

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

Time: 3 Hours**Total Marks: 100****Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

- a. Discuss function water.
- b. Differentiate between free & bound water
- c. Define the term intermediate moisture foods.
- d. Give the general structure of triacylglycerol molecule.
- e. Define Anti-oxidant.
- f. Give the effect denaturation in proteins.
- g. Define protein Isolates.
- h. Classify proteins on the basis of structure
- i. Enlist fat soluble & water soluble vitamins
- j. Define food fortification.

SECTION B

2. Attempt any *three* of the following: 10x 3 = 30

- a. Explain various methods for measuring Water Activity.
- b. Explain the mechanism of Auto-oxidation in fats.
- c. Explain the interaction of amino acid with water with the help of diagram.
- d. Discuss structure of vitamin E and its significance in nutrition.
- e. Explain the modification occurring in heat processing of proteins & carbohydrates.

SECTION C

3. Attempt any *one* part of the following: 10x 1 = 10

- (a) What do you understand by Modified starch? Discuss their role in food processing.
- (b) Discuss functions of monosaccharide & oligosaccharides in foods.

4. Attempt any *one* part of the following: 10 x 1 = 10

- (a) Discuss the process of refining in oils with the importance of steps involved.
- (b) Explain the changes occurring in oils during frying. Discuss the tests employed to measure quality of frying oils.

5. Attempt any *one* part of the following: 10 x 1 = 10

- (a) Discuss the physical & Chemical agents responsible for the denaturation of proteins.
- (b) Discuss modification of proteins by isomerization and its impact on nutritional

value.

6. Attempt any *one* part of the following: 10 x 1 = 10

- (a) Discuss importance of carotenoids pigment and their reaction in foods.
- (b) Explain chemistry of flavor produced in cocoa & chocolates.

7. Attempt any *one* part of the following: 10 x 1 = 10

- (a) Define RDA/ RDI. Discuss factors affecting RDA.
- (b) Discuss the methods used for evaluation of protein quality.

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