

**B TECH [FOOD TECHNOLOGY]
(SEM IV) THEORY EXAMINATION 2017-18
FOOD CHEMISTRY & NUTRITION**

Time: 3 Hours
Total Marks: 70
Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

- a. Define water activity.
- b. Classify bound water
- c. What do you understand by water holding capacity?
- d. What is Radiolysis?
- e. Define smoke point.
- f. What do you mean by hydrolytic rancidity?
- g. Define protein Isolates.

SECTION B

2. Attempt any *three* of the following: 7x 3 = 21

- a. Discuss interaction of water with neutral groups capable of hydrogen bonding.
- b. Explain the changes occurring in oils during frying; Discuss the control measures for long term stability of frying oils.
- c. Explain the interaction of amino acid with water with the help of diagram.
- d. Enlist flavor compounds generated by heat treatment of foods.
- e. Define calorific value of food and how it can be determined

SECTION C

3. Attempt any *one* part of the following: 7x 1 = 7

- (a) Discuss the relationship of water activity with stability food products.
- (b) Explain the formation of Melanoidin pigment in maillard browning.

4. Attempt any *one* part of the following: 7 x 1 = 7

- (a) Define hydrogenation, & discuss the mechanism of hydrogenation of oils in detail.
- (b) Define Auto-oxidation, Discuss the factors affecting rate of Auto-oxidation.

5. Attempt any *one* part of the following: 7 x 1 = 7

- (a) What do understand by denaturation of proteins? Discuss the physical agents responsible for the denaturation of proteins.
- (b) Discuss the process of gel formation in proteins and factors affecting it.

6. Attempt any *one* part of the following: 7 x 1 = 7

- (a) Discuss the effect of temperature on stability of vitamin C.

- (b) Draw the structure of chlorophyll and explain the methods for preserving green colour of vegetables.

7. Attempt any *one* part of the following:

7 x 1 = 7

- (a) What do you understand by nutrition? Discuss under nutrition, over nutrition and mal-nutrition in detail.
- (b) Discuss the methods used for evaluation of protein quality.

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