

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

**M.Sc. (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JUNE 2004**

**PAPER I: GENERAL PHYSIOLOGY, NERVOUS SYSTEM INCLUDING SPECIAL SENSES AND MUSCLES**

Tuesday, June 22, 2004

**Time available: 3 Hours**

**Maximum Marks: 100**

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- **Answer all the questions.**
  - **All questions carry equal marks.**
  - **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**
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1. Giving examples classify receptors. Discuss in detail their properties and add a note on phantom limb. (20 marks)
  
2. Discuss in detail the connections and functions of cerebellum. (20 marks)
  
3. Discuss in detail the changes that take place to accommodate for a near object. Draw a diagram to show the reflex pathway involved. (20 marks)
  
4. Write briefly on
  - 4A. Signs and symptoms of spinal shock.
  - 4B. Wallerian degeneration.(10+10 =20 marks)
  
5. Write briefly on:
  - 5A. Energetics of muscle contraction.
  - 5B. Mechanism of taste perception.(10+10 = 20 marks)

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**M.Sc. (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JUNE 2004**

**PAPER II: CARDIOVASCULAR SYSTEM, RESPIRATORY SYSTEM, RENAL PHYSIOLOGY AND BLOOD**

Wednesday, June 23, 2004

**Time available: 3 Hours**

**Maximum Marks: 100**

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- **Answer all the questions.**
  - **All questions carry equal marks.**
  - **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**
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1. Explain the neural regulation of blood pressure. (20 marks)
  
2. Classify hypoxias. Give the differences among various types. Explain the features of acute hypoxia. (20 marks)
  
3. Describe the various functions of plasma proteins. Add a note on plasmapheresis. (20 marks)
  
4. Explain the role of kidney in the maintenance of pH of body. (20 marks)
  
- 5A. Outline the principle underlying the electrocardiography. Explain the significance of ECG.
- 5B. Explain ventilation perfusion imbalance and its consequence. (10+10 =20 marks)

