

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER- VII EXAMINATION-SUMMER 2023

Subject Code: 3172314

Date: 26/06/2023

Subject Name: Secondary Plastics Processing Techniques

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
Q.1	(a) Why is surface treatment needed? List various surface treatment methods for plastics.	03
	(b) With a neat sketch explain the hot gas welding technique.	04
	(c) Write a short note on the Fluidized Bed Coating technique.	07
Q.2	(a) Explain the Corona Discharge technique for surface treatment of plastics.	03
	(b) List the factors to be considered for good cementing.	04
	(c) Explain the Rotogravure Printing Process with a neat sketch.	07
OR		
	(c) List & explain the principal property considerations for machining of plastics.	07
Q.3	(a) Explain the electrostatic spraying technique for powdered plastic coating.	03
	(b) What is adhesive bonding? List the six basic categories of adhesives. State the reasons for using adhesives for all types of parts and materials.	04
	(c) Explain the Hot Stamping method in detail with a neat sketch.	07
OR		
Q.3	(a) With a neat sketch explain the flame treatment method for surface treatment of plastics.	03
	(b) Explain briefly the following finishing operations i) Filing ii) Tumbling iii) Ashing, iv) Buffing & Polishing.	04
	(c) Write a short note on the Ultrasonic welding technique.	07
Q.4	(a) Write a short note on Pad Printing process	03
	(b) List the rules for proper design of jigs and fixtures used in machining of plastics.	04
	(c) With a neat sketch explain the hot plate welding technique	07
OR		
Q.4	(a) Explain the process of Flocking.	03
	(b) Describe briefly different methods of applying solvents for solvent cementing.	04

- (c) Explain the Vacuum metalizing technique with a neat sketch. **07**
- Q.5** (a) What is Labelling? **03**
(b) Write a short note on forms of adhesives. **04**
(c) Explain the Electrostatic Fluidized Bed Coating technique with a neat sketch. **07**
- OR**
- Q.5** (a) Explain briefly the Electroplating technique. **03**
(b) Explain briefly the water transfer process. **04**
(c) Explain High Frequency Welding technique for plastics. **07**
