

MANIPAL ACADEMY OF HIGHER EDUCATION
(Deemed University)

MSc (FINAL) MICROBIOLOGY DEGREE EXAMINATION

PAPER I : *GENERAL MICROBIOLOGY AND IMMUNOLOGY*

Monday, 27 November 2000

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. Discuss microbial virulence factors. (35 marks)

2. Discuss immune system. (35 marks)

3. Write short notes on : (3x10=30 marks)
 - 3A. Live attenuated vaccines
 - 3B. Outer membrane proteins
 - 3C. Immunoglobulin E



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PAPER II : *SYSTEMATIC MICROBIOLOGY AND MYCOLOGY*

Tuesday, 28 November 2000

Time available : 3 hours

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**
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1. Classify the medically important clostridium. Discuss the toxins produced by clostridium tetani. Describe the laboratory diagnosis and prophylaxis of tetanus.
(35 marks)

2. Enumerate the fungi causing superficial mycosis. Discuss the pathogenicity and laboratory diagnosis of dermatophytes including the latest techniques.
(35 marks)

3. Write briefly on :
(3x10=30 marks)
 - 3A. Rapid tests for the identification of yeast
 - 3B. Campylobacter jejuni
 - 3C. Halophili vibrios



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PAPER III : *PARASITOLOGY AND VIROLOGY*

Wednesday, 29 November 2000

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 trematodes. Describe the morphology, life cycle and laboratory diagnosis of schistosoma haematobium.
(35 marks)

2. Mention the human retro viruses. Explain the morphology, pathogenesis, laboratory diagnosis and prophylaxis HIV.
(35 marks)

3. Write briefly on :
(3x10=30 marks)
 - 3A. Interferon and Interference
 - 3B. Prevention of blood transfusion infections
 - 3C. Larva migrans

