

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2131406****Date: 18/06/2019****Subject Name: Food Chemistry****Time: 02:30 PM TO 05:00 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) "Glucose is called as current carbohydrate coin of the body". Give scientific justification(s) for the statement. **03**
- (b) Distinguish between the native and modified starch. **04**
- (c) Enlist the different methods for the estimation of moisture content of food and explain the suitable method for moisture determination of grains. **07**

- Q.2** (a) Write a note on types of water. **03**
- (b) Distinguish between oils and fats. **04**
- (c) Explain the role of starch in processed foods. **07**

OR

- (c) Explain the process of edible oil refining. **07**
- Q.3** (a) Define proteins and describe the various techniques used to determine the molecular weight and homogeneity of proteins. **03**
- (b) Enlist the physical properties of lipids and explain any one in detail. **04**
- (c) Explain in detail the effect of water activity on biochemical process of foods. **07**

OR

- Q.3** (a) What is gelatinization? State the importance of gelatinization in cereals. **03**
- (b) Explain the role of CaCl_2 as a firming agent in canned foods. **04**
- (c) Write short notes: (Any two) **07**

1. Triglycerides 2. Monosaccharides 3. Sugar alcohol

- Q.4** (a) Define amylose and amylopectin. State the function of amylose. **03**
- (b) Explain the criteria for the selection of food additives. **04**

- (c) Explain the need and process for wheat flour maturation and bleaching. **07**
- OR**
- Q.4** (a) Enlist the plant and animal originated pigments with their respective colours. **03**
- (b) Give the classification of food proteins with suitable examples. **04**
- (c) What is denaturation of proteins? Explain factors responsible for denaturation of proteins. **07**
- Q.5** (a) Write the biological functions of protein. **03**
- (b) Briefly describe the simple lipids. **04**
- (c) Explain the factors affecting the stability of chlorophyll in food with structure. **07**
- OR**
- Q.5** (a) Why invert sugars are widely used in food products? **03**
- (b) Enlist the complex polysaccharides and state the significance of complex polysaccharides. **04**
- (c) Discuss the criteria undertaken to ensure the safety of food additives while using in the processed food products. **07**
