

**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech (Food. Engg) 2011 Admission**  
**III<sup>rd</sup> Semester Final Examination- January/February -2013**

**Cat. No: Fdqu.2104**

**Title: Biochemistry of Processing and Preservation (1+1)**

**Marks: 80**

**Time: 3 hours**

**I a. Fill up the blanks**

**(5x1=5)**

1. Effect of moist heat on starch is known as -----
2. Enzyme responsible for the browning reaction in cut fruits and vegetables is -----
3. The temperature usually used in freezing is below-----
4. The type of fermentation taking place in pickle making is known as -----
5. A polysaccharide used in the fruit processing industry is -----

**I b. State whether True or False**

**(5x1=5)**

1. Honey is a class II preservative
2. The preservative used in lime squash is benzoic acid
3. Vitamin C is a naturally occurring antioxidant
4. Starch present in fruits is converted to amylose during ripening
5. Washing of vegetables after cutting results in the loss of Vitamin A

**II. Write short notes on any TEN of the following**

**(10x3=30)**

1. What are the principles of food preservation
2. Write briefly on gas chromatography
3. Write briefly on dehydrofreezing
4. Explain the action of sulphur di oxide as a preservative
5. What is dextrinization of starch?
6. What are the changes occurring during baking?
7. What do you mean by Maillard reaction?

8. What are the advantages of fermentation?
9. Write briefly on cryogenic freezing
10. What do you mean by pasteurization?
11. What do you mean by blanching of vegetables?
12. What is retrogradation of starch?

**III. Write short essays on any SIX of the following**

**(6x5=30)**

1. Denaturation of proteins
2. Explain the process of canning fruits
3. Write short note on biopreservation
4. Explain the changes occurring in lipids during cooking
5. Write briefly on electrophoresis
6. Explain the different types of fermentation
7. Explain the use of irradiation in food preservation
8. Explain the changes occurring during the ripening of fruits

**IV. Write an essay on any ONE of the following**

**(10x1=10)**

1. Explain the different enzymatic and non enzymatic browning reactions occurring in foods
2. Differentiate pickling and malting. Explain the biochemical changes occurring during these processes