

MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – AUGUST 2011**
PAPER I: GENERAL PHYSIOLOGY, NERVOUS SYSTEM INCLUDING
SPECIAL SENSES AND MUSCLES

Monday, August 08, 2011

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

- ✍ **Answer ALL the questions.**
- ✍ **Illustrate your answers with neatly drawn and correctly labeled diagrams wherever necessary.**

1. Describe the pain pathways from limbs and face. Write a note on referred pain and endogenous analgesic system.

(20 marks)

2. What are the components of Basal ganglia? Give an account of connections and their function. Explain the physiological basis of features of Parkinson's disease.

(20 marks)

3. Draw a diagram of visual pathway and explain it. Indicate the effects of lesions at different levels of optic pathway. Add a note on color vision.

(20 marks)

4. Draw and label the important Brodman's areas of cerebral cortex. Describe their function. Add a note on speech disorders.

(20 marks)

5. **Write short notes on:**

- 5A. Type 1 and type 2 skeletal muscle fibers
- 5B. Facilitated diffusion with suitable examples
- 5C. Structure and functions of cell membrane
- 5D. Travelling wave theory for hearing

(5×4 = 20 marks)



MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – AUGUST 2011****PAPER II: CARDIOVASCULAR PHYSIOLOGY, RESPIRATORY SYSTEM, RENAL PHYSIOLOGY AND BLOOD**

Tuesday, August 09, 2011

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

- ✍ Answer ALL the questions.
- ✍ Illustrate your answers with neatly drawn and correctly labelled diagrams wherever necessary.

1. Describe the factors that regulate cardiac out put. What is cardiac failure?
(20 marks)
2. Describe the different lead systems of ECG.
(20 marks)
- 3A. Hypoxia
3B. Haldane effect
(20 marks)
4. Write briefly on:
A. Microcirculation
B. Poiseuille's Law
(20 marks)
- 5A. Renal function tests
5B. Diabetes Insipidus
(20 marks)



MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – AUGUST 2011****PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION**

Wednesday, August 10, 2011

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

- ✍ Answer **ALL** the questions.
- ✍ Illustrate your answers with neatly drawn and correctly labelled diagrams wherever necessary.
1. Discuss the role of GI tract movements in digestive and absorptive functions. Add a note on vomiting.
(20 marks)
 2. Briefly outline the biosynthesis of thyroid hormones. Discuss the factors causing hyper and hypo secretion of thyroid hormones. Add note on physiological basis of thyroid functions tests.
(20 marks)
 3. Discuss the role of placental hormones in maintaining pregnancy.
(20 marks)
 4. Explain the different types of sex differentiation to determine an individual sex. Add a note on chromosomal aberration in sex differentiation.
(20 marks)
 5. **Briefly explain the following:**
 - 5A. Neuro-endocrine reflex
 - 5B. Sertoli cell
 - 5C. Ovulation tests
 - 5D. Micelle formation

(5×4 = 20 marks)

