenous drug abuse and is admitted with complaints of unexplained fever progressive weight loss persistent diarrhoea and generalized lymph adenopathy for the past 8 months
  - a) What is the most probable diagnosis?
  - b) Discuss the pathogenesis of the disease
  - c) The laboratory diagnosis with NACO guidelines
  - d) Precautions to be followed for prevention
2. A 13 year old boy developed severe watery diarrhoea and vomiting. The stool collected has a rice water type of appearance. It was sent for bacterial culture
  - a) What is the probable etiological agent of this condition?
  - b) Describe in detail the pathogenesis of this condition
  - c) Describe the laboratory diagnosis of this organism
  - d) Add a note on prophylaxis and prevention

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

3. Monoclonal antibodies
4. Mechanisms of autoimmune disease
5. Modes of transmission of infections
6. Dimorphic fungi causing infections
7. Laboratory diagnosis of Falciparum malaria
8. Classify protozoan infections with examples
9. Acid peptic disease – Causative organisms, pathogenesis and diagnosis
10. Laboratory diagnosis of Mycetoma

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

11. List three functions of complement
12. Mention three agglutination tests
13. What are the risk categories of Spaulding classification and the definitions for each category?
14. Lab diagnosis of intestinal amoebiasis
15. Lab diagnosis of tinea infections
16. Tzanck smear
17. Widal test
18. Name six bacteria causing diabetic foot infection
19. Pathogenesis of Shigella
20. Lab diagnosis of **skin lesions** caused by staphylococcus

**Multiple Choice Questions****10 x 1 = 10 Marks**

- 21 i) Fungi that do not affect nail  
A. Trichophyton  
B. Epidermophyton  
C. Microsporum  
D. Candida albicans
- 21 ii) Tinea versicolor is caused by  
A. Candida albicans  
B. Trichophyton rubrum  
C. Trichophyton mentagrophytes  
D. Malassezia furfur
- 21 iii) Vector for Leishmaniasis is  
A. Sandfly  
B. Reduvid bug  
C. Tsetse fly  
D. Anopheles mosquito
- 21 iv) Subacute sclerosing panencephalitis (SSPE) is a complication of which viral infection  
A. Mumps  
B. Measles  
C. Rubella  
D. Influenza
- 21 v) CAMP test is used to identify which of the following bacteria  
A. Streptococcus pyogenes  
B. Streptococcus agalactiae  
C. Streptococcus pneumonia  
D. Viridans streptococci
- 22 i) Scalded skin syndrome is mediated by  
A. Hemolysin  
B. Coagulase  
C. Enterotoxin  
D. Epidermolytic toxin
- 22 ii) Which of the following is a not a liver fluke  
A. Fasciolopsis buski  
B. Fasciola hepatica  
C. Clonorchis sinensis  
D. Opisthorchis viverrini
- 22 iii) Which is known as Australia antigen  
A. HBsAg  
B. HBcAg  
C. HBeAg  
D. HBV DNA
- 22 iv) Antibodies against which of the following antigen appear in typhoid carrier  
A. O antigen  
B. H antigen  
C. Vi antigen  
D. Capsular antigen
- 22 v) Transfer of DNA from one bacterium to another by a bacteriophage is called  
A. Conjugation  
B. Transduction  
C. Transformation  
D. Transposition

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