

MANIPAL UNIVERSITY**SECOND YEAR M.Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2016****SUBJECT: METABOLIC REGULATIONS AND INBORN ERRORS OF METABOLISM
(BIOCHEMISTRY SPECIALIZATION)**

Thursday, December 15, 2016

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

✍ **Answer ALL questions.**

✍ **Draw diagrams wherever necessary.**

1. Discuss β -oxidation with its energetics.
2. Name major metabolic pathways which regulate blood glucose level. Discuss glycogenolysis and glycogenesis.

(15 marks \times 2 = 30 marks)

3. **Write detailed notes on:**

- 3A. Biochemical functions of vitamin D
- 3B. Factors affecting enzyme action
- 3C. Parathyroid hormones
- 3D. Leisch Nyhan syndrome
- 3E. Inborn errors of sulfur containing amino acids metabolism

(5 marks \times 5 = 25 marks)

4. **Write short notes on:**

- 4A. Energetics of Citric acid cycle
- 4B. Transamination
- 4C. Hyperlipoproteinemia
- 4D. Pellagra
- 4E. Diabetes insipidus

(3 marks \times 5 = 15 marks)

