

**POST GRADUATE DIPLOMA IN FOOD
SCIENCE AND TECHNOLOGY (PGDFT)**

00474

Term-End Examination

December, 2017

**MFT-009 : FRUIT AND VEGETABLE
TECHNOLOGY**

Time : 3 hours

Maximum Marks : 70

Note : Answer any five questions. All questions carry equal marks.

1. Fill in the blanks : 7x2=14
- (a) Fruits _____ and _____ are available from June to October.
 - (b) Senescence is a stage when _____ processes terminate and _____ processes initiate.
 - (c) Anthracnose is a post harvest disease of _____ and _____ caused by *Colletotrichum. Gleosporiodes*.
 - (d) CMC extracted from _____ and chitosan from _____.
 - (e) *Erwinia* is a _____ and *Fusarium* is a _____.
 - (f) Blanching inactivates _____ and _____ enzyme activity.
 - (g) Slow freezing has cooling rate _____ $1^{\circ}\text{C}/\text{min}$ and Fast freezing has cooling rate _____ than $1^{\circ}\text{C}/\text{min}$.

2. Write true or false for following : 14x1

- (a) Migratory crystallization is the major type of recrystallization occur during frozen storage.
- (b) Flavour is a combination of taste and smell.
- (c) Squashes have minimum of 25% fruit juice.
- (d) pH range of highly acidic foods is 2.8 - 3.5.
- (e) *Listeria monocytogens* is a psychrotropea.
- (f) Killing of micro - organisms is disinfection.
- (g) Maleic hydrazide is used for sprout suppression.
- (h) Grading is done to maintain texture of product.
- (i) Water is better heat conductor than air.
- (j) Crops with high nitrogen levels have good keeping quality.
- (k) Atmospheric air contains 0.035% of CO₂.
- (l) Fully matured seeds have high metabolic rates.
- (m) Guava is availble throughout the year.
- (n) Anthoxanthins are flavonoids.

3. Define the following : 7x2=14

- (a) Protective Foods
- (b) Maturity Index
- (c) Freezer burn
- (d) Methyl Jasmonate
- (e) Convenient Food
- (f) Canning
- (g) Marketing

4. Differentiate between the following : 7x2=14
- (a) Cordial and Squash
 - (b) Slow freezing and Fast freezing
 - (c) MAP and CAP
 - (d) Rigid plastic containers and Flexible plastic films
 - (e) Climacteric and non - climacteric fruits.
 - (f) Physiological and Horticultural maturity
 - (g) Vitamin A and Vitamin C
5. Explain the following : 4x3.5=14
- (a) Nutritive value of fruits.
 - (b) Chemical changes during maturation of vegetables.
 - (c) Principle of microwave heating
 - (d) Artificial ripening of fruits.
6. (a) Discuss factors affecting precooling of produce. 4
- (b) What are the causes of mechanical injury of fruits and vegetables? 3
- (c) Write down the advantages of "Minimal Processing". 3
- (d) What are merits and demerits of shrink wrapping over MAP? 2+2
7. (a) Write down the basic principles of the following processing techniques : 5x2=10
- (i) Blanching
 - (ii) Canning
 - (iii) Sterilization
 - (iv) Irradiation
 - (v) Dehydrofreezing
- (b) What do you mean by business? Briefly explain forms of business activities. 4
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