

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
(Deemed University)

**MSc (FINAL) MICROBIOLOGY DEGREE EXAMINATION – JULY 2002**

**PAPER I : GENERAL MICROBIOLOGY AND IMMUNOLOGY**  
Monday, July 01, 2002

**Time available: 3 Hours**

**Maximum Marks: 100**

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- 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.
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1. Describe the various methods of Antibiotic Sensitivity tests and its merit and demerits.  
(35 Marks)
  
2. What is immune response? Classify and describe the mechanism of immune response.  
(35 Marks)
  
3. Write short notes on the following:
  - 3A. Bacterial Mutation
  - 3B. Preservation of culture
  - 3C. Hybridoma technology

(10 x 3 = 30 Marks)

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**MSc (FINAL) MICROBIOLOGY DEGREE EXAMINATION – JULY 2002**

**PAPER II : SYSTEMATIC BACTERIOLOGY AND MYCOLOGY**

**Tuesday, July 02, 2002**

**Time available: 3 Hours**

**Maximum Marks: 100**

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- **Answer all the questions.**
  - **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**
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1. Discuss the taxonomic changes and laboratory diagnosis of non-sporing anaerobes.  
(35 marks)
  
2. Enumerate the causes of subcutaneous mycosis. Write briefly about laboratory diagnosis of subcutaneous mycosis.
  
3. Write short notes on:  
(3x10 = 30 marks)
  - 3A. Atypical mycobacteria
  - 3B. Halophilic vibrios
  - 3C. Oral typhoid vaccine

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**MSc (FINAL) MICROBIOLOGY DEGREE EXAMINATION – JULY 2002**

**PAPER III : PARASITOLOGY AND VIROLOGY**  
Wednesday, July 03, 2002

**Time available: 3 Hours**

**Maximum Marks: 100**

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- 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.
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1. Describe the morphology, life cycle, pathogenesis and laboratory diagnosis of *Entamoeba histolytica*.  

(35 marks)
2. Give an account of Herpes group of viruses.  

(35 marks)
3. Write short notes on:  

(10x3 = 30 marks)

  - 3A. *Enterobius vermicularis*
  - 3B. Prions
  - 3C. Live viral vaccines



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**MSc (FINAL) MICROBIOLOGY DEGREE EXAMINATION – DECEMBER 2002**

**PAPER I: GENERAL MICROBIOLOGY AND IMMUNOLOGY**  
Monday, December 02, 2002

**Time available: 3 Hours**

**Maximum Marks: 100**

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- 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.
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1. Define and classify sterilization. Explain the mechanism and uses of bacterial filters.  
(35 Marks)
  
2. What is complement system? Describe the pathways of complement activation and its applications.  
(35 Marks)
  
3. Write short notes on the following:
  - 3A. Genotype and phenotype variations.
  - 3B. Antigen elimination.
  - 3C. Electron microscope.

(10 x 3 = 30 Marks)



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## PAPER II: SYSTEMATIC BACTERIOLOGY AND MYCOLOGY

Tuesday, December 03, 2002

**Time available: 3 Hours**

**Maximum Marks: 100**

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- Answer all the questions.
  - Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.
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1. Classify streptococci. Discuss the pathogenesis and laboratory diagnosis of infections caused by Group A streptococci.

(35 marks)
2. Discuss the properties, pathogenicity, laboratory diagnosis and differentiation of genus *Candida*.

(35 marks)
3. Write short notes on:

(3×10 = 30 marks)

  - 3A. Chromomycosis
  - 3B. TRIC agents
  - 3C. Purulent meningitis.

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MSc (FINAL) MICROBIOLOGY DEGREE EXAMINATION – DECEMBER 2002

## PAPER III : PARASITOLOGY AND VIROLOGY

Wednesday, December 04, 2002

Time available: 3 Hours

Maximum Marks: 100

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- 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.
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1. Classify the Arboviruses. Explain the common mosquito borne Arbo viruses in India.  
(35 marks)
  
2. Mention the parasites present in the biliary tract. Explain the life cycle and laboratory diagnosis of *Fasciola hepatica*.  
(35 marks)
  
3. Write short notes on:  
(10x3 = 30 marks)
  - 3A. Epstein bar-virus
  - 3B. *Hymenolepis nana*
  - 3C. Interleukin.