

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-III Regular / Remedial Examination December 2010****Subject code: 131401****Subject Name: Food Chemistry****Date: 13 /12 /2010****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.

- Q.1** (a) Enlist the different fibres and state the importance of fibres in the diet. **05**
(b) Explain the different ways to control the water activity in foods. **05**
(c) Explain factors affecting on rancidity of lipids **04**
- Q.2** (a) Give classification of protein with suitable examples of each one. **07**
(b) Describe the role of different edible gums in food products. **07**
- OR**
- (b) Define food additives and explain the role of antioxidants and clarifying agents in processed foods. **07**
- Q.3** (a) Explain in detail the role of class – I preservatives. **07**
(b) Explain methods for oil extraction from oil bearing tissues. **04**
(c) Give name of bonds which are involved in each protein structure formation. **03**
- OR**
- Q.3** (a) Enumerate disaccharides and discuss their properties. **07**
(b) Explain methods of refining of crude oil. **04**
(c) Enlist any three chemical properties of lipid with its significance(s). **03**
- Q.4** (a) Explain properties of protein that will change on denaturation of protein. **05**
(b) How fatty acid composition in triglyceride affects on physical characteristics of lipid. **05**
(c) Explain the methodology to estimate the moisture content of food by Nuclear Magnetic Resonance method. **04**
- OR**
- Q.4** (a) Give classification of amino acids which are based on functional groups with suitable examples. **05**
Q.4 (b) Discuss gel formation theories of protein. **05**
(c) Explain the mechanism of chlorophyll degradation in food. **04**
- Q.5** (a) Discuss derived monosaccharides with suitable examples. **05**
(b) Write the requirements, sources, functions and deficiency diseases of Mg. **05**
(c) Draw the structure of water and state the functions of water. **04**
- OR**
- Q.5** (a) Discuss the ideal characteristics of food additives. **05**
(b) Briefly describe anthocyanin and anthocyanidin. **05**
(c) Enlist the various minerals and state their deficiency diseases. **04**
