

Reg. No.

MANIPAL UNIVERSITY

MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2010

SUBJECT: PAPER I: GENERAL PHYSIOLOGY, NERVOUS SYSTEM, SPECIAL SENSES AND MUSCLE

Monday, April 05, 2010

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

- ✍ Answer ALL the questions.
- ✍ Draw diagrams wherever necessary.

HEALTH SCIENCES LIBRARY

1. Discuss in detail the mechanism of light perception in man. Add a note on color blindness.
(20 marks)
2. Discuss the pathophysiology of pain. Add a note on disorders of pain.
(20 marks)
3. Write briefly on:
 - 3A. Hemisection of spinal cord.
 - 3B. Myasthenia gravis.(10+10 = 20 marks)
4. Discuss the Physiology of Aging.
(20 marks)
5. Describe the mechanism of contraction in skeletal muscle.
(20 marks)



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MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2010

SUBJECT: PAPER II: CARDIOVASCULAR & RESPIRATORY SYSTEM,
RENAL PHYSIOLOGY AND BLOOD

Tuesday, April 06, 2010

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

- ✍ Answer ALL the questions.
- ✍ Draw diagrams wherever necessary.

1. Describe the regulation of cardiac out put. What is 'cardiogenic shock'?
(20 marks)
2. Give a detailed account of transport of oxygen in the blood. Write briefly on cyanosis.
(20 marks)
3. Describe the mechanism in the kidney for reducing the water loss.
(20 marks)
4. Explain the blood coagulation and add a note on 'endogenous anticoagulants'.
(20 marks)
5. Describe the events in the cardiac cycle mentioning the changes taking place in each phase.
(20 marks)



MANIPAL UNIVERSITY**MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2010****SUBJECT: PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY
AND REPRODUCTION**

Wednesday, April 07, 2010

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✗ Answer ALL the questions.

✗ Draw diagrams wherever necessary.

1. Discuss the role of hormones in calcium metabolism and bone growth. (20 marks)
2. Describe physiological actions of progesterone. Add a note on its regulation. (20 marks)
3. Describe the physiological actions of glucocorticoids. Give the physiological basis of features of 'Addison's Disease'. (20 marks)
4. Describe the regulation of enzyme secretion from pancreas. List its proteolytic enzymes and the method of their activation. (20 marks)
5. Write briefly on:
 - 5A. Features of 'cretinism' and their physiological basis.
 - 5B. Pharyngeal phase of deglutition.
 - 5C. Spermatogenesis.
 - 5D. Diabetes insipidus.

(5×4 = 20 marks)



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MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2010

SUBJECT: PAPER IV: RECENT ADVANCES IN PHYSIOLOGY, APPLIED AND
CLINICAL PHYSIOLOGY

Thursday, April 08, 2010

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

- ✍ Answer ALL the questions.
✍ Draw diagrams wherever necessary.

1. Discuss the role of Sodium-Potassium ATPase in physiology. (20 marks)
2. List three drugs and two surgical procedures used in the treatment of Parkinson's disease and explain why each is of value. (20 marks)
3. Describe the methods used to study 'learning & memory' in humans and experimental animal. (20 marks)
4. Describe the functions of fetal adrenal cortex. (20 marks)
5. Explain the physiological basis of the following:
- 5A. Tumors arising from the center of the cervical spinal cord cause loss of pain and temperature sensation first in the upper segments of the body and only later, in the lower segments.
- 5B. When the footplate of the stapes becomes rigidly attached to the oval window, a person becomes deaf.
- 5C. Galactorrhea and amenorrhea seen in a nonpregnant woman.
- 5D. Resection of terminal ileum, may produce megaloblastic anemia.

(5×4 = 20 marks)

