

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024****Subject Code:3162308****Date:05-12-2024****Subject Name: Advanced Plastic 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
Q.1	(a) Define 1) Ionizing Radiation 2) Non-Ionizing Radiation.	03
	(b) Write a short note on multicolor molding.	04
	(c) Explain i) Calendar drive system ii) Calendar heating systems.	07
Q.2	(a) What are blowing agents? How are they useful in making foamed plastic.	03
	(b) What is structural foam? Give advantages and disadvantages of structural foams..	04
	(c) Explain Reaction Injection Molding with neat sketch diagram.	07
	OR	
	(c) Explain synthesis of cross-linked polyethylene foam.	07
Q.3	(a) Write short note syntactic foam.	03
	(b) Write a short note on radiation induced curing of coatings.	04
	(c) Explain sandwich foam molding.	07
	OR	
Q.3	(a) Write a short note on silicone foam.	03
	(b) Discuss about epoxy foams.	04
	(c) Explain the use of drilled rolls and cored in calendaring process with diagram.	07
Q.4	(a) Define radiation processing.	03
	(b) Write short note on Encapsulation.	04
	(c) Discuss various types of blenders and mixtures used in calendaring process.	07
	OR	
Q.4	(a) Explain the infrared radiation process.	03
	(b) Write a short note on cross-linked foamed resins.	04
	(c) Discuss i) Irradiated wood plastic composite ii) Graft copolymers	07
Q.5	(a) Describe manufacturing process of PMMA sheet by casting.	03
	(b) Discuss the use of crosslinking thermoplastics for wire and cable.	04
	(c) Describe Mucell technology.	07
	OR	
Q.5	(a) Define various mold materials used for casting process.	03
	(b) Write a short note on Water Assisted Injection Molding.	04
	(c) Differentiate between low pressure and high pressure foam molding process.	07
