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MANIPAL UNIVERSITY

MD (PHYSIOLOGY) DEGREE EXAMINATION – OCTOBER 2008

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

Monday, October 06, 2008

Time: 3 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ All questions carry equal marks.

1. Draw and label the electron microscopic structure of cell membrane. Describe briefly the various transport mechanisms in cell membrane.
2. Compare the roles of basal ganglia and cerebellum in voluntary motor control.
- 3A. Trace the pathway of light reflex. Explain the effects on this reflex of lesions at various levels of optic pathway.
- 3B. Explain the functions of middle ear. Add a note on tests for hearing.
4. Explain the excitation of skeletal muscles in the body. Explain how graded increase in force is brought about during voluntary movement.
5. Describe the organization of autonomic nervous system.



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MD (PHYSIOLOGY) DEGREE EXAMINATION – OCTOBER 2008

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

Tuesday, October 07, 2008

Time: 3 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ All questions carry equal marks.

1. Describe erythropoiesis in detail. Add a note on megaloblastic anemia.
2. Discuss various cardiovascular reflexes.
3. Discuss the mechanism of ventilation in detail. Explain the role of surfactant in the lungs.
4. Classify shock. Discuss the pathophysiology of hypovolemic shock and the physiological basis of its treatment.
5. Give the role of
 - 5A. Antidiuretic hormone.
 - 5B. Juxta-glomerular apparatus.



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**SUBJECT: PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY
AND REPRODUCTION**

Thursday, October 09, 2008

Time: 3 Hrs.

Max. Marks: 100

✍ Answer **ALL** the questions.

✍ All questions carry equal marks.

1. Describe the physiological actions of cortisol. Explain the consequences of 11β -hydroxylase deficiency.
2. Describe in detail the functions of ovary and regulation of ovarian function.
3. Discuss the role of gastrointestinal hormones in digestion and absorption of food.
4. Explain the terms:
 - 4A. Puberty.
 - 4B. Precocious puberty.
 - 4C. Precocious pseudopuberty.
5. Briefly explain:
 - 5A. Functions of placenta.
 - 5B. Spermatogenesis.

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MD (PHYSIOLOGY) DEGREE EXAMINATION – OCTOBER 2008

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

Friday, October 10, 2008

Time: 3 Hrs.

Max. Marks: 100

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

1. Discuss clinical applications of lung function tests.
2. Discuss pathophysiology of gastric ulcer and the basis of its treatment.
3. Write briefly on the following:
 - 3A. Tests of cerebellar function.
 - 3B. Tests of visual acuity.
4. Describe the manifestations of adrenocortical dysfunction.
5. Describe the 'renal output curves' and their importance.

