

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III • EXAMINATION – WINTER 2013****Subject Code: 131401****Date: 03-12-2013****Subject Name: Food Chemistry****Time: 02.30 pm - 05.00 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) State the role of following food additives. **07**
a. Leavening agent b. Anticaking agent

(b) Define proteins and describe chemical properties of proteins. **07**

Q.2 (a) Explain the role of betalain as a pigment with structure. **07**

(b) What are flavonoids? Enlist different flavonoids and state the importance of flavonoids in processed foods. **07**

OR

(b) Write the sources of following sugars. **07**

- a) Maltose b) Raffinose c) Starch d) Lactose e) Glucose
f) Sucrose g) Fructose

Q.3 (a) State the deficiency diseases caused by any two of the following minerals and suggest the remedies to overcome these diseases. **07**
a. Iron b. Iodine c. Zinc

(b) Justify the following statements with appropriate reason(s). **07**
1. Glucose is known as current carbohydrate coin of the body.
2. Oxidative rancidity of lipid accelerates below water activity 0.25.

OR

Q.3 (a) What is dextrin? Explain the role of maltodextrin in food processing. **07**

(b) Explain the relationship existed between water activity and shelf life of food with appropriate examples. **07**

Q.4 (a) Write in detail about simple lipids. **07**

(b) Describe protein denaturation with its effects and factors affecting on it. **07**

OR

Q.4 (a) What are various chemical properties of food lipids? **07**

(b) Explain the classification of food proteins. **07**

Q.5 (a) Explain the various scientific measures taken to control the water activity of food. **07**

(b) Write detailed note on levels of protein structure. **07**

OR

Q.5 (a) Write short notes on following: **07**

1. Derived monosaccharides.
2. Sugar alcohols.

(b) Describe the process of edible oil refining. **07**
