

MO-602 Seat No. _____
Diploma in Pharmacy (Part-I) Examination
May / June – 2003
Biochemistry & Clinical Pathology

Time : 3 Hours]

[Total Marks : 80

- Instructions :** (1) Attempt any **three** questions from each section.
(2) Tie both the sections **separately**.
(3) Each question carries **equal** marks.

SECTION - I

- 1** (a) What are proteins ? Classify them. Write a note on quality protein.
(b) What are biological functions of protein ?
(c) Give qualitative tests for protein.
- 2** (a) Define and classify carbohydrates. Give chemical tests for monosaccharides.
(b) Explain the following :
(1) Heparin
(2) Mutarotation
(3) Starch
(4) Diabetes mellitus.
- 3** (a) What are lipids ? What are the functions of lipids in our body ?
(b) Give chemical tests for lipids.
(c) Write note on :
(1) Phospholipids
(2) Glycolipids
(3) Lipoproteins.

- 4 (a) Define the term vitamin and classify them.
(b) Enumerate coenzyme forms of water soluble vitamins with their biochemical role.
(c) Give biochemical functions of vitamin A and vitamin D.
- 5 (a) Enumerate the role of following minerals in our body :
(1) Calcium
(2) Iodine
(3) Sodium
(4) Zinc
(5) Potassium.
- (b) Explain the properties of water.
(c) Explain the following terms :
(1) Osteomalacia
(2) Goiter
(3) Pellagra
(iv) Beri-Beri.

SECTION - II

- 6 (a) How are proteins digested and absorbed ?
(b) Give the general metabolism of amino acids.
(c) Outline urea formation and metabolic disorders.
- 7 (a) Explain the following terms :
(i) gluconeogenesis
(2) Glycolysis
(3) Glycogenesis.
- (b) Discuss tricarboxylic acid cycle (Kreb cycle) and give its importance.
(c) Write short notes on any **two** :
(i) Glycogen storage disease
(ii) Genetic disease
(iii) Electron transport system.

- 8** (a) What are enzymes ? Classify them giving suitable example for each class.
- (b) Describe the factors affecting enzyme reaction.
- (c) Write a note on enzyme inhibitors.
- 9** (a) Discuss beta-oxidation of unsaturated fatty acid.
- (b) Enlist the abnormal constituents of urine and give their significance.
- (c) Give the major functions of Platelets.
- 10** Write short notes on any **four** :
- (1) Optical isomerism
 - (2) Glucose tolerance test
 - (3) Role of Carnitine
 - (4) Lipid storage disease
 - (5) Insulin and its role
 - (6) ATP.
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