

**Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)**



B. Sc. (Ag.) (Sixth Semester - Regular) Examinations, April - 2026

HORT-325- Post-Harvest Management & Value Addition of Horticultural Crops

Time: 2 hrs

Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A

Q.1. Fill in the blanks with suitable word / figure.

(0.5 x 10 = 5 Marks)

- Addition of excess amount of sugar resulting _____ jelly.
- Ideal end point temperature for jelly is _____ at MSL.
- Decrease in free amino acid reflects an increase in _____ synthesis.
- Heat unit = _____
- Decomposition of carbohydrates by microorganisms or enzymes is called _____
- Vacuum cooling is most effective for _____ crops.
- Sprouting is a _____ type of post-harvest loss.
- _____ Temperature is maintained at chilling storage.
- Injecting ice slurry into packages is called _____
- Tartrazine is a _____ colour coal tar dye.

Q. 2. Define (or) Explain the following in one or two sentences.

(1 x 5 = 5 Marks)

- Physiological maturity
- Climacteric and Non-climacteric fruit
- Types of Lacquering
- Heat unit
- Post-Harvest technology

Q3. Match the following

(0.5 x 10 = 5 Marks)

	Column – A		Column – B
(a)	Steam peeling	(i)	Maximum development
(b)	Plant hormone	(ii)	SOPP
(c)	Watermelon	(iii)	Immersion
(d)	Anti-fungal agent	(iv)	>100°C
(e)	Physiological maturity	(v)	Metallic colour
(f)	Hydro-cooling	(vi)	ABA
(g)	Antimony	(vii)	<100°C
(h)	Pasteurization	(viii)	Dull hollow sound
(i)	Sterilization	(ix)	Protopectin
(j)	Unripe fruit	(x)	Potato

Q4. Write True or False against each statement

(0.5 x 10 = 5 Marks)

- a. Blanching is also known as scalding.
- b. Quality can be improved after harvest.
- c. In India 1.0 to 2.0 % of the produce is processed and packaged.
- d. Ascorbic acid present in fruits & vegetables has beneficial effect on wound healing.
- e. Full slip stage is the maturity indices of watermelon.
- f. SO₂ acts as an antioxidant and bleaching agent against Bacteria and Moulds.
- g. During fruit ripening sugar levels within fruit tend to decrease.
- h. Carbonation creates anaerobic condition in preservation.
- i. Leaving very little head space in bottles is a cause of Black neck.
- j. Cooking slowly for a longer period resulting syrupy jelly.

PART – B

Attempt ANY FIVE questions. All question carries equal marks

(6 x 5 = 30 Marks)

- 5. Describe different maturity indices used in fruits.
- 6.
 - a. Write about any four causes of Post-harvest losses (4)
 - b. Describe the impact of post-harvest loss on nutrition and economy. (2)
- 7.
 - a. What are differences between Pasteurization and Sterilization? (2)
 - b. Describe any four methods of preservation techniques. (4)
- 8.
 - a. Elaborate the principle of gel formation. (4)
 - b. Describe types of Pectin test. (2)
- 9.
 - a. What are the different types of Ice cooling methods? (3)
 - b. Elaborate Hydro-cooling and Vacuum cooling. (3)
- 10.
 - a. Describe the design of Zero Energy Cool Chamber. (3)
 - b. Write down the Precautions and Limitations of ZECC. (3)

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