

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

Term-End Examination

December, 2014

00690

MFT-009 : FRUIT AND VEGETABLE TECHNOLOGY

Time : 3 hours

Maximum Marks : 70

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

1. Fill in the blanks of the following : 7×2=14

- (a) _____ (vegetable) is rich in anthocyanins, whereas _____ (vegetable) is rich in carotenoids.
- (b) Total percentage of fruits and vegetables processed in our country is approximately _____, whereas developed countries process approximately _____% of their total produce.
- (c) Blanching temperature is _____ (lower/higher) temperature than pasteurization, whereas canning is done at _____ (lower/higher) temperature than pasteurization.

- (d) Water activity of fresh fruit is around _____, whereas dried fruits have water activity of _____ .
- (e) Air freezing takes place at _____ °C, whereas temperature in cryogenic freezing is _____ °C.
- (f) _____ and _____ are used to suppress the ripening of fruits.
- (g) Acidic fruits are sterilized at _____ °C, whereas low acid fruits are sterilized at _____ °C.

2. Write *true* or *false* for the following : 14×1=14

- (a) Apples are rich source of ascorbic acid.
- (b) Watermelons contain lycopene.
- (c) Nuts are rich source of protein.
- (d) TSS is one of the maturity indices used for litchi.
- (e) Soft nose is a common disorder in banana.
- (f) Potatoes are cured at low temperature conditions.
- (g) Air pre-cooling is suitable for cooling strawberries.
- (h) Irradiation can be useful for de-greening of citrus.
- (i) Minimally processed fruits and vegetables are stored at refrigerated conditions.

- (j) Fruits are generally blanched before freezing.
- (k) Approximately 30% salt is used for pickling.
- (l) Candy is preserved by addition of chemical preservatives.
- (m) Freezing and freeze drying are one and the same term.
- (n) Lycopene is the major pigment in green tomatoes.

3. Define/describe the following in one or two sentences : $7 \times 2 = 14$

- (a) Water activity
- (b) Osmosis
- (c) Sauces
- (d) De-greening
- (e) Irradiation
- (f) Peeling
- (g) Dehydrofreezing

4. Differentiate between the following : $4 \times 3 \frac{1}{2} = 14$

- (a) Pre-cooling and Refrigeration
- (b) Sterilization and Pasteurization
- (c) Jam and Preserve
- (d) Freezing and Freeze drying

5. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$

- (a) Minimal processing of fruits and vegetables
- (b) On farm storage techniques
- (c) Transportation of fruits and vegetables for long distance market
- (d) Curing of potatoes

6. Answer the following : $4 \times 3 \frac{1}{2} = 14$

- (a) What is the importance of proper post-harvest management ?
- (b) Describe the various blanching methods used in fruit and vegetable processing.
- (c) Give a flow diagram for canning of pineapple slices.
- (d) Mention the importance of pre-packaging.

7. Answer the following in detail (18-20 sentences each) :

$$2 \times 7 = 14$$

- (a) Describe the important factors to be considered for establishing a fruits and vegetables canning unit.
 - (b) What is the importance of ripening ? Describe the various methods used to enhance and suppress ripening in fruits and vegetables.
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