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

BF/2016/03

Biochemistry & Biophysics

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

Time : 3 Hours **Max Marks : 75**

Note: Attempt all the questions.

USE SEPARATE ANSWER SHEETS FOR EACH SECTION.

SECTION-A (Biochemistry) [38 marks]

1. (i) (a) Epimerism. [2]
(b) Essential Amino Acid. [4]
(c) Phospholipids and their significance. [4]

OR

(ii) (a) Define enzymes and classify them. [2]
(b) Digestion and absorption of lipids. [4]
(c) Competitive inhibition of enzymes. [4]

2. (a) Malabsorption syndrome. [2]
(b) Functional classification of Proteins. [4]
(c) Oxidative Phosphorylation. [4]

3. **Describe brief (Any TWO) :** [2x3=6]
(a) GTT (b) Amphibolic role of TCA
(c) Glycosidic bond (d) Inhibitors of ETC

4. **Write Short Notes on any FOUR of the following :** [4x3=12]
(a) Gluconeogenesis.
(b) Role of 2, 3-DPG in body.
(c) Energetics of B-oxidation of palmitic acid.
(d) Hypoglycemia.
(e) Glycogen storage disease.
(f) First step of urea cycle.

SECTION-B (Biophysics) [37 marks]

1. (i) (a) Specific Heat. [2]
(b) What is Derived units ? What are units of weight and time ? [4]
(c) What are principles of friction and body mechanics ? [4]

OR

(ii) (a) Discuss regulation of body temperature. [2]
(b) What are speed, velocity and acceleration ? [4]
(c) Principles of gravity. [4]

2. (a) Uses of ultrasound. [2]
(b) What is relationship between energy, frequency and wavelength of light. [3]
(c) Discuss flow of electricity in solids and electrolytes. [4]

3. **Describe briefly (Any TWO) :** [2x3=6]
(a) Lever and Body mechanism (b) Hydrostatic and osmotic pressure
(c) X-rays and their role in nursing (d) CT-Scan.

4. **Write Short Notes on any FOUR of the following :** [4x3=12]
(a) ECG (b) Radioactivity
(c) Gravity (d) Relative humidity
(e) Intracranial Pressure (f) Sound
