

Rajiv Gandhi University of Health Sciences, Karnataka**MBBS Phase – II (CBME) Degree Examination - 17-Apr-2025****Time: Three Hours****Max. Marks: 100****MICROBIOLOGY – PAPER I (RS-4 & RS-5)****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 40-year-old-man presented to hospital with complaints of fever and weight loss. On examination, 102°F fever and anaemia were noted. Enlargement of liver and spleen were also present. The bone marrow aspirate collected was subjected to Giemsa staining which revealed amastigotes filled within a macrophage.
 - a) Identify the etiological agent and the clinical diagnosis?
 - b) Write about the life cycle & pathogenesis of the etiological agent.
 - c) Describe the laboratory diagnosis of above condition.
2. A 25-year-old-man complains of mild fever, abdominal cramps, tenesmus, frequent passage of stools associated with blood and mucus. Stool microscopy shows abundant pus cells and no ova/cysts/trophozoites were seen. Stool culture yielded the growth of non-lactose fermenters.
 - a) What is the etiological agent causing above clinical condition?
 - b) Describe the pathogenesis and complications of the above clinical condition
 - c) Describe the laboratory diagnosis of the above clinical condition

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

3. Describe passive immunity.
4. Pathogenesis & prevention of tetanus.
5. Laboratory diagnosis of HIV infection
6. Molluscum contagiosum.
7. Give an outline of laboratory diagnosis of fungal infections.
8. Antibiotic associated diarrhoea.
9. Discuss the clinical manifestations and laboratory diagnosis of sporotrichosis.
10. Describe principle, types and applications of ELISA.

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

11. Modified Jones criteria for diagnosis of rheumatic fever.
12. Principle and uses of Widal test.
13. Enumerate methods of Antimicrobial Susceptibility test.
14. Write any three applications of PCR.
15. Name three agents causing Mycetoma.
16. Methods of HLA typing.
17. Life cycle of *Enterobius vermicularis*.
18. Modes of transmission of *Hepatitis B Virus*.
19. Structure of IgA.
20. Laboratory diagnosis of Chagas' Disease

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Multiple Choice Questions

10 x 1 = 10 Marks

- 21 i) The infective form of *Balantidium coli* is
- Cyst
 - Sporozoite
 - Trophozoite
 - Tachyzoites
- 21 ii) All are heterophile antigen test **EXCEPT**
- Paul- Bunnell test
 - Weil- Felix test
 - Cold Agglutination Test
 - Rose -Waler test
- 21 iii) Hair perforation test is positive in one of the following dermatophytes;
- Trichophyton rubrum*
 - Trichophyton mentagrophytes*
 - Trichophyton tonsurans*
 - Trichophyton violaceum*
- 21 iv) Traveler's diarrhea is caused by
- Enterohemorrhagic *E.coli*
 - Enteropathogenic *E. coli*
 - Enterotoxigenic *E. coli*
 - Enteroinvasive *E.coli*
- 21 v) Hand -foot and mouth disease is caused by
- Herpes Simplex virus*
 - Coxsackie virus*
 - Measles virus*
 - Chicken pox virus*
- 22 i) In which phase of bacterial growth curve sporulation occurs
- Lag Phase
 - Log Phase
 - Phase of decline
 - Stationary Phase
- 22 ii) Which hepatitis virus is associated with the highest mortality in pregnancy?
- Hepatitis E Virus*
 - Hepatitis C Virus*
 - Hepatitis B Virus*
 - Hepatitis A Virus*
- 22 iii) Which of the following clinical sample is **NOT** suitable for anaerobic infections?
- Swabs
 - Tissue bit
 - Necrotic material
 - Aspirates in air tight container
- 22 iv) Which bacterial spores are used as sterilization control in autoclave?
- Clostridium perfringens*
 - Bacillus cereus*
 - Geobacillus stearothermophilus*
 - Pseudomonas aeruginosa*
- 22 v) Babesiosis is transmitted by
- Mites
 - Ticks
 - Flea
 - Mosquito
