

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3162603

Date:20-11-2024

Subject Name: Rubber Equipment Design

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) List out the factors on which batch size of mixing mill depends.	03
	(b) Give the comparison between drop door and old type shielding door for internal mixer.	04
	(c) Evaluate the effectiveness of various design innovations in internal mixers that have improved processing capabilities over the years.	07
Q.2	(a) List the properties required for materials used for extrusion die.	03
	(b) Write the classification of Die according to flow.	04
	(c) Discuss in detail about die geometry and its material of construction.	07
	OR	
	(c) Discuss the Effects of the Screw and Barrel Temperatures in detail.	07
Q.3	(a) List out the different components of Extruder.	03
	(b) Give a comparison of Hot feed & Cold feed Extruder.	04
	(c) Discuss the flow mechanism of Extruder.	07
	OR	
Q.3	(a) “Temperature controller is key parameter for the extruder” justify the statement.	03
	(b) Write the disadvantages of Pressure style extruder.	04
	(c) Draw the suitable figure of Vent Extruder and explain it in Detail.	07
Q.4	(a) Give the importance of Parting Line of mold.	03
	(b) Write the importance of thermal consideration of compression molding.	04
	(c) Discuss in detail about the transfer molding process with suitable diagram.	07
	OR	
Q.4	(a) What do you mean by Anisotropy?	03
	(b) List the factors affecting the design & construction of compression mould.	04
	(c) Discuss in detail about the cryogenic de flashing.	07
Q.5	(a) Give the comparison between FIFO vs. FILO.	03
	(b) List out the machine controls and process variable of Injection Molding.	04
	(c) Write a short note on “Injection transfer molding”.	07
	OR	
Q.5	(a) Define the term (i) Shot capacity (ii) Draft angle (iii) MFI	03
	(b) Give the importance of Nozzle Diameter.	04
	(c) Explain the different types of Injection Units.	07
