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MANIPAL ACADEMY OF HIGHER EDUCATION  
SECOND MBBS DEGREE EXAMINATION – MAY 2019  
SUBJECT: MICROBIOLOGY – PAPER I (ESSAY)

Friday, May 10, 2019

Time: 10:20 – 13:00 Hrs.

Maximum Marks: 80

✍ Answer ALL the questions.

1. Define and classify immunity. Discuss innate immunity.  
(1+3+6 = 10 marks)
2. A 10 day old neonate was noted to have bullous lesions on the neck and back. The bullae subsequently ruptured leaving behind tender, erythematous lesions which later extended to entire upper half of the body. Wound swab microscopy showed Gram positive cocci in grape like clusters. Neonate responded to intravenous vancomycin therapy.
  - 2A. Name the above condition and the causative bacterial agent.
  - 2B. Name the virulence factors of this bacterium.
  - 2C. Name the common infections caused by this bacterium in various organ systems.
  - 2D. What are the measures to prevent the spread of infection by this bacterium in hospital?  
(2+3+3+2 = 10 marks)
3. Write short notes on:
  - 3A. Enumerate four atypical mycobacteria and the diseases caused by each
  - 3B. Laboratory diagnosis of pneumococcal meningitis
  - 3C. Mechanism of type 1 hypersensitivity
  - 3D. Passive agglutination test
  - 3E. Enumerate four types of microscopes and write one use of each microscope
  - 3F. Compare and contrast primary and secondary immune response
  - 3G. Gaseous methods of sterilization
  - 3H. Enumerate common non-sporing anaerobic bacteria and the diseases caused by them
  - 3I. Enterotoxigenic *Escherichia coli* (ETEC)
  - 3J. Laboratory diagnosis of brucellosis
  - 3K. Specific serological tests for syphilis
  - 3L. Lysogenic conversion in bacteria and its importance
  - 3M. Classify autoimmune diseases and give two examples each
  - 3N. Diagnostic tests for *Helicobacter pylori*
  - 3O. Write two human infections by Chlamydiae and their laboratory diagnosis  
(4 marks × 15 = 60 marks)

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**SECOND MBBS DEGREE EXAMINATION – MAY 2019**  
**SUBJECT: MICROBIOLOGY – PAPER II (ESSAY)**

Saturday, May 11, 2019

Time: 10:20 – 13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL the questions.**

1. A 50 year old man presented to surgery clinic with complaints of pain abdomen and nausea for last one year. There was no jaundice. Ultrasound of abdomen revealed a huge mixed echogenic predominantly cystic mass in the region of the liver. The computed tomogram revealed a large cystic mass with septations that had almost completely replaced the right lobe of the liver. Casoni's test helped in the diagnosis.

1A. What is the most probable diagnosis and the etiological agent?

1B. Describe the life cycle of the agent.

1C. How do you confirm the diagnosis in the laboratory?

(2+4+4 = 10 marks)

2. Describe pathogenesis and laboratory diagnosis of Human immunodeficiency virus infection.

(5+5 = 10 marks)

3. **Write short notes on:**

3A. Infections caused by *Acanthamoeba* and their laboratory diagnosis

3B. Polio vaccines

3C. *Trichomonas vaginalis*

3D. Life cycle of *Enterobius vermicularis*

3E. Rhinosporidiosis

3F. Congenital rubella syndrome

3G. Laboratory diagnosis of dermatophytic infections

3H. Black water fever

3I. Sporotrichosis

3J. Name different types of cell lines and give examples of viruses cultivated in each type

3K. Laboratory diagnosis of amoebic dysentery

3L. Enumerate infections caused by *Aspergillus* and write the laboratory diagnosis

3M. Laboratory diagnosis of mumps

3N. Non neural vaccines for rabies

3O. Liver fluke

(4 marks × 15 = 60 marks)

