## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-III(New) • EXAMINATION – WINTER 2016

Subject Code:2130403 Date:06/01/2017

**Subject Name:Basic Biochemistry** 

Time:10:30 AM to 01:00 PM Total Marks: 70

## **Instructions:**

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

			MARKS
Q.1		<b>Short Questions</b>	14
	1	Give one example Aldohexose and aldoketose sugar.	1
	2	What product is obtained on hydrolysis of lactose sugar?	1
	3	Pentose phosphate pathway is also called	1
	4	Name aromatic amino acids.	1
	5	What is backbone in sphingophospholipid?	1
	6	Name a sterol found essentially in animal cell membrane.	1
	7	Name purine bases found in DNA.	1
	8	What is ionic product of water?	1
	9	What is significance of Vitamin A?	1
	10	What is significance of iron?	1
	11	What is first substrate for synthesis of UMP by denovo	1
		pathway?	
	12	Where does TCA take place?	1
	13	What is role of carnitine in lipid breakdown?	1
	14	Which bond is found between two nucleotides?	1
<b>Q.2</b>	(a)	How can carbohydrates be classified? Explain with	03
	` ,	example of each.	
	(a)	Draw structure of Ribose, Glucose, Arabinose and	04
		Fructose	
	<b>(b)</b>	Explain Gluconeogenesis pathway with its significance.	07
		OR	
	<b>(b)</b>	Explain pentose phosphate pathway with its significance.	07
Q.3	(a)	What are different forces involved in stability of proteins?	03
	<b>(b)</b>	Draw a chart showing classification of various amino	04
	(,-)	acids.	-
	(c)	Explain tertiary and quaternary structure of proteins.	07
	` ,	OR	
Q.3	(a)	How is triglyceride formed?	03
	<b>(b)</b>	How does protein digestion take place?	04
	<b>(c)</b>	Explain urea cycle with a neat diagram.	07
<b>Q.4</b>	(a)	Enlist the enzymes used in glycogen synthesis.	03
	<b>(b)</b>	Write a short note on fate of pyruvate after glycolysis	04
	(c)	Explain the process of oxidation of saturated C-16 fatty acid.	07
		OR	
<b>Q.4</b>	(a)	Draw structure of pyrimidine bases found in DNA.	03
-	<b>(b)</b>	Explain source and role of sodium and calcium dietary minerals.	04
	(c)		07

Q.5	(a) (b)	What is difference between nucleoside and nucleotide. Give scientific name, source, significance and deficiency	03 04
	(6)	effect of Vitamin E.	0.1
	<b>(c)</b>	Explain the pathway for denovo synthesis of UMP	07
		OR	
Q.5	(a)	Draw Watson and Crick structure of DNA.	03
	<b>(b)</b>	What are weak acids and weak base? What is significance of Ka and Kb values?	04
	(c)	Explain the pathway for denovo synthesis of IMP	07

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