April-2004

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

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — BIOCHEMISTRY

Time : Three hours Maximum : 90 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 70 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

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

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. Explain B-oxidation of free fatty acids. Write energetics for palmitic acid. (i.e. How many molecules of ATP are evolved for oxidation of one molecule of palmitic acid).

2. (a) Write the scheme for analysis of carbohydrate. (8)

(b) Structure of Haemoglobin. (7)

3. Explain, in detail, biosynthesis of proteins.

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT questions.

Answer briefly :

4. Classification and properties of fatty acids.

5. Classification and properties of amino acids.

6. Source, structure, requirement, biochemical functions and deficiency manifestations of Vit. C.

7. Classification of enzymes (Illustrate with an example of code no.)

8. Define nucleoside, nucleotide and nucleic acid. Which sugar(s) is present in DNA and RNA?

9. Glycogenolysis.

10. Biochemical mode of action of thyroxin.

11. Metabolism of calcium and phosphorous.

12. Biochemistry of urine.

13. Enzyme induction and enzyme inhibition.

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AUGUST - 2004

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Time : Three hours — Maximum : 90 marks

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

SECTION A — (2 × 15 = 30 marks)

Answer any TWO.

1. (a) With the help of Michaelis – Menten curve, explain competitive and non–competitive enzyme inhibitions.

(b) Give the I.U.B. scheme of classification and nomenclature of enzymes. (12 + 3 = 15)

2. (a) Explain with schematic representation the overall steps involved in the citric acid cycle.

(b) Write the β–oxidation steps of saturated fatty acids occurring in mitochondria. (10 + 5 =15)

3. (a) Classify vitamins with their chemical name.

(b) Write the source, chemistry, biochemical role, daily requirement and deficiency conditions of Vitamin D. (3 + 12 = 15)

4. Explain, in detail, biosynthesis of proteins. (15)

SECTION B — (8 × 5 = 40 marks)

Answer any EIGHT.

5. Describe the biochemical role of calcium and iron.

6. Explain the different levels of organisation of protein structure.

7. Write a short note on histones.

8. Explain the biochemical action of steroids synthesized in adrenal cortex.

9. Give the chemical structure and properties of cholesterol.

10. Describe the physiological functions of insulin.

11. Describe the acid–base behaviour of aminoacids.

12. Explain homopolysaccharides in brief.

13. Give the explanation for Iodine number, Saponification number, Acid number, with their uses.

14. Describe any two kidney function tests.

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