

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)

M.B.B.S Phase-II Degree Examination JULY 2019

Time:3 hours

Max Marks:100

MICROBIOLOGY- PAPER 1

Your answer should be specific to the question asked. Draw neat and labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Enumerate spirochaetes of medical importance. Mention the sources and modes of transmission of Leptospirosis. Describe pathogenesis and laboratory diagnosis of Leptospirosis (2+1+2+2+3).
2. List the different classes of immunoglobulins. Describe the structure of secretory IgA with a diagram and its biological properties. (2+4+4)

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the specimen collection and laboratory diagnosis of leprosy. (2+3)
4. A 40 year old bus driver complains of low grade fever, loss of weight and cough with blood stained sputum. A clinical diagnosis of pulmonary tuberculosis was made. What are the tests done in the microbiology laboratory to confirm the diagnosis?
5. Describe the lesion, modes of transmission and laboratory diagnosis of Malignant pustule. (1+1+3)
6. Describe the different types of Anaerobic culture methods
7. Mention the types of Allograft rejection and its mechanism (3+2)
8. Describe the principle, interpretation and significance of Widal test. (1+2+2)
9. Describe the Bacterial spores with reference to structure, types and demonstration methods. (2+2+1)
10. What is Acquired immunity? Enumerate the types with examples for each. (1+2+2)
11. Classify Atypical Mycobacteria and the lesions caused by them. (2+3)
12. Describe the principle, types and applications of Immunofluorescence test (2+1+2)

SHORT ANSWERS

10 X 3 = 30 Marks

13. Name three bacteria that cause Actinomycosis
14. Name the causative agent of whooping cough. Name any two complications.
15. Mention the causative agent and modes of transmission of Q fever.
16. Enumerate the three methods of genetic transfer in bacteria.
17. What are Immunosuppressive agents and give two examples
18. What is the principle and media used in Naegler reaction. (2+1)
19. Name three organisms producing exotoxins
20. Enumerate the primary and secondary mediators of anaphylaxis.
21. Mention Pasteurization methods and applications.
22. What is Significant bacteriuria?

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MICROBIOLOGY- PAPER 2

Your answer should be specific to the question asked. Draw neat and labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Describe the morphology and life cycle of *Ascaris lumbricoides*. Describe the laboratory diagnosis of Ascariasis. (2+4+4)
2. Classify Picornaviruses. Describe the pathogenesis and prophylaxis of poliomyelitis. (3+3+4)

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the morphology and life cycle of *Balantidium coli*. (2+3)
4. Describe the pathogenesis of Amoebic liver abscess
5. Enumerate and describe the Dimorphic fungi and diseases caused by them. (3+2)
6. Describe the mode of transmission, clinical manifestation and laboratory diagnosis of *Molluscum contagiosum*. (1+2+2)
7. Describe the life cycle and lab diagnosis of *Enterobius vermicularis*. (3+2)
8. Name the causative agent, sources, lesions produced and treatment Cryptococcosis. (1+1+2+1)
9. Describe the morphology, modes of transmission of Human Immunodeficiency Virus (HIV). (2+3)
10. Describe the life cycle of *Wuchereria bancrofti*
11. Describe the life cycle of *Taenia saginata*.
12. Describe the mode of transmission, clinical manifestations and laboratory diagnosis *Chikungunya*. (1+2+2)

SHORT ANSWERS

10 X 3 = 30 Marks

13. Name the different species of Trypanosomes, their vectors and diseases caused.
14. Enumerate any three general characters of Trematodes
15. List three opportunistic fungi and the diseases caused by them
16. Enumerate the strategies to prevent Vertical transmission of Hepatitis B virus infection
17. Enlist the types and causative agents of larva migrans. (1+2)
18. KOH mount: method of preparation and appearance of fungi.
19. What are Negri bodies? Name the common sites and staining characteristics.
20. Name three risk factors and three causative agents of Hospital acquired infections
21. Draw the microscopic morphology of the 3 genera of dermatophytes
22. Mention the steps of hand hygiene

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MICROBIOLOGY- PAPER 1

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LONG ESSAY (Answer any 2)

