

M.Sc. BIOCHEMISTRY DEGREE EXAMINATION**(For Candidates admitted from 2008-2009 regulations)****PAPER II - ENZYMES, INTERMEDIATE METABOLISM AND NUTRITION
INCLUDING MINERALS AND VITAMINS HOMEOSTASIS****Q.P. Code: 281202****Time : Three Hours****Maximum : 100 marks****Answer ALL questions in the same order.****I. Elaborate on:**

Pages (Max.)	Time (Max.)	Marks (Max.)
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|---|----|---------|----|
| 1. Write the sources of calcium in diet, the normal serum level, the daily requirement? How is the level of calcium maintained in our body? Add a note on hypo and hypercalcemia? | 17 | 40 min. | 20 |
| 2. What is the normal serum cholesterol level?
Write down the steps of cholesterol synthesis.
Add a note on regulation of the synthesis.
List the name and role of cholesterol lowering drugs. | 17 | 40 min. | 20 |

II. Write notes on :

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|--|---|---------|---|
| 1. Different types of Phase II reactions in metabolism of xenobiotics with suitable examples. | 4 | 10 min. | 6 |
| 2. What are the factors that affect enzyme activity?
Explain how they affect enzyme activity. | 4 | 10 min. | 6 |
| 3. Write short notes on Glycolysis in R.B.Cs (Erythrocytes). | 4 | 10 min. | 6 |
| 4. Neurotransmitters form tyrosine. | 4 | 10 min. | 6 |
| 5. What is the active form of Thiamine? Mention its role in carbohydrate metabolism. | 4 | 10 min. | 6 |
| 6. How is bilirubin formed? What are the biochemical features of Hemolytic Jaundice? | 4 | 10 min. | 6 |
| 7. Write short notes on mucopoly saccharidoses and the test for mucopolysaccharides. | 4 | 10 min. | 6 |
| 8. Primary structure of protein and methods for determination of primary structure. | 4 | 10 min. | 6 |
| 9. Write short note on fatty liver and lipotropic factors. | 4 | 10 min. | 6 |
| 10. Alpha and omega oxidation of fatty acids. | 4 | 10 min. | 6 |

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- | | | | |
|---|----|---------|----|
| 1. Describe in detail the steps involved in beta oxidation of fatty acid.
Add a note on energetic of oxidation of Palmitic Acid. | 17 | 40 min. | 20 |
| 2. Describe in detail the metabolism of Tyrosine. Add a note on the special products obtained from tyrosine. | 17 | 40 min. | 20 |

II. Write Notes on :

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|---|---|---------|---|
| 1. Heme degradation. | 4 | 10 min. | 6 |
| 2. Biochemical changes in Diabetic Ketoacidosis. | 4 | 10 min. | 6 |
| 3. Competitive and uncompetitive inhibition. | 4 | 10 min. | 6 |
| 4. Biochemical functions & deficiency manifestations of pyridoxine. | 4 | 10 min. | 6 |
| 5. Glycogen storage disorders. | 4 | 10 min. | 6 |
| 6. Basal metabolic rate. | 4 | 10 min. | 6 |
| 7. Maple syrup urine disease. | 4 | 10 min. | 6 |
| 8. HDL metabolism. | 4 | 10 min. | 6 |
| 9. Fluorosis. | 4 | 10 min. | 6 |
| 10. Miester Cycle. | 4 | 10 min. | 6 |

[LC 1013]

APRIL 2013

Sub. Code: 1202

M.Sc. BIOCHEMISTRY DEGREE EXAMINATION

(For Candidates admitted from 2008-2009 regulations)

**PAPER II - ENZYMES, INTERMEDIATE METABOLISM AND NUTRITION
INCLUDING MINERALS AND VITAMINS HOMEOSTASIS**

Q.P. Code: 281202

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 20 = 40)

1. Classify enzymes. Describe in detail the mechanism of action of enzymes.
Add a note on factors regulating enzyme action.
2. Describe in detail the steps involved in Tricarboxylic acid cycle.
Add a note on energetic and regulation of the same.

II. Write notes on:

(10 x 6 = 60)

1. Glucose tolerance test.
2. Components of electron transport chain and its inhibitors.
3. Glycogenesis.
4. Phenylketonuria.
5. Urea cycle disorders.
6. National nutrition program.
7. Wilsons's disease.
8. Biochemical functions of thiamine and its deficiency manifestations.
9. Phase I detoxification reactions.
10. Lipotropic factors.
