Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-IV Examination-Nov/Dec-2011

Subject code: 141401 **Date: 21/11/2011**

Subject Name: Food Nutrition and Biochemistry

Time: 02.30 pm -5.00 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	**(a)**	Define the following terms (i) Nutrition (ii) Post Prandial Thermogenesis (iii) Biochemistry (iv) Basal Metabolism rate (v) Catabolism	**05**
	(b)	Differentiate between the followings (i) Fat soluble vitamins and water soluble vitamins (ii) Protein Digestion and Fat Digestion in human body	**05**
	(c)	Write general characteristics of enzyme as catalyst	**04**
Q.2	**(a)**	Define Quetelet Index. Calculate calorific need and Quetelet Index of moderately working person whose weight and height are 82 Kg and 5 feet, 6 inch respectively.	**07**
	(b)	Enlist vitamins as a cofactor form and enzymatic function respectively with suitable example	**07**
		OR	
	(b)	Describe glycolysis, write reaction steps and No of ATP generated from complete oxidation of glucose to CO_2	**07**
Q.3	**(a)**	Draw Food Guide Pyramid. Discuss the food groups of Food Guide Pyramid along with examples of each group.	**07**
	(b)	Discuss the functions of carbohydrate in human nutrition.	**07**
		OR	
Q.3	**(a)**	Discuss the factors affecting human nutrition.	**07**
	(b)	Explain the functions and deficiency disorder of protein in human body.	**07**
Q.4	**(a)**	Explain the characteristics and Functions of pyridoxine in human nutrition.	**07**
	(b)	How the absorption of Vitamin Cyanocobalamin occurs in human body?	**03**
	(c)	Discuss enzymes specificities with suitable example for each one	**04**
		OR	
Q.4	**(a)**	List out deficiency disorder, toxicity consequences and sources of vitamin K. Explain the functions of Vitamin K in human body.	**07**
	(b)	What do you meant by Major Mineral? Name two major mineral along with their deficiency disorder.	**03**
	(c)	Explain various types of enzyme inhibition kinetically and enzyme inhibitors.	**04**
Q.5	**(a)**	Write conditions to be maintained for enzyme kinetic data and	**07**

discuss effect of substrate on enzymatic reaction

(b) Enlist general functions of minerals in human body? **03**

(c) State the significance of the followings in digestion of food **04**

(i) Bile secretion (ii) Pancreatic secretion

OR

Q.5 **(a)** Discuss role of endogenous enzymes in food quality and application of enzyme in removal of unwanted constitutes from food products **07**

(b) What are changes in protein which occurs during heat processing? **03**

(c) Write short note on Food Fortification with suitable examples. **04**

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