

# Rajiv Gandhi University of Health Sciences, Karnataka

MBBS Phase – II (CBME) Degree Examination - 07-Mar-2022

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 23 year old male patient from an endemic area came to the OPD with complaints of intermittent fever with chills and rigors, for the past 3 days. There was intense sweating following each fever episode. On examination he was febrile with temperature of 101°F and had mild Splenomegaly. Peripheral smear study shows the presence of parasites inside RBC's
  - a) Name the causative agent and the vector
  - b) Describe the life cycle of the causative agent
  - c) Write the pathogenicity of the causative agent
  - d) Describe the laboratory diagnosis of the causative agent
2. An adult patient was admitted in the hospital 5 days after a traumatic wound which was severely contaminated. The local muscles appeared to be crushed there was edema blackening and pain at the site. On examination, crepitus was felt at the site of injury
  - a) What is the clinical diagnosis and the causative agent
  - b) Name four spore bearing anaerobes
  - c) Describe the pathogenesis of this condition
  - d) Describe the laboratory diagnosis of this condition

### SHORT ESSAYS

8 x 5 = 40 Marks

3. Draw a neat labelled diagram of a bacterial cell and write one function of each component
4. Mention the various disinfectants used in hospitals and their uses
5. Define immunity. Describe active immunity in detail
6. Describe the principle, types and applications of ELISA
7. Laboratory diagnosis of bacillary dysentery
8. Laboratory diagnosis of Enteric fever
9. Opportunistic infections in HIV patients
10. Pathogenesis and laboratory diagnosis of Cholera

### SHORT ANSWERS

10 x 3 = 30 Marks

11. Modes of transmission of hepatitis B infection
12. Name three live vaccine and three killed vaccines
13. Draw a labelled diagram of immunoglobulin M (IgM)
14. Name three bacteria causing infective endocarditis
15. Reynauld Braude phenomenon
16. Name three viruses causing gastroenteritis
17. Mention three extra intestinal manifestations of amoebiasis
18. Antibiotic associated diarrhoea
19. List the suppurative and non suppurative complications of Streptococcus pyogenes
20. Name viruses causing skin rashes

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## Multiple Choice Questions

10 x 1 = 10 Marks

- 21 i) Who is considered as the father of antiseptic surgery?  
A. Louis pastuer  
B. Robert Koch  
C. Edward Jenner  
D. Joseph Lister
- 21 ii) The example of selective media  
A. Nutrient agar  
B. Blood agar  
C. Thiosulphate citrate bile salt sucrose agar  
D. Chocolate agar
- 21 iii) The following methods of diagnosis utilize labelled antibodies except  
A. Enzyme linked immunosorbent assay  
B. Radioimmunoassay  
C. Haemagglutination inhibition test  
D. Immunofluorescence
- 21 iv) All of these are major antigen presenting cells except  
A. T cells  
B. B cells  
C. Dendritic cells  
D. Macrophages
- 21 v) A patient coming from Himachal Pradesh presents with multiple skin lesion. Microscopy reveals cigar shaped yeast cells and asteroid bodies. Microscopy of culture shows flower like pattern. Identify the agent  
A. Candida albicans  
B. Sporothrix schenkii  
C. Epidermophyton floccosum  
D. Rhizopus species
- 22 i) Sclerotic bodies are seen in  
A. Mucormucosis  
B. Aspergillus  
C. Rhinosporidiosis  
D. Chromoblastomycosis
- 22 ii) Serological testing of a patient complaining of jaundice for 6 months revealed HbsAg (+ve) anti Hbs (-ve) anti HBcIgG (+ve) anti HbeAg (+ve) and anti Hbe (-ve)  
The provisional diagnosis is  
A. Acute hepatitis with high infectivity  
B. Acute hepatitis with low infectivity  
C. Chronic hepatitis with high infectivity  
D. Chronic hepatitis with low infectivity
- 22 iii) Food poisoning within 4-6 hours of intake of food indicates presence of toxin of  
A. Staphylococcus aureus  
B. Clostridium perfringens  
C. Salmonella typhimurium  
D. V. cholerae
- 22 iv) Leishmania donovani can be cultivated in  
A. Blood agar  
B. NNN medium  
C. Diamonds medium  
D. RPMI medium
- 22 v) The gene coding for core of HIV is  
A. Gag  
B. Env  
C. Pol  
D. Tat

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