

Reg. No.

## MANIPAL UNIVERSITY

M. Sc. (FINAL) MICROBIOLOGY DEGREE EXAMINATION – AUGUST 2008

PAPER II: SYSTEMATIC BACTERIOLOGY AND MYCOLOGY

Tuesday, August 05, 2008

Time available: 3 Hours

Maximum Marks:

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

1. Describe the pathogenesis and laboratory diagnosis of brucellosis.

(25 ma

2. Describe the pathogenesis and laboratory diagnosis of diarrhoea caused by diarrhoeagenic *Escherichia coli*.

(25 ma

3. Write short notes on:

3A. Candidiasis.

3B. *Histoplasma capsulatum*.

3C. Zygomycosis.

3D. Botulism.

3E. *Haemophilus influenzae*.

(10×5 = 50 ma



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## MANIPAL UNIVERSITY

FINAL YEAR M.Sc.(CLINICAL EMBRYOLOGY) DEGREE EXAMINATION - AUGUST 2008

### PAPER – I : BASIC REPRODUCTIVE BIOLOGY

Monday, August 04, 2008

Time available: 3 Hours

Maximum Marks: \_\_\_\_\_

 Answer ALL the questions.

1. What is spermiogenesis? Explain the changes occurring during spermiogenesis. Describe the role of epididymis in sperm maturation. (25 marks)
2. Explain the mammalian cell cycle regulation. How do the cell cycle check points help in maintaining the genomic integrity of the cell? (25 marks)
3. Write briefly on:
  - 3A. Capacitation and chemotaxis in spermatozoa.
  - 3B. Importance of genetic screening in infertility.
  - 3C. Mechanism of action of steroid hormones.
  - 3D. Meiotic recombination and genetic diversity.
  - 3E. Structure of a mature oocyte.

(10×5 = 50 marks)



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## MANIPAL UNIVERSITY




M. Sc. (FINAL) MICROBIOLOGY DEGREE EXAMINATION – AUGUST 20

PAPER I: GENERAL MICROBIOLOGY AND IMMUNOLOGY

Monday, August 04, 2008

Time available: 3 Hours

Maximum Marks:

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

1. Describe noncultural methods for the diagnosis of infectious diseases.

(25 marks)

2. Define and enumerate Antigen- antibody reactions. Describe immunofluorescence.

(25 marks)

3. Write short notes on:

3A. Cytoplasmic membrane.

3B. Tyndallization.

3C. HLA typing.

3D. Complement.

3E. Superantigens.

(10×5 = 50 marks)



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FINAL YEAR M.Sc.(CLINICAL EMBRYOLOGY) DEGREE EXAMINATION - AUGUST 2008

### PAPER – III: CLINICAL MANAGEMENT OF INFERTILITY AND ASSISTED REPRODUCTIVE TECHNIQUES

Wednesday, August 06, 2008

Time available: 3 Hours

Maximum Marks: 100

☞ Answer ALL the questions.

1. Describe in detail the applications, techniques and limitations of Preimplantation Genetic Diagnosis (PGD).

(25 marks)

2. List the possible causes for following problems and measures to be taken in embryology laboratory to overcome them:

2A. Increased incidence of multipronuclear embryos.

2B. Increased incidence of fragmented embryos on day 3.

2C. Contamination of dishes during fertilization checks.

(25 marks)

3. Write briefly on:

3A. Micromanipulative technique in the treatment of male factor infertility.

3B. Vitrification technique and its application in ART.

3C. Mouse embryo survival assay.

3D. Causes and prevention of parthenogenesis in IVF.

3E. Major errors in fertilization.

(10×5 = 50 marks)





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**M. Sc. (FINAL) MICROBIOLOGY DEGREE EXAMINATION – AUGUST 20**

**PAPER III: PARASITOLOGY AND VIROLOGY**

Wednesday, August 06, 2008

Time available: 3 Hours

Maximum Mark

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

1. Describe the pathogenesis, laboratory diagnosis and prophylaxis of Poliomyelitis. Add a note on pulse polio immunization.

(25 m)

2. Discuss in detail the laboratory diagnosis of parasitic diseases.

(25 m)

3. Write short notes on:

3A. Japanese encephalitis.

3B. Falciparum malaria.

3C. Laboratory diagnosis of hydatid disease.

3D. Rotavirus.

3E. Giardia lamblia.

(10×5 = 50 m)



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## MANIPAL UNIVERSITY

FINAL YEAR M.Sc. (CLINICAL EMBRYOLOGY) DEGREE EXAMINATION - AUGUST 2008

### PAPER – II: HUMAN EMBRYOLOGY AND ANDROLOGY

Tuesday, August 05, 2008

Time available: 3 Hours

Maximum Marks: 100

**Answer ALL the questions.**

1. Describe various ethical issues involved in semen banking and Embryology responsibilities in handling such issues. (25 marks)
2. Give a summary of development and gene expression events in mammalian preimplantation development and describe the possible reasons for failure of embryos to grow to blastocyst stage in culture. (25 marks)
3. Write briefly on:
  - 3A. Laboratory methods used in the elimination of sperm antibodies.
  - 3B. Reference range of semen parameters as per WHO 1999.
  - 3C. The role of various ingredients in semen cryopreservation medium.
  - 3D. Sperm wash technique in HIV serodiscordant couples.
  - 3E. Metabolism in precompaction human embryos.

(10×5 = 50 marks)

