

**THE KAVERY ENGINEERING COLLEGE***(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026*****Sixth Semester******Department of Agricultural Engineering*****AI3004 - STORAGE AND PACKAGING TECHNOLOGY*****Regulations - 2021******Duration : 3 Hrs******Maximum : 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10\*2=20)***

| <b><i>Q.No</i></b> | <b><i>Questions</i></b>                                              | <b><i>BTL</i></b> | <b><i>CO</i></b> | <b><i>Marks</i></b> |
|--------------------|----------------------------------------------------------------------|-------------------|------------------|---------------------|
| 1.                 | What are storage losses in agricultural commodities?                 | L1                | 1                | 2                   |
| 2.                 | Illustrate the two advantages of bag storage.                        | L2                | 1                | 2                   |
| 3.                 | List any two types of food packaging materials.                      | L1                | 2                | 2                   |
| 4.                 | Relate impact damage in packaging.                                   | L1                | 2                | 2                   |
| 5.                 | Name the main gases used in CA storage.                              | L1                | 3                | 2                   |
| 6.                 | Rephrase the effect of high CO <sub>2</sub> concentration on fruits. | L2                | 3                | 2                   |
| 7.                 | Define canning.                                                      | L1                | 4                | 2                   |
| 8.                 | Mention application of polypropylene.                                | L1                | 4                | 2                   |
| 9.                 | Tell about pouch sealing.                                            | L1                | 5                | 2                   |
| 10.                | Summarize the purpose of thermoforming.                              | L2                | 5                | 2                   |

***PART – B (ANSWER ALL QUESTIONS) (Marks 5\*16 = 80)***

| <b><i>Q.No</i></b> | <b><i>Questions</i></b>                                                                                              | <b><i>BLT</i></b> | <b><i>CO</i></b> | <b><i>Marks</i></b> |
|--------------------|----------------------------------------------------------------------------------------------------------------------|-------------------|------------------|---------------------|
| 11.                | a      Demonstrate in detail the different types of storage losses in agricultural commodities and their prevention. | L2                | 1                | 16                  |
|                    | <b>Or</b>                                                                                                            |                   |                  |                     |
|                    | b      i      Describe various treatments for enhancing shelf life of agricultural commodities.                      | L2                | 1                | 8                   |
|                    | i      Explain factors responsible for spoilage of stored grains.                                                    | L2                | 1                | 8                   |
|                    | i                                                                                                                    |                   |                  |                     |
| 12.                | a      i      Identify the importance of food packaging and its major roles in food preservation.                    | L3                | 2                | 8                   |
|                    | i      Construct the effect of environmental factors on food quality and shelf life.                                 | L3                | 2                | 8                   |
|                    | i                                                                                                                    |                   |                  |                     |
|                    | <b>Or</b>                                                                                                            |                   |                  |                     |
|                    | b      Develop the methods used to determine gas and water vapour transmission rates in packaging materials.         | L3                | 2                | 16                  |
| 13.                | a      Interpret the equipment used for creating, maintaining, and measuring controlled atmosphere.                  | L2                | 3                | 16                  |
|                    | <b>Or</b>                                                                                                            |                   |                  |                     |
|                    | b      Extend the effect of oxygen, carbon dioxide, and nitrogen concentrations on fruits and vegetables.            | L2                | 3                | 16                  |

|           |   |                                                                                                   |    |   |    |
|-----------|---|---------------------------------------------------------------------------------------------------|----|---|----|
| 14.       | a | Build the construction and working of two-piece and three-piece cans.                             | L3 | 4 | 16 |
| <b>Or</b> |   |                                                                                                   |    |   |    |
|           | b | i Identify in detail the different types of caps and liners used in glass containers.             | L3 | 4 | 8  |
|           |   | i Organize the principles and methods of closing and sealing methods of rigid plastic containers. | L3 | 4 | 8  |
| 15.       | a | Analyze the co-extruded films and laminated films with their advantages and applications.         | L4 | 5 | 16 |
| <b>Or</b> |   |                                                                                                   |    |   |    |
|           | b | i Discover the laminated paperboard cartons and their applications in food packaging.             | L4 | 5 | 8  |
|           |   | i Contrast the different printing techniques used in packaging and their advantages.              | L4 | 5 | 8  |

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