

FEBRUARY - 2005

[KM 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 Sec. A & B : 70 marks
forty minutes

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

SECTION A — (2 × 15 = 30 marks)

Answer any TWO questions.

1. (a) What do you know about the chemical nature of proteins? How are they classified? Give examples. (5)
(b) Give an account of biosynthesis of proteins. (10)
2. (a) Name the water soluble vitamins. (5)
(b) Describe the chemistry, source, biochemical role, daily requirement and deficiency manifestations of the vitamin thiamine. (1 + 1 + 4 + 1 + 3 = 10)

3. (a) Describe briefly the actions of enzymes involved in the digestion of carbohydrates. (5)

(b) Name the main storage form of carbohydrate in the body. Mention the sites of storage. Describe how blood glucose is produced from the storage form. Give functions of glycolysis. (1 + 2 + 4 + 3 = 10)

4. (a) What is cholesterol and what is its plasma concentration? Mention the useful compounds synthesized using cholesterol in the body. Discuss the harm if cholesterol level goes high. (2 + 3 + 3 = 8)

(b) Name the important poly unsaturated fatty acids. What are their functions? (3 + 4 = 7)

SECTION B — (8 × 5 = 40 marks)

Write briefly on any EIGHT of the following.

5. Ketone bodies.
6. Hormones influencing blood glucose level.
7. Enzyme induction.
8. Balanced diet.
9. DNA.
10. Galactose metabolism.
11. Abnormal constituents of urine.
12. Km value of an enzyme.
13. Phenylketonuria
14. Gout.

[KM 706]

AUGUST - 2005

[KN 706]

Sub. Code : 4181

SECOND B.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

Paper I — BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Theory : Two hours and
forty minutes

Theory : 70 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

I. Long Essay :

(2 × 15 = 30)

Answer any TWO full questions.

1. (a) What are enzymes? List out the factors affecting enzyme activity. (5)

(b) Derive an equation to show that the velocity of enzyme catalysed reaction is dependent on the substrate concentration. (10)

2. (a) List out the various pathways of carbohydrate metabolism. (5)

(b) Describe the secondary pathway for the oxidation of glucose and add a note on its significance. (10)

3. (a) Describe the fatty acid synthase complex. (5)

(b) Describe the *de novo* biosynthesis of fatty acids. (10)

4. (a) List out the steps involved in the breakdown of amino acids. (5)

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

II. Short notes :

(8 × 5 = 40)

Answer any EIGHT questions.

1. What are carbohydrates? Classify them with examples.

2. Describe IUB nomenclature and classification of enzymes.

3. Write a note on enzyme inhibition.

4. Describe the coenzymatic role of thiamine and pyridoxine.

5. Describe the *pyruvate dehydrogenase complex* and its reactions.

6. Explain the reactions involved in the breakdown of purine nucleotides.

AUGUST - 2005

7. Describe *gluconeogenesis* in brief and give its significance.
 8. Write notes on Genetic code.
 9. Write the structure of t-RNA and give its function.
 10. Liver function Tests.
-