



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 182407

Roll No.

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B. Tech.

(SEM. IV) THEORY EXAMINATION, 2014-15
FOOD CHEMISTRY & NUTRITION

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all the questions. All questions carry equal marks.

1. Attempt any four parts : 4×5=20
- (a) What do you understand by water activity? Discuss its relation with the stability of foods.
 - (b) Explain in brief the Hysteresis in moisture sorption isotherm.
 - (c) Explain the mechanism of hydrolysis of glycosidic linkages and the factors affecting the rate of reaction.
 - (d) Describe the uses of Chemically Modified starches in foods.
 - (e) What do you understand by Maillard Browning? Discuss the formation of malanoidin pigment in detail.
 - (f) Comment on the importance of dietary fibers in our diet.

2. Attempt any two parts : 2×10=20
- (a) What do you understand by Crude Oil? Discuss various steps performed in refining of crude oils. Discuss in detail the method of hydrogenation to improve the consistency of fat.
 - (b) Describe the classes of compounds that are produced from the oils during frying and the control measures for maximizing the useful life of the frying oil.
 - (c) What are the methods for improving the consistency of fats? Discuss them in detail.
3. Attempt any two parts : 2×10=20
- (a) Describe the surface properties of food proteins in detail.
 - (b) What do you understand by Denaturation of Protein. Discuss how it affects the nutritional and functional properties of proteins.
 - (c) Discuss various changes in proteins during processing and storage of foods. How they affect the bioavailability of proteins?
4. Attempt any two parts : 2×10=20
- (a) Describe the heme pigments and their inter-conversions.
 - (b) Discuss the structure of Chlorophyll and various methods to retain the green colour during processing and storage.

- (c) Explain the degradation of Ascorbic Acid. Comment on the stability of ascorbic acid in processed foods.
5. Attempt any two parts : 2×10=20
- (a) What do you understand by RDA? Discuss the factors affecting the nutritional requirement of an individual.
- (b) What do you understand by nutrition? Discuss under nutrition, over nutrition and mal-nutrition in detail.
- (c) Discuss the role of carbohydrates and fats in human body.
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