

Enrolment No./Seat No _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3142603

Date:22-11-2024

Subject Name:Rubber Engineering & its Economics

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 the given terms: (i) Assets (ii) Budget (iii) Audit.	03
	(b) Outline the various functions of Quality Assurance engineer in Rubber Industry.	04
	(c) What is the role of Marketing Department? Explain in detail.	07
Q.2	(a) Write down the limitations of Open mixing Mill.	03
	(b) Distinguish Banbury Mixer and Kneader Mixer.	04
	(c) Explain a step -by -step operation associated with the mixing process.	07
OR		
	(c) Mention the full form of FCM & Write down the limitations of Transfer Mix.	07
Q.3	(a) What is the mechanism of extruder?	03
	(b) Define the following terms: (i) Die (ii) Head (iii) L/D Ratio (iv) Compression Ratio.	04
	(c) Explain the following features with respect to Extruder: (i) Hopper (ii) Screw.	07
OR		
Q.3	(a) List any three factors affecting the output of extrusion process.	03
	(b) Discuss the differences between hot feed extruder and cold feed extruder.	04
	(c) What is Die Swell? Explain the factors on which die swell depends.	07
Q.4	(a) Draw neat sketches of the possible configurations of a 3-roll calender machine.	03
	(b) List out the possible defects commonly associated with calendering machine.	04
	(c) Write short notes on mould release agents.	07
OR		
Q.4	(a) What are the advantages of rubber calendar machine?	03
	(b) What are the modern systems adopted for measuring and ensuring uniformity of gauge?	04
	(c) Explain the classification of mould according to their operations.	07
Q.5	(a) How flash removal operation is carried out by low temperature tumbling?	03

- (b) Identify Reason and Remedies for the given moulding problems: (i) Under Cure (ii) Over Cure. **04**
- (c) Explain the working principles and application of Injection Moulding machine. **07**

OR

- Q.5** (a) Define the term mould. What are the characteristics of compression moulding? **03**
- (b) What are the disadvantages of transfer moulding? **04**
- (c) Explain in detail about the types of injection units used in Injection moulding machine. **07**
