Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharmacy Sem- VI May-2012 Examination

Subject code: 260003

Subject Name: Pharmaceutical Chemistry –VII (Biochemistry)

Time: 10:30am to 1:30pm **Date:11-05-2012**

Total Marks: 80

Instructions:

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

Q.1	(a)	Write note on cholesterol biosynthesis.	**06**
	(b)	Write about the reactions involved in the heme biosynthesis.	**05**
	(c)	Write about the carnitine shuttle for transport of fatty acid into mitochondria. Give briefly energetic of β -oxidation of fatty acids.	**05**
Q.2	(a)	Discuss in detail protein biosynthesis in eukaryotic cells.	**06**
	(b)	What is oxidative phosphorylation? Write about mechanism of oxidative phosphorylation.	**05**
	(c)	Discuss in detail isolation and purification of nucleic acids.	**05**
Q.3	(a)	Describe de novo synthesis of purine nucleus and conversion of IMP to AMP and GMP.	**06**
	(b)	What are ketone bodies? Write note on ketogenesis along with its regulations.	**05**
	(c)	Write about reaction and energetic of Krebs-Henseleit cycle.	**05**
Q.4	(a)	What is replication? Why DNA replication is called semi-conservative. Explain the role of DNA polymerase, DNA ligase and DNA helicase in the replication of prokaryotes.	**06**
	(b)	Write about polymerase chain reactions.	**05**
	(c)	Discuss the pyrimidine biosynthesis with its regulation.	**05**
Q.5	(a)	Describe in detail transamination and deamination reactions for amino acids metabolism.	**06**
	(b)	Discuss in detail inhibitors of oxidative phosphorylation.	**05**
	(c)	Give detail account on absorption and biochemical role of calcium.	**05**
Q. 6	(a)	Differentiate following pairs. (i) alpha oxidation & omega oxidation (ii) Fatty acid synthesis and beta oxidation	**06**
	(b)	Write detail note on lac operon.	**05**
	(c)	Discuss components and reactions of the electron transport chain in detail.	**05**
Q.7	(a)	Write short note on followings. 1. Water balance 2. Southern blotting technique	**06**
	(b)	Discuss the electrophoresis in detail.	**05**
	(c)	Write note on DNA repair mechanisms.	**05**

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