

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. – SEMESTER – III • EXAMINATION – WINTER • 2016**

**Subject Code: 2230003****Date: 23-11-2016****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) What are carbohydrates? Describe reactions of Monosaccharide. **06**  
(b) Discuss the Synthesis of Glucose from Non-Carbohydrate sources. **05**  
(c) Write a note on TCA cycle. **05**
- Q.2** (a) Describe HMP shunt along with its Significance. **06**  
(b) Define following terminology. **05**  
    I) Glycolysis II) Glycogenesis III) Epimer IV) Mutarotation.  
    V) Apoenzymes  
(c) Differentiate Saturated and Unsaturated Fatty Acids. **05**
- Q.3** (a) Explain Metals and Vitamins as Co-enzyme and their Significance. **06**  
(b) Discuss in detail Cholesterol Biosynthesis. **05**  
(c) Short note on Role of Hormones in Maintenance of Blood Sugar Level. **05**
- Q.4** (a) Classify Enzyme with examples. **06**  
(b) Explain Mechanism of Enzyme Action. **05**  
(c) Short Note on Mineral Metabolism. **05**
- Q.5** (a) What are Fatty acids? Explain various parameters measured to check purity of Fats and Oils. **06**  
(b) Define Lipids. Classify them and add note on Triacylglycerides. **05**  
(c) How is Galactose metabolized in our Body? **05**
- Q. 6** (a) Discuss Aerobic Glycolysis with energetics. **06**  
(b) Write a note on Glycogen Storage Disease. **05**  
(c) Write a short note on (Any two) **05**  
    1) Lipoprotein  
    2) Enzyme kinetics  
    3) Mitochondria
- Q.7** (a) Discuss Transport Mechanism across Cell membrane. **06**  
(b) Write a note on Phospholipids. **05**  
(c) Write a note on Lipid Storage Diseases. **05**

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