Reg. No.										

MANIPAL UNIVERSITY

M.Sc. MEDICAL (FINAL) BIOCHEMISTRY DEGREE EXAMINATION – JULY 2013

PAPER II: INTERMEDIARY METABOLISM

Friday, July 12, 2013

Time: 14:00 – 17:00 Hrs. Maximum Marks: 100

- **Answer any FIVE Questions. All questions carry equal marks.**
- **Write answers that are brief, clear, relevant and legible.**
- **Illustrate your answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

1. Discuss the metabolism of glycine and various compounds derived from glycine. Add a note on inborn error of glycine metabolism.

2. Give an account of the homeostasis of blood glucose level. Add a note on glucose tolerance test.

3. Discuss the formation and fate of acetyl CoA.

4. **Write short notes on:**

4A. Somatic recombination
4B. Transcription factors
4C. Splicing of hnRNA
4D. Nitric oxide

5. **Write briefly on:**

5A. Replication
5B. Role of Ribosomes

6. **Write short notes on:**

6A. Glycogen storage disorders
6B. Gout
6C. Fatty liver
6D. Chaperones

Reg. No.										

MANIPAL UNIVERSITY

M.Sc. MEDICAL (FINAL) BIOCHEMISTRY DEGREE EXAMINATION – JULY 2013

PAPER III: CLINICAL BIOCHEMISTRY AND NUTRITION

Saturday, July 13, 2013

Time: 14:00 – 17:00 Hrs. Maximum Marks: 100

- **Answer any FIVE Questions. All questions carry equal marks.**
- **Write answers that are brief, clear, relevant and legible.**
- **Illustrate your answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

1A. Explain the structure and composition of cell membrane.

1B. Discuss the various transport mechanisms across the membrane and disorders associated therewith.

2. Discuss the chemical nature, biochemical role, requirements and deficiency manifestations in relation with the ascorbic acid.

3. Explain in detail the following in relation with the iron metabolism – Absorption, transport, storage, disorders, requirements and functions.

4. **Write short notes on:**

4A. Balanced diet

4B. Second messengers

5. Discuss the metabolism of bilirubin. Add a note on jaundice.

6. **Write short notes on:**

6A. Oncogenes

6B. What is recommended daily allowance and common dietary sources of

i) Vitamin A ii) Riboflavin iii) Vitamin B12

iv) Calcium v) Iodine

Reg. No.										

MANIPAL UNIVERSITY

M.Sc. MEDICAL (FINAL) BIOCHEMISTRY DEGREE EXAMINATION – JULY 2013

PAPER I: CHEMICAL NATURE AND METHODS OF STUDY OF BIOCHEMICAL COMPOUNDS AND ENZYMES

Thursday, July 11, 2013

Time: 14:00 – 17:00 Hrs. Maximum Marks: 100

- **Answer any FIVE Questions. All questions carry equal marks.**
- **Write answers that are brief, clear, relevant and legible.**
- **Illustrate your answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

1. **Write briefly on:**

1A. IUBMB classification of enzymes

1B. ELISA

2. Explain the principle and applications of spectrophotometry.

3. Discuss the different ways by which enzyme activities are regulated.

4. **Write notes on:**

4A. Mutagens

4B. Ion selective electrodes

4C. Structure of starch and glycogen

4D. Polymerase chain reaction

5. Discuss the different methods for the detection and measurement of radioactivity. What are the applications of radioisotopes in biochemistry and medicine?

6. Describe the different levels of structural organization of proteins with suitable examples.