

Reg. No.

**MANIPAL UNIVERSITY**

**MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2009**

**SUBJECT: PAPER I: GENERAL MICROBIOLOGY AND IMMUNOLOGY**

Wednesday, April 01, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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

1. Discuss the growth requirements and metabolism of bacteria.

(25 marks)

2. Describe the production, structure and functions of immunoglobulins.

(25 marks)

3. Write short notes on:

3A. Koch's Postulates.

3B. DNA Hybridization.

3C. Antibiotic Sensitivity by Disc Diffusion.

3D. Complement.

3E. Type I Hypersensitivity reactions.

(10×5 = 50 marks)

**MANIPAL UNIVERSITY****MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2009****SUBJECT: PAPER II: SYSTEMATIC BACTERIOLOGY AND MYCOLOGY**

Thursday, April 02, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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

1. Describe the pathogenesis and laboratory diagnosis of chlamydial infections.  
(25 marks)
  
2. Describe the morphological classification of fungi. Discuss the pathogenesis and laboratory diagnosis of cryptococcosis.  
(25 marks)
  
3. Write short notes on:
  - 3A. Rhinosporidiosis.
  - 3B. Melioidosis.
  - 3C. Laboratory diagnosis of gonorrhoea.
  - 3D. El Tor vibrios.
  - 3E. Tuberculin test.

(10×5 = 50 marks)

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## MANIPAL UNIVERSITY

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2009

SUBJECT: PAPER III: PARASITOLOGY AND VIROLOGY

Friday, April 03, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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

1. Describe the morphology, life cycle, pathogenesis and laboratory diagnosis of *Toxoplasma gondii*.

(25 marks)

2. Enumerate the infections caused by Herpes viruses. Discuss the pathogenesis and laboratory diagnosis of Herpes simplex virus infections.

(25 marks)

3. Write short notes on:

3A. Prions.

3B. Occult filariasis.

3C. Oncogenic viruses.

3D. Hydatid cyst .

3E. Primary amoebic meningoencephalitis.

(10×5 = 50 marks)

**MANIPAL UNIVERSITY****MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2009****SUBJECT: PAPER IV: APPLIED MICROBIOLOGY AND RECENT ADVANCES**

Saturday, April 04, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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

1. List the causes of pyrexia of unknown origin (PUO). Describe the pathogenesis and laboratory diagnosis of PUO.

(25 marks)

2. Enumerate the microbiological agents of bioterrorism. How should a microbiological laboratory be prepared to diagnose a case of anthrax?

(25 marks)

3. Write short notes on:

3A. Local Immunity.

3B. Halophilic Vibrios.

3C. Ligase Chain Reaction.

3D. Dengue vaccines: Problems and prospects.

3E. Hospital Associated Infection Control Committee.

(10×5 = 50 marks)