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## MANIPAL UNIVERSITY

M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2013

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

Thursday, July 11, 2013

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

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1. Enumerate the functions of reticular formation. Describe any two in detail. (20 marks)
2. What is electroencephalography? Describe its various waves. (20 marks)
3. Describe the functions of prefrontal lobes. (20 marks)
4. **Describe:**
  - 4A. REM sleep
  - 4B. Tympanic reflex(20 marks)
5. **Explain:**
  - 5A. Duplicity theory of vision
  - 5B. Place principle in pitch discrimination(20 marks)



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M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2013  
PAPER II: CARDIOVASCULAR PHYSIOLOGY, RESPIRATORY SYSTEM, RENAL  
PHYSIOLOGY AND BLOOD

Friday, July 12, 2013

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

1. Explain the process of coagulation of blood. Add a note on anticoagulants and their uses.  
(20 marks)
2. Describe the factors influencing the affinity of hemoglobin to oxygen. Explain the significance of P50.  
(20 marks)
3. Explain the mechanisms which restore the blood pressure after haemorrhage.  
(20 marks)
4. **Explain the factors which result in:**
  - 4A. Turbulent flow. Add a note on clinical significance of turbulent flow
  - 4B. Describe the factors influencing venous return.  
(10+10 = 20 marks)
5. Explain the mechanism of filling and emptying of urinary bladder in a normal individual.  
(20 marks)



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M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2013

PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION

Saturday, July 13, 2013

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

1. Describe how are the mechanisms of bone formation and bone resorption linked in calcium homeostasis. Explain the role of other organs of the body in calcium metabolism. (20 marks)
2. Describe the consequences of derangement in feedback loop operations of hormonal secretions in the body. (20 marks)
3. Discuss the changes observed in reproductive organs during a normal menstrual cycle with the hormonal basis. (20 marks)
4. Describe the various functions of the liver with specific examples and tests to assess the same. (20 marks)
5. **Write briefly on:**
  - 5A. Cause and features of Conn's syndrome
  - 5B. Turner's syndrome
  - 5C. Sertoli cell functions
  - 5D. Various loop mechanisms in the regulation of G.I. tract secretions(20 marks)

