

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III(New) • EXAMINATION – WINTER 2016

Subject Code:2131406

Date:09/01/2017

Subject Name:Food Chemistry

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) State true or false** **04**
1. Galactose on reduction yields dulcitol.
 2. Glucose is known as fruit sugar.
 3. Glucosamine is found in the shells of insects.
 4. Potassium meta bisulphite is used as preservative in colored juices.
- (b) Fill in the blanks with appropriate word.** **04**
1. Melting point of sucrose is _____.
 2. Amylopectin is a _____ chain polysaccharide.
 3. Maltodextrin is _____ starch.
 4. Expanded form of GRAS is _____.
- (c) Give two examples of each of following** **06**
- I) Omega 6 fatty acids
 - II) Simple proteins
 - III) Saturated fatty acids
- Q.2 (a) Comment on “Unsaturated fatty acids”** **03**
- (b) Describe biological functions of protein** **04**
- (c) Give the detailed classification of amino acids.** **07**
- OR**
- (c) Explain different levels of protein structure** **07**
- Q.3 (a) Write a note on maltodextrin and its utilization in food.** **03**
- (b) Briefly describe the sugar alcohols.** **04**
- (c) Write the detail classification of carbohydrates with suitable examples.** **07**
- OR**
- Q.3 (a) Write a note on Class – I preservatives.** **03**
- (b) Define dextrins and write the characteristics of starch.** **04**
- (c) Write in detail about the selection criteria of food additives to be used for processed food.** **07**
- Q.4 (a) Describe how gel formation takes place in proteins** **03**
- (b) Write a note on ‘conjugated proteins’** **04**
- (c) Explain different physical properties of lipids** **07**
- OR**
- Q.4 (a) Write a note on “Water activity of Foods”** **03**
- (b) Enlist various chemical properties of lipids and write in detail about any one.** **04**
- (c) Explain the effects of chemical structure of water and ice molecule on their properties.** **07**
- Q.5 (a) Give significance of Polenske Number and Reichert-Messel Number for lipids.** **03**
- (b) Write in brief about ‘Simple Lipids’** **04**

(c) Explain chemical methods used to determine moisture content of foods. **07**

OR

Q.5 (a) Differentiate between saturated and unsaturated fatty acids. **03**

(b) Define water activity and state how it affects on shelf life of foods **04**

(c) Explain the techniques used to determine molecular weight and homogeneity of protein. **07**
