

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024****Subject Code:3162611****Date:24-05-2024****Subject Name:Engineering Rubber Products****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) List the rubber products in medical goods application with suitable example.	03
	(b) Write the rubber applications in defense field.	04
	(c) Design the formulation as per below specifications and calculate the compound specific gravity for Hot water bag. Specifications: Hardness: 55-60 shore A, temperature resistance up to 70-80 0C, color: Blue.	07
Q.2	(a) Why Tank Lining is required? Write their importance.	03
	(b) Give the difference between ebonite & semi ebonite rubber.	04
	(c) Discuss in detail about spreading Process for manufacturing of Printing Blanket.	07
	OR	
	(c) Discuss about the solvent recovery, curing and testing process used for manufacturing Printing Blanket.	07
Q.3	(a) Write the formula for a simple rubber ball.	03
	(b) Write the importance of Melton cloth for tennis ball.	04
	(c) Write in detail about manufacturing process of Conventional Golf Ball.	07
	OR	
Q.3	(a) Define the term Vibration & Shock absorption.	03
	(b) Design the formulation for the rubber Break lining in Automotive industry which requires hardness is 70-75 SHA and black color.	04
	(c) Name the components of conventional tennis balls. Explain its manufacturing process.	07
Q.4	(a) Write about the compound design for surgical tubing.	03
	(b) Write the importance of roll balance in rubber roller.	04
	(c) Define the term “Seal”. Write about the types of Seals and properties of Seal Materials.	07
	OR	
Q.4	(a) List the application of rubber products in automobile engineering field.	03
	(b) Write the merits of elastomeric bearings.	04

- (c) Describe the manufacturing process of Rubber Roller for printing industry. **07**
- Q.5** (a) Give the significance of Dock Fenders in Marine applications. **03**
- (b) Design the formulation for the Rubber Seal in oil industry which requires hardness is 60-65 SHA and black color. **04**
- (c) Draw the flow diagram for the manufacturing process of rubber gasket. Explain it. **07**
- OR**
- Q.5** (a) Explain the role of rubber in bridge bearings application. **03**
- (b) Write in detail about the function and benefits of rubber expansion joints. **04**
- (c) Discuss in detail about the Rubber Fenders. **07**
