

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- IV (New) EXAMINATION – WINTER 2019****Subject Code: 2141401****Date: 07/12/2019****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) What do you mean by Basal Metabolism Rate? Enlist the factors affecting on BMR. **03**
- (b) Discuss briefly the role and applications of enzymes in food processing. **04**
- (c) Describe the properties, functions and deficiency symptoms of Vitamin C. **07**
- Q.2** (a) Define Nutrition. Enlist the factors affecting human nutrition. **03**
- (b) Highlight on the effect of heat processing on protein. **04**
- (c) Explain the metabolic pathway for oxidation of glucose to pyruvate. **07**
- OR**
- (c) Explain Glycolysis metabolism with each step. State the importance of Glycolysis in human nutrition. **07**
- Q.3** (a) State WHO/FAO guidelines for food fortification. **03**
- (b) Define RDA. Briefly explain the factors affecting RDA. **04**
- (c) Describe Lock - Key hypothesis and Induced fit hypothesis for enzyme specificity. **07**
- OR**
- Q.3** (a) Discuss the effect of heat processing on fat. **03**
- (b) What are recommendations given by ICMR for designing Balanced diet? **04**
- (c) Discuss the classification and nomenclature systems for enzymes. **07**
- Q.4** (a) Write a short note on 'Factors affecting digestion of food' **03**
- (b) Draw a well labeled Food Guide Pyramid with food groups and serving sizes. **04**
- (c) Define essential amino acid. Explain protein digestion metabolism in human body. **07**
- OR**
- Q.4** (a) What is the Role of hormone in metabolism? **03**
- (b) Differentiate between soluble fiber and insoluble fiber. **04**

- (c) Define absorption of nutrient. Explain different mechanisms of nutrient absorption. **07**
- Q.5** (a) What are characteristic features of fat soluble vitamins? **03**
- (b) What do you understand by protein efficiency ratio and net protein utilization? **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**

OR

- Q.5** (a) What are deficiency symptoms and sources of Vitamin D. **03**
- (b) What are excessive consumption consequences and food sources of fat? **04**
- (c) Describe the properties, functions and deficiency symptoms of vitamin Thiamin. **07**
