Reg. No.										

MANIPAL UNIVERSITY

MD (BIOCHEMISTRY) DEGREE EXAMINATION – APRIL 2012

SUBJECT: PAPER I: BIOORGANIC AND BIOPHYSICAL CHEMISTRY AND BIOCHEMICAL TECHNIQUES

Monday, April 02, 2012

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

Answer ALL the questions.

1. Describe the structure of B-DNA. Highlight the features of the other forms of DNA. Add a note on DNA melting.

(25 marks)

2. Describe how would you proceed to purify a protein located in the mitochondria. How would you assess the purity of the isolated protein?

(25 marks)

3. **Write notes on:**

3A. Structure and functions of phospholipids

3B. Buffer systems of the blood

3C. Structural features of tRNA

(10×3 = 30 marks)

4. Explain the hybridoma technology and applications of monoclonal antibodies.

(20 marks)

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MANIPAL UNIVERSITY

MD (BIOCHEMISTRY) DEGREE EXAMINATION – APRIL 2012

SUBJECT: PAPER III: ENZYMES, NUTRITION AND SPECIALIZED TISSUE

Wednesday, April 04, 2012

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

Answer ALL the questions.

1. Discuss the clinical features and biochemical mechanisms responsible for nutritional anaemias.

(25 marks)

2. Describe the various factors affecting the enzyme activity.

(20 marks)

3. Give a detailed account on signal transduction.

(25 marks)

4. **Write notes on:**

4A. Total parenteral nutrition

4B. Formation and functions of prostaglandins

4C. Importance and role of dietary lipids

(10×3 = 30 marks)

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MANIPAL UNIVERSITY

MD (BIOCHEMISTRY) DEGREE EXAMINATION – APRIL 2012

SUBJECT: PAPER IV: CLINICAL BIOCHEMISTRY

Thursday, April 05, 2012

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

✍ **Answer ALL the questions.**

1. Discuss how you would proceed to investigate a patient presenting with jaundice.

(20 marks)

2. Describe the diagnostic and prognostic utility of various tumour markers.

(20 marks)

3. **Discuss briefly:**

3A. Accuracy and Precision

3B. Hepatic porphyrias

3C. Gene therapy

3D. Point of care testing

(10×4 = 40 marks)

4. Give an account of biochemical investigations in evaluation of inborn errors of metabolism.

(20 marks)