Seat No.: _____ Enrolment No._____

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.**

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**

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