

Code: 103001

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

\*\*\*\*\*