

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI EXAMINATION – SUMMER 2025

**Subject Code: 3162310**

**Date: 28-05-2025**

**Subject Name: Plastics Packaging Technology**

**Time: 10:30 AM TO 01:00 PM**

**Total Marks:70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
<b>Q.1</b>	(a) List the properties of HDPE as a packaging material.	<b>03</b>
	(b) Discuss about the functions of packaging.	<b>04</b>
	(c) Discuss about Shrink wrap and Stretch wrap packaging techniques.	<b>07</b>
<b>Q.2</b>	(a) Define Packaging and explain its needs.	<b>03</b>
	(b) Explain the importance of color as a sales medium for packaging.	<b>04</b>
	(c) Discuss about Drop testing and Compression testing for plastic package.	<b>07</b>
<b>OR</b>		
	(c) Explain the advantages and limitations of using plastics in packaging.	<b>07</b>
<b>Q.3</b>	(a) Discuss about the requirements of changes in package design.	<b>03</b>
	(b) Describe the properties of laminated films used for packaging.	<b>04</b>
	(c) Explain the Modified atmosphere and Controlled atmosphere packaging.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Explain the characteristics of flexible packaging.	<b>03</b>
	(b) Discuss the following i) Blister packaging ii) Aseptic packaging.	<b>04</b>
	(c) Explain the requirements for making a plastic bottle to be used for pharmaceutical packaging.	<b>07</b>
<b>Q.4</b>	(a) Discuss the need of cushion packaging	<b>03</b>
	(b) Explain the hazards in packaging.	<b>04</b>
	(c) Describe the Water Vapor Transmission Rate test and its importance in packaging.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) List the advantages and applications of PP in packaging.	<b>03</b>
	(b) State the properties and applications of LDPE as a packaging material.	<b>04</b>
	(c) Explain the manufacturing and advantages of BOPP film used in packaging.	<b>07</b>
<b>Q.5</b>	(a) State the importance of Vacuum packaging.	<b>03</b>
	(b) Explain about the Form, Fill & Seal machine used in packaging.	<b>04</b>
	(c) Describe the Primary, Secondary & Tertiary packaging giving examples.	<b>07</b>

**OR**

- Q.5** (a) Describe the characteristics of Rigid packaging **03**  
(b) Discuss the advantages of using PET bottles for packaging aerated drinks. **04**  
(c) List and explain briefly different pouch styles used in packaging. **07**

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