MFT-009

00373

POST GRADUATION DIPLOMA IN FOOD SCIENCE AND TECHNOLOGY

Term-End Examination

June, 2011

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 in the followings : **7x2=14**

(a) India stands _____ in fruit production and _____ in the vegetable production in the world.

(b) _____ fruit is rich in fat, where as _____ fruit is rich in protein.

(c) Most commonly used maturity index for apple is _____, where as _____ is used for mangoes.

(d) _____ and _____ structures can be used to store harvested vegetables in the field.

(e) _____ is the example of climacteric fruits and _____ is the example of non - climacteric fruit.

(f) _____ and _____ are the most important factors that affect shelf life of stored fruits.

(g) In general, for fruits and vegetables, blanching temperature is _____ °C and pasteurization is done at _____°C.

2. Write TRUE or FALSE for the followings : **14x1=14**

(a) Most of the fruits are rich source of proteins.

(b) Vegetables do not contain any vitamin.

(c) Avocado is rich source of fat.

(d) For transportation, mangoes are harvested at fully ripe stage.

(e) Potatoes are cured at low temperature.

(f) Carrots are best cooled by vacuum pre-cooling.

(g) Irradiation can be used for sprout inhibition in onions.

(h) Etheral is used to inhibit ripening.

(i) Canned pea is an example of minimally processed product.

(j) According to FPO specification, Jam can contain a maximum of 200 ppm benzoic acid.

(k) During refrigeration a part of water in fruits get frozen.

(l) Netting is one of the maturity indexes for water melon.

(m) In dehydrofreezing, fruits are first frozen then dried.

(n) Freezing rates are almost similar in Immersion and Cryogenic freezing.

3. (a) Write chemical name for the followings : **4x1=4**

(i) Vitamin A

(ii) Vitamin B_1

(iii) Vitamin B_{12}

(iv) Vitamin E

(b) Write full form for the followings : **5x1=5**

(i) HTST

(ii) MH

(iii) IQF

(iv) 2, 4 - D

(v) KMS

(c) Define following in one sentence : **5x1=5**

(i) Marmalade

(ii) Senescence

(iii) Freeze drying

(iv) Value addition

(v) Water activity

4. Differentiate between the followings : **4x3½=14**

(a) Bruising and impact injury

(b) Pelletization and Unitization

(c) Puree and Paste

(d) Climacteric and non-climacteric fruits

5. Write short note on the followings (6 - 8 sentences) :

(a) Health benefits of fruits and vegetables **4x3½=14**

(b) On-form storage

(c) Freezing curve

(d) Ohmic heating

6. Answer the following in one paragraph (8 - 10 sentences) : **4x3½=14**

(a) What are different packaging materials used for packing fruits and vegetables ?

(b) Discuss variability in composition of fruits and vegetables.

(c) Mention various factors affecting drying of fruits and vegetables.

(d) Describe the use of salt in preservation of fruits and vegetables.

7. Answer the following in detail. (16 - 20 sentences) **2x7=14**

(a) Why do you need to store fruits and vegetables ? Describe the advantages of refrigerated storage.

(b) What is minimal processing ? State its advantages over conventional processing techniques.