

**Code: 103001**

**Reg. no.:** .....

First Professional MBBS Degree Supplementary Examinations, February 2013

**PHYSIOLOGY – Paper I**

**Time: 3 Hours**

**Total Marks: 50**

- *Answer all questions*
- *Draw Diagrams wherever necessary*

**Long essay**

**(10)**

1. A 48 year old man suffering from diabetes mellitus had increased frequency of micturition
  - What is the physiological basis of the polyuria
    - What are the mechanisms operating in the nephron for the concentration of urine
  - Add a note on free water clearance (3+6+1=10)

**Short essays**

**(2x5 =10)**

2. Explain the ionic basis of pacemaker potential with the aid of a labeled diagram,.  
Mention the changes during sympathetic stimulation
3. Explain the mechanism of temperature regulation in a cold environment

**Answer briefly**

**(5x3=15)**

4. Mechanism of HCl secretion by gastric parietal cells
5. Haemophilia
6. Timed vital capacity
7. Factors influencing venous return
8. Plasma cell.

**Draw and label**

**(2x2½ =5)**

9. Nephron
10. ECG of lead II

**Explain the physiological basis of the following**

**(5x2=10)**

11. Physiological jaundice
12. Deglutition apnoea
13. Reticulocytosis
14. Alveoli do not collapse during expiration
15. Bleeding tendency in Vitamin K deficiency

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