

MANIPAL ACADEMY OF HIGHER EDUCATION

MELAKA MANIPAL MEDICAL COLLEGE (MANIPAL CAMPUS)

MBBS PHASE - I STAGE - II DEGREE EXAMINATION – APRIL 2021

SUBJECT: MICROBIOLOGY - PART - II (ESSAY)

Monday, April 19, 2021

Time : 10.30 a.m. - 12.30 p.m.

Max. Marks : 60

- ✓ **Answer all the questions**
 - ✓ **Draw diagrams wherever appropriate**
- 1. With the help of a labelled diagram, explain the phases of a bacterial growth curve. (5 marks)**
 - 2. Classify mycoses providing examples under each category. (5 marks)**
 - 3. Differentiate between the terms sterilization and disinfection? Explain the significance of both processes in clinical practice providing one relevant example under each category. (2+3 = 5 marks)**
 - 4. Explain the mechanisms for autoimmunity with examples. (5 marks)**
 - 5. Explain the post exposure prophylactic measures adopted to prevent the development of rabies. (5 marks)**

6. A 55 year old man presented to medicine OPD with severe cough and intermittent fever for the past one week. History revealed night sweats and progressive loss of weight over the last one month. Chest radiograph showed opacities in the right lung. Sputum microscopy revealed the presence of numerous acid-fast bacilli along with pus cells.

6A. What is the etiology?

6B. Explain the pathogenesis of this condition

6C. Discuss the laboratory diagnosis of this infection

(1+3+3 = 7 marks)

7. With the help of a graph, explain the seromarkers demonstrated in an acute hepatitis B infection.

(5 marks)

8. A 45 year old veterinary surgeon presented with a lesion on the left hand that was black in color and necrotic with extensive swelling. The fluid from the vesicle on gram staining showed gram positive bacilli with bamboo stick appearance. The patient responded to amoxicillin.

8A. Identify the clinical condition

8B. Explain the role of virulence factors in the pathogenesis of this disease

8C. Describe the laboratory diagnosis

(1+4+3 = 8 marks)

9. Explain the pathogenesis and laboratory diagnosis of clostridial myonecrosis.

(5 marks)

10. In a tabular format, explain the immunological findings and the clinical features of polar forms of leprosy.

(5 marks)

11. A 25-year-old male visited to the STD clinic with a painless ulcer on his external genitalia that was circumscribed and indurated. Physician suspected a sexually transmitted disease of spirochaetal origin and ordered appropriate microbiological investigations.

11A. What is the probable diagnosis?

11B. Which is the test done with the exudate collected from the lesion for establishing the diagnosis?

11C. Explain the sero-diagnostic tests performed for the confirmation of this disease.

(1+1+3 = 5 marks)

