

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

BF/2012/01

Biochemistry & Biophysics

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

M.M. : 75

Time : 3 Hours.

Note: Attempt all questions.

Support your answers with diagrams and illustrations.

USE SEPARATE ANSWER SHEETS FOR EACH SECTION.

SECTION-A (Biochemistry)

[38 marks]

1. (a) What are electrolytes ? [1½]
 (b) Describe the biological importance of principle electrolytes within a human cell. [4½]
 (c) Explain the factors controlling fluid and electrolyte balance. [4]
- OR**
1. (a) What are lipids ? [2]
 (b) How are fats digested and metabolized ? [5]
 (c) Discuss the distribution of cholesterol and lipo protein. [3]
2. (a) What are amino acids ? [1½]
 (b) How can the amino acids be classified ? List them one by one. [4]
 (c) How is biosynthesis of protein taking place in the cells ? [4½]
3. **Distinguish briefly (Any TWO) :** [2x3=6]
 (a) Monosaccharides and Polysaccharides.
 (b) Ribonucleic acid and Deoxyribonucleic acid.
 (c) Cholesterol and Lipoprotein.
 (d) Enzymes and Harmones.
4. **Write Short Notes on any FOUR of the following :** [4x3=12]
 (a) Mal absorption syndrome.
 (b) Mitro chondrial oxidation of Carbohydrates.
 (c) GTT
 (d) Composition of blood.
 (e) Role of liver in fat metabolism.

SECTION-B (Biophysics)

[37 marks]

1. (a) What is an ultra sound ? [2]
 (b) Explain various uses of ultra sound in medical field. [4]
 (c) How is heat transferred within a liquid ? [4]
- OR**
1. (a) What is electricity ? [2]
 (b) Describe the mechanism of flow of electricity in liquids. [4]
 (c) Describe the application of electricity in medical field. [4]
2. (a) Explain units of mass used for measuring drugs. [2½]
 (b) What is universal law of gravitation. [2½]
 (c) Explain any three applications of principles of gravity. [5]
3. **Distinguish briefly (Any TWO) :** [2x2½=5]
 (a) Fundamental and derived units. (b) Vector and Scalar motion.
 (c) Ocular and Intravenous pressure. (d) Work and force.
4. **Explain on any FOUR :** [4x3=12]
 (a) Common electronic equipments used in patient care.
 (b) Use of radioactive isotopes.
 (c) ECG.
 (d) Principles of machine.
 (e) Effects of heat on matter.
 (f) Application of principles in traction.