

MANIPAL UNIVERSITY

M.Sc. MEDICAL (FINAL) MICROBIOLOGY DEGREE EXAMINATION – FEBRUARY 2009

PAPER I: GENERAL MICROBIOLOGY AND IMMUNOLOGY

Monday, February 02, 2009

Time available: 14:00 – 17:00 Hrs.

Maximum Marks: 100

- ✍ **Answer ALL the questions.**
- ✍ **Write your answers that are brief, clear, relevant and legible.**
- ✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. Describe the structure of a bacterial cell.
(25 marks)

2. Enumerate antigen - antibody reactions. Describe precipitation reactions.
(25 marks)

3. Write short notes on:
 - 3A. Koch's postulates.
 - 3B. Polymerase chain reaction.
 - 3C. Autoclave.
 - 3D. Atopy.
 - 3E. Immunomodulators.

(10×5 = 50 marks)

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PAPER II: SYSTEMATIC BACTERIOLOGY AND MYCOLOGY

Tuesday, February 03, 2009

Time available: 14:00 – 17:00 Hrs.

Maximum Marks: 100

- ✍ **Answer ALL the questions.**
- ✍ **Write answers that are brief, clear, relevant and legible.**
- ✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. Describe the pathogenesis and laboratory diagnosis of shigellosis.
(25 marks)

2. Classify mycobacteria. Describe the pathogenesis and laboratory diagnosis of Infections caused by atypical mycobacteria.
(25 marks)

3. **Write short notes on:**
 - 3A. Aspergillosis
 - 3B. Interpretation of serological tests for syphilis
 - 3C. *Sporothrix schenckii*
 - 3D. Laboratory diagnosis of dermatophytoses
 - 3E. Drug resistance in salmonella

(10×5 = 50 marks)

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PAPER III: PARASITOLOGY AND VIROLOGY

Wednesday, February 04, 2009

Time available: 14:00 – 17:00 Hrs.

Maximum Marks: 100

- ✍ **Answer ALL the questions.**
- ✍ **Write your answers that are brief, clear, relevant and legible.**
- ✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. Classify Cestodes. Describe the morphology, life cycle and laboratory diagnosis of *Echinococcus granulosus*.

(25 marks)

2. Enumerate the hepatitis Viruses. Describe the laboratory diagnosis and prophylaxis of Hepatitis B virus infection.

(25 marks)

3. Write short notes on:

3A. Antigenic drift and shift in Influenza virus

3B. Japanese B encephalitis

3C. Varicella –Zoster virus

3D. *Cryptosporidium parvum*

3E. Malarial vaccines

(10×5 = 50 marks)