Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND MBBS DEGREE EXAMINATION – APRIL/MAY 2023

SUBJECT: MICROBIOLOGY – PAPER I (ESSAY)

(OLD REGULATION - 2018-19 & PRIOR BATCH)

Friday, April 21, 2023

Time: 10:20 – 13:00 Hrs. Maximum Marks: 80

- **Answer all questions.**
- **Draw diagrams wherever necessary**

- **Essay questions:**

1. Define and classify hypersensitivity. Describe type 1 hypersensitivity.

(1+2+7 = 10 marks)

2. A 3-year old unimmunized child presented with fever, pharyngitis and cervical lymphadenopathy. On examination of the oral cavity, a greyish pseudo membrane was found covering the tonsils. A throat swab was collected and sent to microbiology laboratory for work up. Gram stain showed the presence of many Gram-positive bacilli arranged in Chinese letter pattern. What is the probable clinical diagnosis? Explain the pathogenesis of the clinical condition. Discuss the special stain findings and laboratory confirmatory methods in this case.

(1+4+5 = 10 marks)

3. **Short notes:**

3A. Enumerate the differences between Active and Passive Immunity
3B. Immunoprophylaxis of tetanus
3C. Biological effects of Complement
3D. Autoclave: Principle and applications
3E. Role of microscopy and culture in the laboratory diagnosis of pulmonary tuberculosis
3F. Enumerate Koch's postulates
3G. Principle and uses of ELISA.
3H. Draw a neat labelled diagram of a Gram negative Cell wall.
3I. Enumerate the different classes of antibodies and mention one function each.
3J. Nonsuppurative complications of *Streptococcus pyogenes*
3K. Scrub typhus
3L. Laboratory diagnosis of cholera
3M. Malignant pustule
3N. Role of Blood culture and serology in the laboratory diagnosis of typhoid fever.
3O. Name two nonspecific tests and two specific tests for syphilis.

(4 marks × 15 = 60 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

SECOND MBBS DEGREE EXAMINATION – APRIL/MAY 2023

SUBJECT: MICROBIOLOGY – PAPER II (ESSAY)

(OLD REGULATION - 2018-19 & PRIOR BATCH)

Monday, April 24, 2023

Time: 10:20 – 13:00 Hrs. Maximum Marks: 80

Answer ALL the questions.

1. A 45-year-old female nurse with no prior vaccination history presented with fever, loss of appetite, yellowish discoloration of conjunctiva, passing dark colored urine and pale stools. On examination there was icterus, hepatomegaly and tenderness in the right hypochondriac region. She recalls a needle prick injury 3 months ago while performing an invasive procedure. On performing laboratory investigations, a striking elevation in serum transaminase levels was seen and serological test for HBsAg comes positive.

1A. What is the most probable diagnosis?
1B. Discuss in detail the various serological markers in this condition
1C. Add a note on post exposure prophylaxis
1D. Write a note on Hepatitis B vaccine.

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

2. Describe the life cycle, pathogenesis and laboratory diagnosis of *Ancylostoma duodenale*

(3+3+4 = 10 marks)

3. **Write short notes on:**

3A. Probable sites of extra-intestinal amoebiasis and laboratory diagnosis
3B. Laboratory diagnosis of rabies
3C. Mycotic mycetoma
3D. Microfilaria
3E. Clinical manifestations and lab diagnosis of Herpes Simplex Virus 2
3F. Name any four clinical infections produced by Aspergillus species
3G. Laboratory diagnosis of Falciparum malaria
3H. Cultivation of viruses
3I. Laboratory diagnosis of cryptococcosis
3J. Write a note on larva migrans
3K. Draw a neat labelled diagram of Human immunodeficiency virus (HIV)
3L. Name any four opportunistic fungal infections
3M. List four differences between *Taenia solium* and *Taenia saginata*
3N. Enumerate four oncogenic viruses
3O. Pathogenesis and Laboratory diagnosis of Cryptosporidiosis

(4 marks × 15 = 60 marks)