

KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food.Engg) 2013.

IIIrd Semester Final Examination-January -2015

Cat. No: Fdqu.2104

Title: Biochemistry of Processing and preservation (1+1)

Marks: 80.00

Time: 3 hours

I a. Fill up the blanks

(5x1=5)

1. In over ripe fruits pectin is converted to -----
2. The constituents of starch are ----- and -----
3. Enzyme responsible for the browning reaction in cut fruits and vegetables is -----
4. Salt is a Class ----- preservative
5. The type of fermentation taking place in vinegar manufacture is known as -----

I b. State whether True or False

(5x1=5)

1. Carotenoid pigments are water soluble
2. The preservative used in grape squash is benzoic acid
3. Vitamin E is a naturally occurring antioxidant
4. Germination improves the digestibility of starch
5. Washing of vegetables after cutting decrease the vitamin C content

II. Write short notes on any TEN of the following

(10x3=30)

1. Physico- chemical changes occurring during freezing and thawing of fruits
2. Differentiate gelatinization and dextrinisation of starch
3. Write briefly on gas chromatography
4. List the advantages of parboiling of paddy
5. Explain the action of salt as a preservative
6. Explain osmotic dehydration
7. Advantages of blanching vegetables

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8. Auto oxidation of fats
9. What do you mean by Maillard reaction
10. What are the advantages of fermentation
11. What are the biochemical changes taking place during malting
12. Write briefly on the loss of nutrients during cooking of vegetables

III. Write short essays on any SIX of the following

(6x5=30)

1. What are the changes occurring during ripening of fruits
2. Types of cold preservation
3. Write short note on biopreservation
4. Role of biotechnology in food processing and preservation
5. Define chromatography and explain different types of chromatography
6. Explain the process of canning of fruits
7. Explain the use of irradiation in food preservation
8. Caramalization of sugars

IV. Write an essay on any ONE of the following

(10x1=10)

1. Explain the chemistry of enzymatic browning and the methods adopted to prevent enzymatic browning
2. Explain the different classes of preservatives used in fruit and vegetable products and their action.