

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.

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|-------------|-----|--|-----------|
| Q.1 | (a) | Classify carbohydrates. Describe the structure and functions of polysaccharides. | 06 |
| | (b) | Explain following terms with significance:
i) Apoenzymes ii) Holoenzymes iii) Epimers iv) Invert sugar
v) Mutarotation | 05 |
| | (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)
i) α -oxidation and β -oxidation
ii) Gluconeogenesis and Glycolysis
iii) Enzymes and Co-enzymes | 06 |
| | (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 |
