

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Food Technology) (Sem.-3)

FOOD CHEMISTRY

Subject Code : BTFT-302

M.Code : 76990

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**1. Write briefly :**

- a) Write the role of Food chemistry in food quality control.
- b) Write role of water activity in food spoilage.
- c) Represent reaction for formation of quinones in enzymatic browning.
- d) Draw structure of any four neutral amino acids?
- e) Draw structure of any two phospholipids.
- f) What is gelatinization? Write GT of any three cereals.
- g) Draw structure of beta and alpha carotene and isoprene.
- h) What are caramel and its use?
- i) Draw structure of starch components.
- j) What products are formed in auto-oxidation of fatty acid? Draw their structure

SECTION-B

2. Write role of pectin substance in gel formation. Draw structure of pectic gel.
3.
 - a) Write the role of hydrogen bonding in water.
 - b) Show reaction of protein/amino acids with ninhydrin, Edman's reagent and acetic anhydride?
4.
 - a) What are different structural levels in protein? Explain any one level.
 - b) Draw structure of MUFA & PUFA and explain their chemistry.
5.
 - a) Draw structure of two each of di- and mono-saccharides.
 - b) Draw structure of vitamin A. What role it plays in human body.
 - c) Draw structure of chlorophyll and anthocyanins.
6. Draw secondary structure of protein. How heating affects on the protein structure.

SECTION-C

7.
 - a) What changes takes place in fats and oils during processing, Explain.
 - b) Draw structure of ice and water. Write about water activity and sorption isotherm.
8.
 - a) What are fructans, galactans and their importance in food system?
 - b) Differentiate between secondary, tertiary and quaternary protein levels. What forces stabilized tertiary structure of protein.
 - c) What physical and chemical changes take place in protein during processing? Discuss physical aspects of change.
9.
 - a) What are anthocyanins? Write their role in plant system
 - b) Explain mechanism of non-enzymatic browning
 - c) Explain chemistry and importance of any two B-complex vitamins

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.