MANIPAL UNIVERSITY
SECOND MBBS DEGREE EXAMINATION – NOV/DEC 2015
SUBJECT: MICROBIOLOGY – PAPER I (ESSAY)
Thursday, November 26, 2015

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

Answer ALL the questions.

1. Enumerate the various components and functions of complement system. Describe in detail the classical complement pathway. Add a note on complement deficiency.

   (1+2+5+2 = 10 marks)

2. A 24 year old male presents with severe traumatic injury to his left lower limb sustained in the battlefield. The patient develops tenderness and edema of the affected limb approximately 12 hours after the wounding. The surgeon treating the patient decides on surgical exploration on eliciting subcutaneous crepitus. Gram stain of the intra-operative specimen reveals box car shaped gram positive bacilli.

   2A. What is your diagnosis and name the causative agent?
   2B. Describe the pathogenesis of this clinical condition.
   2C. Discuss its laboratory diagnosis.
   2D. Write about prophylaxis and treatment of this clinical condition.
   2E. Which other infections are caused by this bacterium?

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

3. Write short notes on:
   3A. Non-suppurative complications of *Streptococcus pyogenes* infection
   3B. Describe the laboratory diagnosis of acute pyogenic meningitis
   3C. Tuberculin test
   3D. Plasmids
   3E. Laboratory diagnosis of Cholera
   3F. List any four mechanisms of Autoimmunity with examples
   3G. Mention the role of various T lymphocytes in immune response
   3H. Elek’s gel precipitation test
   3I. List any four disinfectants used in hospital setting and mention one use for each
   3J. Enumerate any four measures employed to control nosocomial infections
   3K. Laboratory diagnosis of Leptospirosis
   3L. Draw a neat labeled diagram of Immunoglobulin molecule
   3M. List the methods of HLA typing and it’s uses
   3N. Laboratory diagnosis of helicobacter pylori infection
   3O. Bacterial flagella

   (4 marks × 15 = 60 marks)
MANIPAL UNIVERSITY
SECOND MBBS DEGREE EXAMINATION – NOV/DEC 2015
SUBJECT: MICROBIOLOGY – PAPER II (ESSAY)

Friday, November 27, 2015

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

Answer ALL the questions.

1. A 10 year boy is admitted to the hospital with colicky abdominal pain, weight loss and loss of appetite. On microscopic examination of stool, bile-stained nematode egg was found. He also had a history of vomiting out of adult worm few weeks back.
   1A. What is the probable diagnosis?
   1B. Write briefly about the life cycle of the parasite.
   1C. Mention two serious complications due to the infection with this parasite.
   1D. How do you diagnose the infection in the laboratory?

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

2. Enumerate hepatotropic viruses. Describe briefly the pathogenesis and significance of various viral markers in Hepatitis B virus infection. Add a note on Hepatitis B vaccine.

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

3. Write short notes on:
   3A. Structure of HIV
   3B. Dengue fever – Pathogenesis and laboratory diagnosis
   3C. Antigenic variation in Influenza virus
   3D. Infections caused by Coxsackie Virus
   3E. Cultivation of virus – different methods and application
   3F. Cryptococcosis – clinical manifestations and laboratory diagnosis
   3G. Rhinosporidiosis
   3H. Eumycotic mycetoma – causative agents and laboratory diagnosis
   3I. Mycotoxins – enumerate any four, mentioning the source
   3J. Larva migrans – define with two examples
   3K. Laboratory diagnosis of cysticercosis
   3L. Pernicious malaria
   3M. Extraintestinal amoebiasis – Probable sites and laboratory diagnosis
   3N. Laboratory diagnosis of Toxoplasmosis
   3O. Enumerate four opportunistic sporozoal parasites

   (4 marks × 15 = 60 marks)