

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – III • EXAMINATION – SUMMER • 2015

Subject Code: 2230003

Date: 11-06-2015

Subject Name: Pharmaceutical Chemistry – III (Biochemistry – I)

Time: 02:30 pm - 05:30 pm

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) **Classify carbohydrates. Describe the structure and functions of polysaccharides.** **06**
- (b) Explain following terms with significance: **05**
i) Apoenzymes ii) Holoenzymes iii) Epimers iv) Invert sugar
v) Mutarotation
- (c) What are essential fatty acids? Write functions and deficiency symptoms. **05**
- Q.2** (a) **How is galactose metabolized in the body?** **06**
- (b) Explain carnitine shuttle transport for fatty acids. What is metabolic water? **05**
- (c) Discuss the transport mechanism across cell membrane. **05**
- Q.3** (a) **Describe HMP shunt and give its significance.** **06**
- (b) **Explain TCA cycle along with energetics.** **05**
- (c) **Discuss the role of hormones in maintenance of blood sugar level.** **05**
- Q.4** (a) Classify lipids with example. Add a note on triglycerides. **06**
- (b) Describe various chemical tests to check the purity of fats and oils. **05**
- (c) Classify and explain phospholipids. **05**
- Q.5** (a) Discuss in detail Cholesterol biosynthesis. **06**
- (b) Write about biosynthesis and utilization of ketone bodies in diabetics. **05**
- (c) How bile acids are formed in the body? Write their significance. **05**
- Q.6** (a) Differentiate following pairs: (Any two) **06**
i) α -oxidation and β -oxidation
ii) Gluconeogenesis and Glycolysis
iii) Enzymes and Co-enzymes
- (b) Explain significance of metals and vitamins as co-enzymes. **05**
- (c) Describe absorption, transport and storage of iron in body. **05**
- Q.7** (a) Classify enzymes. Write a note on factors affecting enzyme activity. **06**
- (b) Give an account on mechanisms of enzyme action. **05**
- (c) Discuss biochemical role and mechanism of regulation of blood calcium. **05**
