

MANIPAL ACADEMY OF HIGHER EDUCATION
SECOND MBBS DEGREE EXAMINATION – FEBRUARY 2021
SUBJECT: MICROBIOLOGY – PAPER II (ESSAY)

Monday, February 15, 2021

Time: 14:20 – 17:00 Hrs.

Maximum Marks: 80

✍ **Essay Questions.**

1. A 45 year male came with history of on and off fever and intermittent watery diarrhea for last 1 month. Patient gave the history of multiple sex partners. Blood examination showed CD4 count as $150/\text{mm}^3$. Serological test came positive for a viral infection. His stool examination showed $5\mu\text{m}$ acid fast oocysts.

1A. What is your diagnosis?

1B. What are the various modes of infection of the disease?

1C. What are various ways for laboratory diagnosis of this disease?

1D. What are those oocysts found in his stool? Name the other opportunistic infections that can occur in this case.

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

2. Write in details about pathogenesis, clinical features and laboratory diagnosis of *Ancylostoma duodenale*.

(3+3+4 = 10 marks)

3. **Write short notes on:**

3A. Laboratory diagnosis of Kala-azar

3B. Cerebral malaria

3C. Draw a labeled diagram showing the life cycle of *Echinococcus granulosus*

3D. Pathogenesis of lymphatic filariasis

3E. Describe the structure and laboratory diagnosis of *Cysticercus cellulosae*

3F. *Naegleria fowleri*

3G. Name any four serological markers for HBV infection and their importance

3H. Differences between antigenic shift and antigenic drift

3I. Non-neural vaccines for rabies

3J. Write any **four** features of polio vaccines

3K. Pathogenesis of poliomyelitis

3L. Name any **four** clinical infections caused by *Aspergillus*

3M. Rhinosporidiosis

3N. Laboratory diagnosis of *Cryptococcus neoformans* infection

3O. Classification of fungi

(4 marks \times 15 = 60 marks)



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Saturday, February 13, 2021

Time: 14:20 – 17:00 Hrs.

Maximum Marks: 80

✍ **Essay questions.**

1. A 22 year old man complains of continuous fever with chills since six days along with headache, anorexia, abdominal discomfort and diarrhea. On examination, there is coated tongue and slightly enlarged liver. Blood culture had the growth of Non lactose fermenting gram negative bacilli which is oxidase negative.

- 1A. What is the most probable diagnosis?
- 1B. Discuss the pathogenesis of this condition.
- 1C. How is this infection diagnosed?
- 1D. How can this condition be treated and prevented?

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

2. Define and classify immunity. Discuss Acquired immunity in detail.

(1+3+6 = 10 marks)

3. **Write Short notes on:**

- 3A. Bacterial capsule
- 3B. Two non suppurative complications of *Streptococcus pyogenes*
- 3C. Antigen presenting cells
- 3D. Halophilic vibrios
- 3E. VDRL test – principle and uses
- 3F. Enumerate four disinfectants with their uses
- 3G. Atypical mycobacteria.
- 3H. Bacterial filters
- 3I. *Enteropathogenic E coli*
- 3J. Major histocompatibility complex
- 3K. Diagram of IgM and its importance
- 3L. List the organisms causing pyogenic meningitis
- 3M. Bacterial growth curve
- 3N. Mechanisms of autoimmunity
- 3O. Nongonococcal urethritis

(4 marks × 15 = 60 marks)

