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

BF/2013/07

Biochemistry & Biophysics

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

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

Note: Attempt all the questions.
Support your answers with diagrams and illustrations.
USE SEPARATE ANSWER SHEETS FOR EACH SECTION.

SECTION-A (Biochemistry) [38 marks]

1. (a) What is mitochondria ? [1½]
   (b) Describe the application of Biochemistry in Nursing. [4½]
   (c) Discuss the functions of cell. [4]

OR

2. (a) Explain the chemical composition of water. [2]
   (b) Discuss the sources of water. [5]
   (c) Explain the important ions (electrolytes) of human body. [3]
3. (a) What are carbohydrates ? [1½]
   (b) How are carbohydrates catabolised for energy purpose. [4]
   (c) Classify carbohydrates with examples. [4½]
4. **Distinguish briefly (Any TWO)** : [2x3=6]
   (a) HDL and LDL.
   (b) Lipoproteins and Nucleoproteins.
   (c) Glycolysis and Glycogenesis
   (d) Hyperglycemia and Hypoglycemia.
5. **Write Short Notes on any FOUR of the following** : [4x3=12]
   (a) Gout.
   (b) Digestion of proteins.
   (c) Regulation of blood sugar level.
   (d) Role of Thyroxine in human body.
   (e) Nitrogenous constituents of urine.

SECTION-B (Biophysics) [37 marks]

1. (a) What do you mean by noise pollution ? [2]
   (b) Discuss various measures for prevention of noise pollution. [4]
   (c) How is frequency different from velocity ? Support the answer with illustrations. [4]

OR

2. (a) What is an atomic energy ? [2]
   (b) Explain the radiation protection units and their limits. [4]
   (c) Discuss the application of X-rays in medical field. [4]
3. (a) What are the principles of electronics ? [2½]
   (b) Discuss the nature of electricity. [2½]
   (c) Describe the mechanism of flow of electricity in electrolytes. [5]
4. **Distinguish briefly (Any TWO)** : [2x2½=5]
   (a) Voltage and Current. (b) ECG and EEG.
   (c) Vocalisation and hearing. (d) Isotope and Isobar.
5. **Explain any FOUR of the following** : [4x3=12]
   (a) Pacemaker.
   (b) Temperature scales.
   (c) Lever and body mechanics.
   (d) Biological effects of light.
   (e) CAT Scan.
   (f) Hazards of radiation.
