

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-III(New) EXAMINATION – SUMMER 2016**

**Subject Code:2131406****Date:09/06/2016****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.

		MARKS
<b>Q.1</b>	<b>Short Questions</b>	<b>14</b>
	1 What is dextrin?	
	2 Source of lactose is _____.	
	a. Sorghum b.Milk c. Guar gum d. sugar cane	
	3 Glucose is _____ type of sugar.	
	4 Glucose is known as current carbohydrate of body. Justify the statement with scientific reason	
	5 Expand the term GRAS.	
	6 Nature of sucrose is _____	
	a. Non crystalline b. Amorphous c. Invert d. Crystalline.	
	7 Class I preservatives are integral part of food products. State the statement true or false.	
	8 Give two examples of essential fatty acids	
	9 Define essential amino acid	
	10 Draw the structure of triglyceride	
	11 Write two examples each of animal and plant source proteins.	
	12 Define lipids.	
	13 Give the typical structure of amino acid	
	14 Give definition of saponification value.	
<b>Q.2</b>	(a) Explain the role of maltodextrin in the preparation of fruit juice powder.	<b>03</b>
	(b) Explain biological functions of food proteins.	<b>04</b>
	(c) Explain the starch retrogradation phenomena.	<b>07</b>
	<b>OR</b>	
	(c) Define food additives and explain the various functions of food additives.	<b>07</b>
<b>Q.3</b>	(a) Define chelating agents and explain the role of chelating agents in food.	<b>03</b>
	(b) Discuss the safety measures taken before the launch of any food additive.	<b>04</b>
	(c) State the properties of amylose and amylopectin.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) What do you mean by hydrogenation of oil?	<b>03</b>
	(b) Describe protein denaturation.	<b>04</b>
	(c) Write a note on classes of amino acids.	<b>07</b>
<b>Q.4</b>	(a) Describe the electrophoresis of proteins	<b>03</b>
	(b) Write a note on water activity of foods.	<b>04</b>
	(c) Describe the gravimetric methods of moisture	<b>07</b>

determination.

**OR**

- Q.4** (a) Write note on parameters used to evaluate quality of dietary proteins. **03**  
(b) Describe any two chemical properties of proteins. **04**  
(c) Give detailed classification of food proteins. **07**

- Q.5** (a) Differentiate between saturated and unsaturated fatty acids. **03**  
(b) Describe chemical structure of water. **04**  
(c) Enlist various physical properties of lipids and describe any two. **07**

**OR**

- Q.5** (a) Give the flow diagram for manufacture of refined vegetable oil and describe the alkali refining process. **03**  
(b) Explain different methods of controlling water activity of food. **04**  
(c) Describe the phenomena of protein gel formation with it's supporting theories. **07**

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