

GUJARAT TECHNOLOGICAL UNIVERSITY**D.Ph. - SEMESTER-I • EXAMINATION – SUMMER 2013****Subject Code: 410004****Date: 17-05-2013****Subject Name: Biochemistry and Clinical Pathology****Time: 10.30 am - 01.30 pm****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-------------|------------|--|-----------|
| Q.1 | (a) | Describe Krebs cycle in detail and calculate its energetics | 08 |
| | (b) | Write a note on i) Gluconeogenesis & ii) Hexose monophosphate pathway | 08 |
| Q.2 | (a) | Write a note on (Any four) | 16 |
| | | i) Amphoteric nature of Amino acids ii) Functions & importance of Protein | |
| | | iii) Structure of protein iv) Catabolism of Tyrosine | |
| | | v) Formation of epinephrine from Tyrosine vi) Fate of amino acids | |
| Q.3 | (a) | Discuss in detail Beta oxidation of fatty acid with its energetics | 08 |
| | (b) | Write a short note on (Any Two) | 08 |
| | | i) Classification of lipids ii) Ketone bodies | |
| | | iii) Biological significance of Phospholipids | |
| Q.4 | (a) | Define Enzyme, Classify enzyme & Discuss factors affecting enzyme activity | 08 |
| | (b) | Give descriptive note on | 08 |
| | | i) Mechanism of Enzyme action ii) Enzyme inhibition | |
| Q.5 | (a) | Discuss chemistry, sources, physiological functions and deficiency diseases of Fat soluble vitamins | 08 |
| | (b) | Answer following | 08 |
| | | i) Describe Physiological significance and clinical condition associated with iron and calcium | |
| | | ii) Write a descriptive note on Thiamin and Riboflavin | |
| Q. 6 | (a) | Describe Diabetes mellitus, Discuss in detail with its different types, symptoms and diagnostic tests. | 08 |
| | (b) | Write a note on (Any Two) | 08 |
| | | i) Heteropolysaccharides ii) Tests for Carbohydrates | |
| | | iii) Epimers | |
| Q.7 | (a) | Describe the abnormal constituents of urine with its significance in diseases. | 06 |
| | (b) | Discuss Body water balance mechanism in detail | 05 |
| | (c) | Explain following terms | 05 |
| | | i) Saponification value ii) iodine value iii) Acid value | |
| | | iv) Acetyl value v) Reichert meissel no. | |
