

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. **05**  
Give briefly energetic of  $\beta$ -oxidation of fatty acids.
- 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. **06**  
(i) alpha oxidation & omega oxidation  
(ii) Fatty acid synthesis and beta oxidation  
(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. **06**  
1. Water balance 2. Southern blotting technique  
(b) Discuss the electrophoresis in detail. **05**  
(c) Write note on DNA repair mechanisms. **05**

\*\*\*\*\*