

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION – SUMMER 2025

Subject Code:3172314

Date:16-05-2025

Subject Name:Secondary Plastics Processing Techniques

Time:02:30 PM TO 05:00 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) Discuss the electrostatic spraying technique for powdered plastic coating.	<b>03</b>
	(b) Explain the basic principle for adhesive bonding. List the factors to be considered for good cementing.	<b>04</b>
	(c) Describe the process of Vacuum Metalizing technique with a neat sketch and list its applications.	<b>07</b>
<b>Q.2</b>	(a) List the forms of adhesives and explain any two.	<b>03</b>
	(b) Describe the process of Pad Printing.	<b>04</b>
	(c) Explain the Fluidized Bed Coating technique for coating with plastics with a neat diagram.	<b>07</b>
	<b>OR</b>	
	(c) Explain the Spin or Friction welding technique.	<b>07</b>
<b>Q.3</b>	(a) Discuss about molded in and post molded inserts.	<b>03</b>
	(b) Describe the working of a Rotogravure printing technique.	<b>04</b>
	(c) Explain the following i) Corona Discharge technique ii) Flame Treatment technique	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain the in mold decoration technique for decorating plastics.	<b>03</b>
	(b) Discuss the water transfer process to decorate plastics.	<b>04</b>
	(c) Describe the Hot gas welding technique used for assembly of plastics with a diagram.	<b>07</b>
<b>Q.4</b>	(a) Explain briefly the Electroplating technique.	<b>03</b>
	(b) Discuss the principle property considerations for machining of plastics.	<b>04</b>
	(c) Explain the construction and working of Ultrasonic Welding technique used for assembly of plastics with a sketch.	<b>07</b>

**OR**

- Q.4** (a) Describe the Laser Machining technique. **03**
- (b) Discuss the purpose of finishing operations and explain Filing and Tumbling operations. **04**
- (c) Explain the screen printing process used for decorating plastics with a sketch. **07**
- Q.5** (a) Discuss about Jigs and Fixtures used in machining of plastics. **03**
- (b) Explain the High Frequency welding technique and list its applications. **04**
- (c) Describe the Hot Stamping process with a neat sketch. **07**
- OR**
- Q.5** (a) Describe the process of Flocking used for decorating plastics. **03**
- (b) Explain the dip and capillary method for applying solvents for solvent cementing. **04**
- (c) Describe the Hot Plate Welding technique for assembly of plastics. **07**

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