

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**SECOND MBBS DEGREE EXAMINATION – JUNE 2021**  
**SUBJECT: MICROBIOLOGY – PAPER II (ESSAY)**

Saturday, June 05, 2021

Time: 10:20 – 13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL questions.**

✍ **Draw neat labeled diagram wherever necessary.**

1. Enumerate the intestinal nematodes. Describe the life cycle, pathogenesis and laboratory diagnosis of Hook Worm.

(2+3+3+2 = 10 marks)

2. A four month old female child presents to a pediatrician with weakness in her right leg of two days duration. Her right leg remains flaccid and no Babinski sign could be elicited although sensation is intact. The tone, movement, sensation and reflexes of her other limb is normal. Her cardiovascular, respiratory and abdominal examinations are also normal. Upon further investigations her mother reports that she had cough and fever of 38.5°C that resolved one week prior to the presentation. Her immunization status was not known.

2A. Name the most likely disease and causative agent

2B. What is the mode of transmission of this organism?

2C. Discuss the pathogenicity of this organism.

2D. Describe the prophylaxis measures against this infectious disease.

(2+1+4+3 = 10 marks)

3. **Write short notes on:**

3A. Larva migrans.

3B. Stool Examination for Parasitic infections.

3C. Life cycle of *Wuchereria bancrofti*.

3D. Describe the complications caused by *Plasmodium falciparum*.

3E. Write 4 differences between *Taenia solium* and *Taenia saginata*.

3F. *Enterobius vermicularis*.

3G. Oral thrush.

3H. Name four fungi causing systemic mycoses.

3I. Laboratory diagnosis of Hepatitis B Virus.

3J. Kysanur Forest disease.

3K. Varicella zoster virus.

3L. Enumerate four oncogenic viruses.

3M. Morphology of HIV.

3N. Dermatophytosis.

3O. Mycotic Mycetoma.

(4 marks × 15 = 60 marks)



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Friday, June 04, 2021

Time: 10:20 – 13:00 Hrs.

Maximum Marks: 80

✍ **Essay questions.**

1. Classify antigen antibody reactions. Describe the mechanism and applications of agglutination reactions.

(3+3+4 = 10 marks)

2. A 30-year old adult presented at the outpatient department with a wound on the left foot discharging foul smelling pus. He gave a history of a road accident wounding his left lower limb four days back. On examination the affected area was discoloured and crepitant. Gram stain of the pus showed large number of gram positive bacilli without spores along with disintegrated pus cells. Answer the following questions:

2A. What is the most probable diagnosis?

2B. Mention the aetiology

2C. Describe the pathogenesis of above disease.

2D. Describe the laboratory diagnosis of the above disease.

2E. Mention the preventive measures.

(1+1+4+3+1 = 10 marks)

3. **Write short notes on:**

3A. Draw a labeled diagram of gram negative cell wall

3B. Enumerate four uses of autoclave

3C. Bacterial conjugation

3D. Enumerate the mechanism of drug resistance in bacteria

3E. Types of biomedical waste

3F. Laboratory diagnosis of Cholera

3G. List four bacteria causing meningitis

3H. BCG vaccine

3I. Enumerate the Bacterial Zoonotic diseases

3J. Mechanism of Anaphylaxis

3K. Treponemal tests for Syphilis

3L. Malignant pustule

3M. *Haemophilus influenzae* type b

3N. Modes of transmission of infection

3O. Immunoglobulin A.

(4 marks × 15 = 60 marks)

