Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV EXAMINATION – SUMMER 2016

Subject Code:141401 **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.a) Calculate the energy value of the food product weighing 175 g and having the following composition. **4**

Moisture	Carbohydrate	Protein	Fat
12.3%	58.5%	8.2%	7.6%

Q.1.b) State the appropriate reasons for the following statements. **10**

i) Fats and oils are placed at the apex of Food guide pyramid.
ii) Riboflavin requirement is co-related with the calorific intake of an individual.
iii) Fortification is the cost effective method for nutrient addition.
iv) Infant (more than six months) should be fed with semisolid easily digestible food.
v) Single complete protein source can nourish an individual on its own as sole source of protein.

Q.2. a) Draw a schematic representation of Food guide pyramid. Discuss the food groups placed in it with recommended serving sizes. **7**

Q.2. b) Define fortification. Briefly explain guidelines and advantages of food fortification. **7**

Or

Q.2. b) Explain the functions of fat in human nutrition. **7**

Q.3. a) Differentiate between the followings. **7**

i) Active and Passive nutrients transport
ii) Vitamin A and Vitamin C

Q.3. b) Enlist the general functions of mineral in human body. **4**

Q.3. c) State the uses of Recommended Daily Allowances (RDA). **3**

Or

Q.3. a) Discuss the important properties, functions and deficiency symptoms of cyanocobalamin **7**

Q.3. b) Briefly explain the effect of heat processing on protein. **4**

Q.3. c) Define the following terms. **3**

i) Trans fat
ii) Nutrient
iii) Anaemia

Q.4. a) Explain the process for carbohydrate digestion. **7**

Q.4. b)	What do you understand by Nutrient wheel?	**4**
Q.4. c)	Mention the remarkable properties of enzymes.	**3**
	Or	
Q.4. a)	Discuss the functions of food in human being.	**7**
Q.4. b)	Write a note on ATP synthesis in Glycolysis metabolism.	**4**
Q.4. c)	What do you understand by competitive inhibition? State the significance of Vmax.	**3**
Q.5. a)	Discuss TCA cycle along with enzyme involved and ATP synthesis.	**7**
Q.5. b)	Introduce the following terms briefly. i) Dietary Fiber ii) Basal Metabolism rate	**4**
Q.5. c)	Calculate body mass index of a person whose weight and height are 68 kg and 5.4 feet. Comment on obesity grade	**3**
	Or	
Q.5. a)	Explain the process of protein and fat absorption in human being.	**7**
Q.5. b)	What are excessive consumption consequences of carbohydrate?	**4**
Q.5. c)	Briefly describe lock & key model of enzyme–substrate interactions	**3**

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