

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – V • EXAMINATION – SUMMER • 2014

Subject Code: 250003

Date: 09-06-2014

Subject Name: Pharmaceutical chemistry-V (Bio-chemistry)

Time: 10:30 am - 01:30 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) Define homo and hetero-polysaccharides. Describe the structure of three homo-polysaccharides. | 06 |
| | (b) Write notes on Mutarotation, Osazone formation. | 05 |
| | (c) Define: Iodine number, Saponification number, Acid number, Rancidity, Sphingomyelins. | 05 |
| Q.2 | (a) Describe the classification of proteins with suitable examples. | 06 |
| | (b) Describe the structure of steroids. Write a note on the functions of cholesterol. | 05 |
| | (c) Define: Peptide bond, Essential amino acid, Isoelectric point, Denaturation, Secondary structure of protein. | 05 |
| Q.3 | (a) Discuss the factors affecting enzyme activity. | 06 |
| | (b) Discuss the role of enzymes in disease diagnosis and therapeutics. | 05 |
| | (c) Define: Active site, Ligases, Reaction specificity, Allosteric regulation, Latent enzymes. | 05 |
| Q.4 | (a) Explain the mechanisms of transport across cell membrane. | 06 |
| | (b) Write the structure and biochemical functions of thiamine pyrophosphate. | 05 |
| | (c) Define: Free energy, Redox potential, P:O ratio, High energy bonds, Uncouplers. | 05 |
| Q.5 | (a) Describe enzyme inhibition with suitable examples. | 06 |
| | (b) What are bioenergetics? Discuss their biochemical importance. | 05 |
| | (c) Describe the role of hormones in maintenance of blood sugar levels. | 05 |
| Q. 6 | (a) Write reactions of gluconeogenesis and state its biochemical importance. | 06 |
| | (b) Discuss biochemical importance of fructose and galactose metabolism. | 05 |
| | (c) Define: Glycolysis, Glycogenesis, Glycogenolysis, Lactic acidosis, Pasteur effect. | 05 |
| Q.7 | (a) Describe TCA cycle and add a note on energetics of complete oxidation of glucose. | 06 |
| | (b) Describe glycogen storage diseases. | 05 |
| | (c) Write a note on HMP shunt. | 05 |
