

**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.