Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(New) EXAMINATION – SUMMER 2016

Subject Code:2141401 **Date:26/05/2016**

Subject Name:Food Nutrition & 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.**

Q.1 Answer the following questions in short. **14**

1. Why Protein rich foods are referred as body building food?
2. What are excessive consumption consequences of carbohydrate?
3. Enlist pro-vitamin for vitamin A and Niacin.
4. Define Basal metabolism rate.
5. State the significance of omega 3 fatty acid in human nutrition.
6. Single complete protein source can nourish an individual on its own as sole source of protein. Justify the statement.
7. What are food sources for biotin?
8. Why bile secretion is required for digestion of food?
9. Fructose is preferred in diabetic food. Justify the statement.
10. Why enzyme activity exhibits bell shape curve against temperature?
11. What do you mean by enrichment of nutrients?
12. Enlist outstanding deficiency symptoms of cyanocobalamin.
13. Dietary fiber is vital non nutrient part of human diet. Justify the statement.
14. State the role of nutrient in human body.

Q.2 **(a)** Calculate the calorific value of snack food weighing 140 g and having the following percent composition. **03**

Carbohydrate	Protein	Fat	Water	Dietary Fiber
63%	5%	18%	12%	0.8%

(b) Define Body Mass Index. **04**
Calculate BMI for an individual whose weight and height are 65000 g and 5 feet 4 inch respectively. Comment on the obesity grade.

(c) Derive Michaelis – Menten equation for single enzyme catalyzed reaction. **07**

OR

(c) Describe Lock - Key hypothesis and Induced fit hypothesis for enzyme specificity. **07**

Q.3 **(a)** Differentiate between gastric secretion and pancreatic secretion. **03**

(b) Briefly explain the effect of cooking on fat. **04**

(c) Discuss the important functions, deficiency symptoms and requirement for thiamin. **07**

OR

Q.3 **(a)** Compare plant origin protein with animal origin protein. **03**

(b) Briefly explain guidelines for food fortification. **04**

(c) Describe the classification of minerals on the basis of requirement in human body. Enlist the vital general functions of mineral in human nutrition. **07**

Q.4 **(a)** Draw a well labeled sketch for cross section of gastro intenstinal tract. **03**

	(b)	What are characteristic features of fat soluble vitamins?	**04**
	(c)	Explain the digestion of protein occurs in human body.	**07**
		OR	
Q.4	**(a)**	What do you understand by RDA? How it is useful in practice?	**03**
	(b)	Draw a schematic representation of Food guide pyramid with food group serving sizes.	**04**
	(c)	Define absorption of nutrients. Explain the different modes of nutrient absorption in human body.	**07**
Q.5	**(a)**	What is balanced diet? Give its classification on the basis of cost of production.	**03**
	(b)	Explain the fat absorption process in human body.	**04**
	(c)	Describe glycolysis metabolism with enzymes involved and ATP synthesis.	**07**
		OR	
Q.5	**(a)**	Introduce briefly β-oxidation of fatty acids.	**03**
	(b)	What are indices to decide the protein quality?	**04**
	(c)	Explain the functions and deficiency symptoms of fat in human body.	**07**

****