

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3172314

Date:30-11-2024

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) Discuss the importance of surface treatment. List various surface treatment techniques for plastics.	03
	(b) Explain the Pad printing process used for decorating plastics.	04
	(c) Explain with a neat diagram, the parts and working of an Ultrasonic welding machine	07
Q.2	(a) Briefly explain the process of Flocking for decorating a product.	03
	(b) For irregular plastic products like bottles, explain the flame treatment technique for its surface treatment.	04
	(c) Explain the Hot foil Stamping technique used for decorating plastic parts.	07
	OR	
	(c) Explain the Hot plate welding technique for welding plastic parts.	07
Q.3	(a) Explain the electrostatic spraying technique for powdered plastic coating.	03
	(b) Describe the in mold decoration technique.	04
	(c) Discuss the Hot gas welding technique used for joining of plastics.	07
	OR	
Q.3	(a) Explain the printing of large surface parts through water transfer process.	03
	(b) Discuss about different forms of adhesives	04
	(c) Explain the process of vacuum metalizing to obtain metallic coating on plastic parts and list its applications.	07
Q.4	(a) Discuss about the corona discharge technique, used for treating the surface of plastic films.	03
	(b) Explain the importance of jigs and fixtures in machining of plastics.	04
	(c) Write a short note on the Electrostatic Fluidized Bed Coating technique for powdered plastic coating.	07
	OR	
Q.4	(a) Explain the laser machining technique	03
	(b) List and explain the principal property considerations for machining of plastics	04
	(c) Explain the Spin or Friction welding technique used for welding plastics.	07
Q.5	(a) Briefly explain the Induction welding technique for welding of plastics.	03
	(b) Explain the methods of applying solvents for solvent cementing of plastics	04
	(c) With a neat sketch explain the Flexographic printing technique.	07
	OR	
Q.5	(a) List and explain the factors to be considered for good solvent cementing	03
	(b) Explain the Electroplating technique with a neat sketch.	04
	(c) Describe the screen printing process with a sketch and list its advantages.	07
