MARCH - 2002

[KG 706] **Sub. Code : 4181**

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

BIOCHEMISTRY

Time : Three hours Maximum : 90 marks

Two and a half hours Sec. A & Sec. B : 60 marks

for Sec. A & Sec. B. Section C : 30 marks

Answer Sec. A and Sec. B in the same answer book.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. (a) What are amino acids? Classify them with examples. (1 + 2 + 2 = 5)

(b) Describe the complete oxidation of one amino acid. (10)

2. (a) What are enzymes? Describe the IUB system of nomenclature and classification with examples. (1 + 4 = 5)

(b) Enumerate the factors affecting enzyme activity. Derive an equation to show that initial velocity of an enzyme catalysed reaction is proportional to substrate concentration. (2 + 8)

3. (a) List out the purines and pyrimidines involved in DNA synthesis. Give their structures. (5)

(b) Describe the process of RNA synthesis. (10)

4. Describe the secondary pathway for the oxidation of glucose with reactions. Add a note on its functions and clinical significance. $(10 + 2\frac{1}{2} + 2\frac{1}{2} = 15)$

SECTION B — (6 × 5 = 30 marks)

5. Write briefly on any SIX of the following :

(a) Gluconeogenesis

(b) Ketogenesis

(c) Fatty liver

(d) DNA replication

(e) Cholesterol breakdown

(f) Cytochromes

(g) Liver function tests

(h) Pyrimidine biosynthesis

(i) Hormones involved in carbohydrate metabolism.

SEPTEMBER - 2002

[KH 706] **Sub. Code : 4181**

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — BIOCHEMISTRY

Time : Three hours — Maximum : 90 marks

Two and a half hours — Sec. A & Sec. B : 60 marks

for Sec. A and Sec. B — Section C : 30 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the Answer Sheet provided.

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. (a) Describe the process of glycogenesis and glycogenolysis. How they are regulated? (6 + 4 = 10)

(b) Write a short note on polysaccharides. (5)

2. (a) Write the components of electron transport chain indicating sites of phosphorylation. (5)

(b) Describe extramitochondrial synthesis of palmitic acid. (10)

3. (a) Describe in detail the metabolism of tyrosine in the human body. (12)

(b) Give the biochemical explanation for the following.

Vitamin E and selenium protect cell membranes. (3)

4. (a) Describe chemistry, dietary sources, daily requirements, functions and deficiency manifestations of vitamin A. (10)

(b) Write briefly on glucose absorption in the GI Tract. (5)

SECTION B — (6 × 5 = 30 marks)

5. Write short answers on any SIX of the following :

(a) Energy requirement of a college going student.

(b) Calcium homeostasis.

(c) Liver function tests.

(d) Structure of DNA.

(e) Competitive inhibition of enzymes.

(f) Secondary structure of proteins.

(g) Lipoproteins.

(h) Dietary fibers.

(i) Gout.
