

GUJARAT TECHNOLOGICAL UNIVERSITY
B. PHARM - SEMESTER V - EXAMINATION – SUMMER 2017

Subject code: 250003

Date: 31/05/2017

Subject Name: Pharmaceutical Chemistry-V

Time: 10.30 PM to 1.30 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 the terms enantiomers, epimers and anomers with reference to carbohydrates. | 06 |
| | (b) Discuss the levels of structures found in a protein molecule. | 05 |
| | (c) Give name and structure of a/an (i) achiral amino acid, (ii) reducing disaccharide, (iii) non-reducing disaccharide, (iv) androgen, (v) glucocorticoid | 05 |
| Q.2 | (a) Define the terms saponification value, acid value and iodine value explaining their significance. | 06 |
| | (b) What are different ways of amino acid classification? Classify amino acids according to the side chain giving structure of one example from each class. | 05 |
| | (c) Write short notes on (i) rancidity (ii) heteroglycans | 05 |
| Q.3 | (a) Write in brief about (i) pentose phosphate pathway (ii) uronic acid pathway | 06 |
| | (b) Discuss the difference in glycogenesis and glycogenolysis. | 05 |
| | (c) Draw citric acid cycle discussing its biochemical significance and derive its energetics. | 05 |
| Q.4 | (a) Explain giving pathways how gluconeogenesis is not just a reversal of glycolysis. | 06 |
| | (b) Discuss biochemical importance of fructose and galactose metabolism. | 05 |
| | (c) Describe how hormones in accordance with enzymes manage blood sugar level. | 05 |
| Q.5 | (a) Discuss the role of enzymes in disease diagnosis and therapeutics. | 06 |
| | (b) Describe giving example various modes of enzyme inhibition | 05 |
| | (c) Define the terms (i) zymogen, (ii) apoenzyme, (iii) isozyme, (iv) absolute specificity, (v) group specificity | 05 |
| Q. 6 | (a) Give structure and co-enzymatic function of thiamin, riboflavin and folic acid. | 06 |
| | (b) Give structure and co-enzymatic function of niacin, pyridoxine and ascorbic acid. | 05 |
| | (c) Give a brief account of production and biological significance of ATP. | 05 |
| Q. 7 | (a) Describe in short the routes of transport across cell membrane. | 06 |
| | (b) Write function of important cellular components. | 05 |
| | (c) What are bioenergetics? Discuss their biochemical importance. | 05 |
