

**GUJARAT TECHNOLOGICAL UNIVERSITY****B.E. Sem-III Remedial Examination May 2011****Subject code: 131401****Subject Name: Food Chemistry****Date: 30-05-2011****Time: 10.30 am – 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.**
- 4.

- Q.1** (a) Explain the necessity of food additives in processed food. **05**  
 (b) Explain the method to determine the moisture content of spices. **05**  
 (c) Give classification of lipids with suitable examples. **04**

- Q.2** (a) Explain various protein characteristics with suitable examples. **07**  
 (b) Give detail classification of carbohydrate with an examples. **07**

**OR**

- (b) Explain in detail the properties and role of chlorophyll as a food colorant. **07**

- Q.3** (a) What is emulsion and discuss different types of emulsion. **07**  
 (b) Introduce terms: i-iodine value, ii-Reversion, iii-Rendering, iv-Coagulation of protein. **04**  
 (c) Give properties of each protein structures. **03**

**OR**

- Q.3** (a) Explain in detail the importance of water activity in food. **07**  
 (b) Give significance of refining of crude oils. **04**  
 (c) Write a functional role of lipids in human diet **03**

- Q.4** (a) How and what are characteristics of proteins affected by denaturation of proteins. **05**  
 (b) Give Characteristics of fatty acids in general. **05**  
 (c) State the significance and applications of invert sugar in food. **04**

**OR**

- Q.4** (a) Give classification of amino acids which are based on functional groups with suitable examples. **05**  
**Q.4** (b) Discuss the functional role of protein in food system. **05**  
 (c) Give classification of preservatives with suitable examples. **04**

- Q.5** (a) Enlist the different minerals and state their functions. **05**  
 (b) Explain the role of amylose and amylopectin in foods. **05**  
 (c) What are leavening agents and explain their role in instant foods. **04**

**OR**

- Q.5** (a) Enlist the different pigments found in food with their colour and sources. **05**  
 (b) State the properties of sugars. **05**  
 (c) Enumerate essential minerals and state the source & functions of Ca. **04**

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