

# B.Sc.(N) [Post Basic (1<sup>st</sup> 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.