

MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2012****PAPER I: GENERAL PHYSIOLOGY, NERVOUS SYSTEM INCLUDING
SPECIAL SENSES AND MUSCLES**

Thursday, July 12, 2012

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

✍ **Answer ALL the questions.**

✍ **Draw neat labeled diagram wherever appropriate.**

1. Describe the ionic basis of RMP and action potential of a nerve fiber with the help of relevant graphs.

(20 marks)

2. Discuss the functional roles of brainstem reticular formation.

(20 marks)

3. Discuss the role of association areas of the cerebral cortex.

(20 marks)

4. Draw a diagram of the visual pathway and discuss the features of the visual field defects occurring due to lesions at various levels.

(20 marks)

5. **Discuss:**

5A. Control systems of the body

5B. Body fluid compartments and techniques of their measurement

(10+10 = 20 marks)



MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2012****PAPER II: CARDIOVASCULAR PHYSIOLOGY, RESPIRATORY SYSTEM, RENAL PHYSIOLOGY AND BLOOD**

Friday, July 13, 2012

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

✍ Answer ALL the questions.

1. Explain stages and regulation of erythropoiesis. (20 marks)
2. Discuss the regulation of heart rate. (20 marks)
3. Describe the generation of normal respiratory rhythm. How is it altered with variation in arterial PCO_2 and pH? (20 marks)
4. Explain role of kidney in acid base balance. (20 marks)
5. **Write short notes on:**
 - 5A. Micturition reflex
 - 5B. Corebody temperature
 - 5C. Functions of macrophages
 - 5D. Starling's law of heart(5×4 = 20 marks)



MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2012****PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION**

Saturday, July 14, 2012

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

✍ **Answer ALL questions. All questions carry equal marks.**

✍ **Draw neat labeled diagram wherever appropriate.**

1. Explain mechanism of acid formation in the stomach. Add a note on 'Peptic Ulcer' and the physiological basis of it's treatment.
2. Explain the role of various hormones on growth and function of the mammary gland.
3. Name the hormones produced by adrenal cortex. Explain how their secretion is regulated.
4. Explain the physiological actions of growth hormone. What are the consequences of excess secretion of this hormone in adulthood?
5. **Write notes on:**
 - 5A. Sertoli cell functions
 - 5B. Role of NO in the male reproductive system.

