	Utech
Name :	A
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Invigilator's Signature :	

CS/B.Tech/FT(OLD)/SEM-4/FT-401/2013 2013

CHEMISTRY OF FOOD

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 :

Time Allotted: 3 Hours

 $10 \times 1 = 10$

Full Marks: 70

- 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.

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GROUP - B

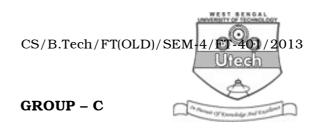


(Short Answer Type Questions)

Answer any *three* of the following. 3

- $3 \times 5 = 15$
- 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 abut 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.

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(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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