

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– VI (NEW) EXAMINATION – WINTER 2021****Subject Code:3162310****Date:02/12/2021****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.

	<b>MARKS</b>
<b>Q.1</b> (a) Define Packaging. State the need for packaging.	<b>03</b>
(b) Explain the types of Packaging.	<b>04</b>
(c) List the advantages and limitations of using plastics in Packaging.	<b>07</b>
<b>Q.2</b> (a) State the needs for changes in Package Design.	<b>03</b>
(b) Discuss role of color as sales medium in packaging.	<b>04</b>
(c) Explain Shrink wrap & Stretch wrap Packaging techniques.	<b>07</b>
<b>OR</b>	
(c) Explain Impact Testing and Compression Testing.	<b>07</b>
<b>Q.3</b> (a) Explain the blister packaging techniques.	<b>03</b>
(b) State the properties & applications of HDPE for packaging applications.	<b>04</b>
(c) Explain need of Cushion Package and methods of isolation of shock.	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) List various applications of Rigid Plastic Packaging.	<b>03</b>
(b) State the properties & applications of PET for packaging applications.	<b>04</b>
(c) List and discuss various Pouch styles used in Plastic Packaging.	<b>07</b>
<b>Q.4</b> (a) State the properties of PP as a material used in packaging.	<b>03</b>
(b) Explain briefly about drop test of plastics package.	<b>04</b>
(c) Describe about Modified Atmosphere Packaging (MAP) and Controlled Atmosphere Packaging (CAP).	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Give importance of Vacuum-packaging.	<b>03</b>
(b) Discuss about Hazards in Distribution.	<b>04</b>
(c) Discuss need of migration test. Explain Water Vapor Transmission Rate for Plastic film.	<b>07</b>
<b>Q.5</b> (a) Explain the skin packaging techniques.	<b>03</b>
(b) State the properties & applications of LDPE for packaging applications.	<b>04</b>
(c) Discuss about Retort packaging and Aseptic packaging.	<b>07</b>
<b>OR</b>	
<b>Q.5</b> (a) State properties of Heat Shrinkable films.	<b>03</b>
(b) Discuss Tetra packs used for Dairy Industry.	<b>04</b>
(c) Explain in brief Caps design in rigid packaging.	<b>07</b>

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