



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech/FT(OLD)/SEM-4/FT-401/2013**  
**2013**  
**CHEMISTRY OF FOOD**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( True /False Type Questions )**

1. Write True/False for the following : 10 × 1 = 10
- i) Squalene is the example of phospholipids.
  - ii) Linoleic acid is the example of PUFA.
  - iii) 1, 4 Glycosidic linkages are found in polysaccharide.
  - iv) Caffeic acid is found in food tannin.
  - v) Casein is the example of derived protein.
  - vi) Electrophoresis is done to separate protein molecules at their isoelectric point.
  - vii) Egg protein has a very poor BV value.
  - viii) Chlorophyll forms pheophytin in alkaline medium.
  - ix) Butyric acid is found in Cheese.
  - x) Celobiose is the example of polysaccharide.



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. a) What are the different types of water found in food ?  
Explain with a suitable example.
- b) What should be the determination process for moisture content of the following foods ? Justify.  
Black pepper, Apple juice, Biscuit, Condensed milk, Tea, Sucrose.
3. a) Classify the fatty acids. Why are they named so ?
- b) Briefly discuss about Polymorphism in fats and oil chemistry.
4. a) Write about two plant proteins and two animal proteins.
- b) What do you mean by fractionation of protein ?
5. a) What are the pectic substances ? Mention their food use.
- b) Classify carbohydrates with proper examples.
- c) Give example of a pentose sugar, reducing disaccharide, aldohexose.
6. a) Name the pigments responsible for red colour of Tomato and orange colour of Carrot. How are they nutritionally important ?
- b) Carrots shows loss of colour on drying. Discuss.



**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. a) Does the term 'water activity' relate to the food spoilage ? Justify.  
b) Discuss the moisture isotherm at 20 degree relating water activity *vs* relative reaction rate for food system.  
c) What is IMF ? Does it help in food preservation ?
8. a) Discuss about enzymatic and non-enzymatic browning reaction in fruits and vegetables. Give two industrial applications of non-enzymatic browning reaction.  
b) What are flavonoid compounds ? Mention their chemical composition. Briefly discuss the processing loss of anthocyanin.
9. a) Write about the cereal protein ?  
b) Describe the role of wheat protein in bread making operation.



10. a) What do you mean by Gelatinization of starch ? Mention the changes which are taken place during this process.
- b) Write a short notes on Crude Fibre and Gum mentioning their role in food.
11. Write short notes on Saponifiable and non-Saponifiable fat, Hydrolytic and Oxidative rancidity, two physical and two chemical properties of fats and oil with their industrial importance.

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