



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
