

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

BF/2018/08

## Biochemistry & Biophysics

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

**Time : 3 Hours**

**Max Marks : 75**

Note: 1.) *Attempt all questions.*

2.) **USE SEPARATE ANSWER BOOK FOR EACH PART.**

3.) **The Student must write separate O.P. Code in the space provided on the Title Page of the respective Answer Book.**

### SECTION-A

**[38 marks]**

**QP Code: PBN103**

**(Biochemistry)**

1. (i) (a) Define Electrolytes. [2]  
 (b) Explain the sources of water in Human Body. [4]  
 (c) Write the functions of Sodium and Calcium. [4]
- OR**
- (ii) (a) Define Plasma Proteins. [2]  
 (b) Explain the functions of Plasma Proteins. [4]  
 (c) Discuss the mechanism of action of enzymes in our Body. [4]
2. **Differentiate between the following :** [2½ x 4=10]  
 (a) Acid and Base. (b) Essential and Non-essential Amino acids.  
 (c) Hypoglycaemia and Hyperglycemia. (d) Glycolipids and Phospholipids.
3. **Describe brief (Any TWO) :** [2x3=6]  
 (a) Protein Biosynthesis. (b) Malabsorption Syndrome.  
 (c) Classification of Fats. (d) HDL & LDL.
4. **Write Short Notes on any FOUR of the following :** [4x3=12]  
 (a) Monosaccharides.  
 (b) Gout.  
 (c) Catabolism of Carbohydrates for Energy Purposes.  
 (d) Functions of Steroid Hormones.  
 (e) Functions of a Human Cell.  
 (f) Composition of Blood.

### SECTION-B

**[37 marks]**

**QP Code: PBN104**

**(Biophysics)**

1. (i) (a) Define Fundamental Units. [2]  
 (b) Explain the units of length, mass and time. [4]  
 (c) Discuss the application of principles of Gravity in Nursing. [4]
- OR**
- (ii) (a) Define Body Mechanics. [2]  
 (b) Describe the principles of Body Mechanics. [4]  
 (c) Discuss the relationship between Pulley and Traction. [4]
2. (a) Define Force. [2]  
 (b) Explain the units of measurement of Force and Energy. [4]  
 (c) Discuss the application of principles of Lever in Nursing. [3]
3. **Describe briefly (Any TWO) :** [2x3=6]  
 (a) Uses of Radioactive Isotopes. (b) X- Rays.  
 (c) Arterial and Venous Pressure. (d) Temperature Scales.
4. **Write Short Notes on any FOUR of the following :** [4x3=12]  
 (a) Transfer of Heat. (b) Incline Plane.  
 (c) Use of Light in Therapy. (d) Use of Heat for Sterilization.  
 (e) Pacemaker. (f) Flow of Electricity in Solids.