2 X 10 = 20 Marks

1. A seven year old unvaccinated boy presents with history of fever, sore throat and difficulty in swallowing food. On examination, a white membrane is seen over the tonsils, which bleeds on removal. a) What are your differential diagnosis, b) What is the most likely causative agent?, c) Describe the pathogenesis of the above clinical condition, d) Name the complications of the above disease e) Describe the laboratory diagnosis of the above clinical condition f) what is the prophylaxis of the disease?(2+1+2+2+2+1)
2. What are monoclonal antibodies? Explain the technique of production of monoclonal antibodies and list their applications. (2+5+3)
3. Draw a neat labelled diagram of the bacterial cell. List the differences between cell walls of Gram positive and Gram negative bacteria. Name the 3 antibiotics used in Gram positive and 3 antibiotics in Gram negative bacterial infections. (3+4+3)

SHORT ESSAY (Answer any 10)

10 X 5 = 50 Marks

4. Describe the pathogenesis and laboratory diagnosis of Actinomycosis.(2+3)
5. Describe the prophylaxis of tetanus
6. Describe the methods of sample collection and laboratory diagnosis of Urinary tract infection. (2+3)
7. Describe the principle, types and applications of Immunofluorescence test (2+1+2)
8. Describe the lesion, modes of transmission and laboratory diagnosis of Malignant pustule. (1+1+3)
9. What is Acquired immunity? Enumerate the types with examples for each. (1+2+2)
10. Describe the working principle of Autoclave with a diagram. List the sterilization controls used. (2+2+1)
11. Describe the mechanism of Transduction and its role in development of virulence. (3+2)
12. Describe different modes of transmission of infection with example for each.
13. Describe the mechanism of Type I Hypersensitivity reaction
14. Describe the different types of Anaerobic culture methods
15. Describe the Classical pathway of complement activation

SHORT ANSWERS (No choices)

10 X 3 = 30 Marks

16. What is XDR TB?
17. List the differences between El tor and classical vibrios
18. Name any three agents causing spotted fever.
19. Mention the Biological properties and functions of IgE.
20. Name the virulence factors of Neisseria gonorrhoeae.
21. Name 3 Tumour associated antigens
22. List three contributions of Robert Koch
23. What are sequestered antigens? Give examples
24. Enumerate the differences between Pneumococci & Streptococcus viridians.
25. What are Scotochromogens give two examples.

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MICROBIOLOGY- PAPER 2

Your answer should be specific to the question asked. Draw neat and labeled diagrams wherever necessary.

LONG ESSAY (Answer any 2)

2 X 10 = 20 Marks

1. Describe the morphology and life cycle of *Ascaris lumbricoides*. Describe the laboratory diagnosis of Ascariasis. (2+4+4)
2. Describe antigenic variations seen in Orthomyxoviruses , their epidemiological importance and its laboratory diagnosis. (3+3+ 4)
3. Enumerate the trematodes of medical importance. Describe the life cycle and pathogenesis of *Schistosoma haematobium*. (3+4+3)

SHORT ESSAY (Answer any 10)

10 X 5 = 50 Marks

4. Enumerate the agents causing Malaria. Describe the laboratory diagnosis of cerebral malaria. (2+3)
5. Describe the morphology of *Trichomonas vaginalis* and laboratory diagnosis of Trichomoniasis. (2+3)
6. Describe the pathogenesis and clinical features of Varicella zoster virus (2+3)
7. Describe the life cycle of hookworm.
8. Draw a neat labelled diagram of bacteriophage. Describe the lysogenic conversion and its applications.(2+2+1)
9. Mention the types of Madura foot with two causative agents and describe its laboratory diagnosis . (1+2+2)
10. Enumerate the Seromarkers of Hepatitis B virus and their clinical implications. (2+3)
11. Describe the mode of infection and lifecycle of *Naegleria fowleri*. (2+3)
12. Describe the morphology of *Candida albicans* and laboratory diagnosis of candidiasis. (1+4)
13. Describe the life cycle of *Wuchereria bancrofti*
14. Describe the life cycle of *Taenia saginata*.
15. Enumerate and describe the Dimorphic fungi and diseases caused by them. (3+2)

SHORT ANSWERS (No choices)

10 X 3 = 30 Marks

16. Name three clinical manifestations of congenital Toxoplasmosis
17. Draw a labelled diagram of egg of *Hymenolepis nana*.
18. What are Negri bodies?Name the common sites and staining characteristics.
19. Enumerate any three general characters of Nematodes.
20. Enumerate two RNA oncogenic viruses and the malignancies they produce in man.
21. Draw a neat labelled diagram of 3 species of *Aspergillus*
22. What is Surgical site infection? Name any two causative agents.
23. Mention the schedule and route of administration of MMR vaccine.
24. Enumerate three microorganisms transmitted by milk.
25. Enumerate any three opportunistic infections seen in HIV infection.