Reg. No.										

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 *Strepococcus 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)

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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)