

MANIPAL UNIVERSITY**SECOND MBBS DEGREE EXAMINATION – MAY 2011****SUBJECT: MICROBIOLOGY – PAPER I (ESSAY)**

Friday, May 06, 2011

Time: 10:30 – 13:00 Hrs.

Maximum Marks: 60

✍ Answer ALL questions.

1. Describe the mechanisms of gene transfer in bacteria. What is the significance of gene transfer?

(8+2 = 10 marks)

2. A 21 year old woman presented to the University health services with a two day history of increasing urinary frequency along with urgency and dysuria. She had been passing blood tinged urine for the last 12 hours.

- 2A. What is the probable cause of her clinical condition?
2B. What are the bacteria responsible for the above condition?
2C. Describe the laboratory diagnosis of the above condition.

(1+3+6 = 10 marks)

3. **Write short notes on:**

- 3A. Enzyme Linked Immunosorbent Assay (ELISA)
3B. Toxins and enzymes of *Staphylococcus aureus*
3C. Diarrhoeagenic *Escherichia coli*
3D. Widal test
3E. Bacterial capsule

(5×5 = 25 marks)

4. **Write briefly on:**

- 4A. Antibiotic sensitivity tests
4B. Delayed Hypersensitivity
4C. BCG vaccine
4D. Halophilic vibrios
4E. Actinomycosis

(3×5 = 15 marks)



MANIPAL UNIVERSITY**SECOND MBBS DEGREE EXAMINATION – MAY 2011****SUBJECT: MICROBIOLOGY - PAPER II (ESSAY)**

Saturday, May 07, 2011

Time: 10:30 – 13:00 Hrs.

Maximum Marks: 60

Answer ALL questions.

1. Describe the life cycle, pathogenesis and laboratory diagnosis of *Echinococcus granulosus*.
(4+3+3 = 10 marks)

2. A fifteen year old boy came to the casualty with a history of having been bitten on the hand by a street dog 11 days back. He presented with impaired muscle coordination, difficulty in speaking, double vision, tremors and slurred speech. Within a week of admission, the patient's condition worsened with development of hydrophobia. He expired 6 days later.
 - 2A. What is the diagnosis of this condition?
 - 2B. Explain the pathogenesis of this infection.
 - 2C. What are the stages of the disease in humans?
 - 2D. Which are the vaccines available for pre-exposure prophylaxis?
 - 2E. What is the vaccination schedule for post-exposure prophylaxis with cell culture vaccine?
 - 2F. What are the methods available for the diagnosis of this infection?(1+2+2+2+1+2 = 10 marks)

3. **Write short notes on:**
 - 3A. Free living amoebae
 - 3B. Laboratory diagnosis of malaria
 - 3C. Interferons
 - 3D. Prions
 - 3E. *Cryptococcus neoformans*(5×5 = 25 marks)

4. **Write briefly on:**
 - 4A. Mycotoxins
 - 4B. Laboratory diagnosis of candidiasis
 - 4C. Serological markers of Hepatitis B infection
 - 4D. Larva migrans
 - 4E. *Cysticercus cellulosae*(3×5 = 15 marks)

