

Reg. No.									
----------	--	--	--	--	--	--	--	--	--

## MANIPAL UNIVERSITY

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2011

SUBJECT: PAPER I: GENERAL MICROBIOLOGY AND IMMUNOLOGY

Monday, April 04, 2011

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL questions.

1. Describe molecular methods of diagnosis and its applications in Microbiology.  
(25 marks)
  
2. Enumerate antigen antibody reactions. Discuss the principle, methodology and application of ELISA.  
(25 marks)
  
3. **Write Short notes on:**
  - 3A. Bacterial exotoxins
  - 3B. Phase contrast Microscopy
  - 3C. Quality Control in Diagnostic Microbiology
  - 3D. Cytokines
  - 3E. Complement

(10×5 = 50 marks)



Reg. No.										
----------	--	--	--	--	--	--	--	--	--	--

## MANIPAL UNIVERSITY

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2011

SUBJECT: PAPER II: SYSTEMATIC BACTERIOLOGY AND MYCOLOGY

Tuesday, April 05, 2011

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL questions.

1. Describe the pathogenesis, laboratory diagnosis and prophylaxis of typhoid fever.  
(25 marks)
  
2. Discuss the opportunistic mycoses.  
(25 marks)
  
3. Write Short notes on:
  - 3A. Laboratory diagnosis of gonorrhoea.
  - 3B. El Tor vibrios.
  - 3C. Atypical mycobacteria.
  - 3D. Chromoblastomycosis.
  - 3E. Non suppurative complications produced by *Streptococcus pyogenes*.

(10×5 = 50 marks)



Reg. No.										
----------	--	--	--	--	--	--	--	--	--	--

## MANIPAL UNIVERSITY

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2011

SUBJECT: PAPER III: PARASITOLOGY AND VIROLOGY

Wednesday, April 06, 2011

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

---

✍ **Answer ALL questions.**

1. Enumerate the viruses causing Hepatitis. Discuss the pathogenesis and laboratory diagnosis of Hepatitis B virus infection. Add a note on prophylaxis.

(25 marks)

2. Write in detail about the lifecycle of *Echinococcus granulosus*. Describe the formation of hydatid cyst and discuss the laboratory diagnosis of hydatid disease.

(25 marks)

3. **Write Short notes on:**

- 3A. Aseptic meningitis
- 3B. Laboratory diagnosis of HIV
- 3C. Extraintestinal amebiasis
- 3D. Adenovirus
- 3E. Complications of falciparum Malaria

(10×5 = 50 marks)



Reg. No.									
----------	--	--	--	--	--	--	--	--	--

## MANIPAL UNIVERSITY

**MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2011**  
**SUBJECT: PAPER IV: APPLIED MICROBIOLOGY AND RECENT ADVANCES**

Thursday, April 07, 2011

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

1. Describe the pathogenesis and lab diagnosis of Urinary tract infection.  
(25 marks)
  
2. Discuss the Automation in Microbiology.  
(25 marks)
  
3. **Write short notes on:**
  - 3A. Laboratory Diagnosis of genital ulcer diseases
  - 3B. Microbiology of water
  - 3C. Mucormycoses
  - 3D. Immunodiagnosis of parasitic diseases
  - 3E. Immunomodulators

(10×5 = 50 marks)

