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

Term-End Examination

June, 2017

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

Time : 3 hours

Maximum Marks : 70

- Note :*
- (i) *Answer any five questions.*
 - (ii) *All questions carry equal marks.*

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1. Fill in the blanks : 7x2
- (a) The major fruit producing state in India are _____ and _____.
 - (b) Respiration is of two types : _____ and _____.
 - (c) Too much rain or irrigation leads to _____ and _____ leafy vegetables.
 - (d) Waxing of fruits and vegetables is done to reduce _____ and _____.
 - (e) In modified atmosphere, _____ level is reduced and _____ level is increased.
 - (f) Sterilization treatment is done at _____ °C for _____ mins.
 - (g) In immersion freezing packaged or unpackaged product is frozen by _____ in or by _____ with a freezant.

2. Write **true** or **false** for the following : **14x1**
- (a) Peas are frozen as IQF product.
 - (b) Senescence is beginning of initial phase in the life of plant.
 - (c) Medium acid foods have pH in the range of 4.0 - 4.5.
 - (d) Sulphur resistant lacquer is of silver colour.
 - (e) Vapour heat treatment is a method of heating fruit in hot water.
 - (f) Hurdle Technology is to inhibit the growth of undesired organisms rather than kill them.
 - (g) Shriveling of capsicum occurs due to transpiration loss.
 - (h) Low ethylene destroys green colour of green leafy vegetables.
 - (i) In lag phase cell growth rate increases slowly.
 - (j) Apple has more than 100 ethylene evolution rate.
 - (k) Tomato posses antibacterial property.
 - (l) Pineapple juice comes under cloudy juice classification.
 - (m) Desiccation is removal of water from the surface.
 - (n) Extra class of grading has only 10% tolerance.
3. Define the following : **7x2=14**
- (a) Vapour heat treatment
 - (b) Transpiration
 - (c) Edible coatings
 - (d) Maturation
 - (e) Respiration quotient
 - (f) Lycopene
 - (g) Refrigerant

4. Differentiate between the following : 4x3.5=14
- (a) Active MAP and Passive MAP
 - (b) Chilling injury and Freezing injury
 - (c) D value and Z value
 - (d) Size grading and Quality grading
5. Explain the following : 4x3.5=14
- (a) Gas composition in storage facility
 - (b) Hurdle technology
 - (c) Lacquering
 - (d) Principles of freezing
6. (a) Discuss major physical changes that occur during frozen storage. 4
- (b) What do you understand by ohmic heating? 3
- (c) Enlist the types of fruit juice extractor. Explain any one of them in detail. 1+3=4
- (d) Write down about the factors that affect moisture loss from fruits and vegetables. 3
7. (a) Define "minimally processed fruits and vegetables". Discuss various factors affecting quality and safety of "minimally processed fruits and vegetables". 8
- (b) Write down important factors required for setting up of a small scale industry. 6
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