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53 (FPT 401) FVPR

2018

FOOD PRODUCT TECHNOLOGY-I

Paper : FPT 401

(Fruits and Vegetables)

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer **any five** questions.

1. (a) Explain about "Maturity Index" with suitable examples. 10
- (b) Explain the following terms : 5×2=10
 - (i) Curing of roots, tuber and bulb crops
 - (ii) Disinfection
 - (iii) Artificial waxing
 - (iv) Icing
 - (v) Forced-air cooling.

Contd.

2. (a) Explain the following deterioration factors and their controls.

(i) Enzymatic changes. 3

(ii) Color changes. 5

(b) Draw the graph showing the relationship of food deterioration rate as a function of water activity.

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(c) Explain IMF concept and discuss the advantages and disadvantages of IMF preservation method.

4+4=8

3. (a) Write about the following :

4×2=8

(i) Controlled Atmosphere Storage (CAS)

(ii) Factors influencing CAS

(iii) Atmosphere conditioning

(iv) Name *any four* chemicals used as scrubbers in CAS.

(b) Match the following : $3 \times 1 = 3$

MAP type	Gas mixture
(i) Inert blanketing	CO_2/N_2 (Or) $O_2/CO_2/N_2$
(ii) Semi-reactive blanketing	CO_2 (Or) CO_2/O_2
(iii) Fully-reactive blanketing	N_2

(c) Explain about passive MAP and active MAP. 6

(d) Mention the characteristics of packaging materials for MAP foods. 3

4. (a) Explain the following pre-processes in Fruit and Vegetable processing.

(i) Ascorbic/citric acid dip 2

(ii) Sulphur dioxide treatment 6

(iii) Sugar syrup dip. 2

(b) Mention the flow-sheet for cordial processing. 5

(c) Provide the technological flowchart for the processing of grape juice. 5

5. (a) Write the technological flow-sheet for the making of wine and detail the wine making process. 12
- (b) Explain the manufacturing process of candied fruits/vegetables with proper flowchart. 8
6. (a) Provide the flowchart for jelly making process and explain *any three* problems in jelly making. 4+6=10
- (b) Write the process flowchart for the following products.
- (i) Pickle 5
- (ii) Sauerkraut. 5
7. (a) Explain the steps in the wet processing of coffee beans. 10
- (b) Explain about passive oxidation and controlled oxidation in tea processing. 4
- (c) Give the flowcharts for Oolong tea and black tea processing. 3+3=6
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