

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. Sem-III [Food Processing Technology] Examination December 2009

Subject code: 131401

Subject Name: Food Chemistry

Date: 17 /12 /2009

Time: 11.00 am – 1.30pm

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
- (a) Discuss physical properties of lipid. **05**
- (b) What are the ideal characteristics of food additives. **05**
- (c) Focus light on the importance of dietary fibres in the diet. **04**
- Q.2** (a) Discuss the role of moisture in foods and its determination by distillation method **07**
- (b) Define terms; Acid value, Kishcher Value, Reversion, Zwitter ion **04**
- OR**
- (b) Introduce term: Polymorphism of fat, gel formation of protein, Winterization, Hydrogenation of oil. **04**
- (c) Describe protein Coagulation theories. **03**
- OR**
- (c) Give various scheme of classification for amino acids with examples. **03**
- Q.3** (a) What is isoprene? How isoprene is related to carotene? **05**
- (b) Give the basis for classification of minerals with suitable examples. **05**
- (c) Enlist the functions and sources of phosphorous and iron. **04**
- OR**
- Q.3** (a) Write the consequences of Ca deficiency in the human body. **05**
- (b) Define emulsion and briefly explain the different types of emulsions. **04**
- (c) Explain in detail the flavonoids. **05**
- Q.4** (a) Give detail classification of carbohydrates with suitable examples. **07**
- (b) Explain the different ways to control the water activity in foods. **07**
- OR**
- Q.4** (a) Explain the concept of starch gelatinization and retrogradation phenomena. **07**
- (b) Enlist the different types of pigments found in food and explain in detail about the anthocyanin. **07**
- Q.5** (a) Give any five Chemical properties of lipid and their significance respectively. **05**
- (b) Explain various level of protein structures. **05**
- (c) Discuss factors that affecting on solubility of proteins. **04**
- OR**
- Q.5** (a) Explain various methods of extraction of oil from oil tissues. **05**
- (b) What is denaturation of protein? Give consequences changes due to denaturations. **04**
- (c) Give various classes of proteins and their major properties. **05**
