Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

(A Constituent Institute of – Manipal University)
Manipal – 576 104

III SEMESTER B.E DEGREE SUMMER/MAKE-UP EXAMINATIONS JULY 2008.

SUBJECT: BIOCHEMISTRY (BME 209)
(REVISED CREDIT SYSTEM)
JULY, 2008

TIME: 3 HOURS **MAX. MARKS: 100**

Instructions to Candidates:

1. **Answer any FIVE full questions.**
2. **Draw labeled diagram wherever necessary**

1.	(a)	Explain the process of β-oxidation of Palmitic acid under the following sub divisions. i. Activation. ii. Transport across the mitochondrial membrane. iii. β-oxidation proper, and iv. Energetics.	2+2+4+2
	(b)	Classify carbohydrates. Give suitable examples for each class.	5
	(c)	Write the reactions of urea cycle.	5
2.	(a)	Outline the reactions of Glycolysis under Anaerobic conditions. Add a note on its energetics and significance	7+2+1
	(b)	How do you classify lipids? Give examples for each class.	6
	(c)	Write the physical properties of urine under abnormal conditions.	4
3.	(a)	What are high energy compounds? Write the components of electron transport chain (ETC) in order, showing the inhibitors and uncouplers.	3+7
	(b)	Write the reactions of TCA cycle. Give an account of its significance.	8+2
4.		Write short answers on: i. Mechanism of steroid and peptide hormones. ii. Principle of serum protein electrophoresis along with the pattern in normal conditions. iii. Presence of Blood and Ketone bodies in urine. iv. Flame photometry.	5X4
5.	(a)	Describe the structure and functions of DNA.	6+2
	(b)	What is meant by recombinant DNA technology? Give the significance	6+2
	(c)	What is normal 'fasting' blood glucose level? Name the methods available for the estimation of blood glucose/sugar	1+3

6.	(a)	Outline the synthesis of bilirubin in our body. List the causes for pre-hepatic type of jaundice.	6+2
	(b)	Give the principle, components and the uses of spectrofluorimtry	3+1+2
	(c)	Write how the pH of a solution is measured with a combination electrode.	6