B.Sc.(N) [Post Basic (1st Year)]

BF/2009/06

Biochemistry & Biophysics

[New Scheme-w.e.f. 2007 admission]

M.M. : 75 **Time : 3 Hours.**

Note: Attempt Three questions from each Section. Question No. 1 of each Section is Compulsory.

USE SEPARATE ANSWER SHEETS FOR EACH SECTION.

SECTION-A [37.5 marks]

(Biochemistry)

1. a. Describe the structure and function of Plasma membrane of a Eukaryotic cell.

   b. List down 4 important properties of Water.

   c. Define Km and Vmax of Enzymes.

   d. Briefly discuss 'Diabetes Mellitus'.

   e. Enumerate 3 major functions of Plasma protein.

   f. What are Ketone bodies. How are these utilized in the body.

   g. Role of Lipoproteins in Cholesterol metabolism. [7x2.5=17.5]

2. a. Discuss the distribution of various Electrolytes in Intracellular and Extracellular fluids. [5]

   b. Explain the diagnostic significance of AST and ALT. [5]

3. **Write short notes on any TWO**: [5+5]

   a. Digestion and absorption of Proteins.

   b. Oxidative Phosphorylation.

   c. Gout.

4. Write in detail the diseases associated with Digestion and Absorption of Food. [10]

P.T.O.

SECTION-B (Biophysics)

[37.5 marks]

1. **Explain briefly any FIVE of the following**: [5x3=15]
   a. Blood pressure cuff is used in blood transfusion.
   b. Arms are relaxed at sides of body while folding linen.
   c. Rubber tips are used at the bottom of crutches.
   d. Use of Flannel cover over a hot water bottle.
   e. Lead screen is used for protection by radiographers.
   f. Underwater drainage is used for drainage from chest incision.
   g. Ice is used to decrease swelling on the face.
   h. Pacemakers are implanted in patients with irregular heartbeat.

2. a. What are the different kinds of pressures present in the human body. How will you measure any two of these pressures. [8]
   b. How can artificial breathing help to restore normal breathing in drowned person. [$4^1/_2$]

OR

3. a. What do you understand by Friction? Why does it occur? How can it be overcome? How can the force of friction cause a "burn". [8]
   b. What happens if a patient on a wheelchair moving down a ramp very fast suddenly breaks the wheelchair with his hands. [$4^1/_2$]

4. **Write short notes on any TWO**: [2x5=10]
   a. Use of X-rays in medical imaging.
   b. Ultrasound in imaging the foetus.
   c. Relation of muscle contraction and stimulus provided.
   d. Diathermy in the treatment of inflammatory conditions.
   e. Eye as a Lens.
