

Seat No.: \_\_\_\_\_

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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023**

**Subject Code:3162611**

**Date:14-07-2023**

**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.

		<b>Marks</b>
<b>Q.1</b>	(a) Which materials are used for manufacturing of cover of a golf ball? Why?	<b>03</b>
	(b) Short note on Melton Cloth used for manufacturing Tennis ball	<b>04</b>
	(c) Discuss in detail about manufacturing of Simple Play ball	<b>07</b>
<b>Q.2</b>	(a) List the applications of Printing Blankets	<b>03</b>
	(b) Write in detail about the compound design for Printing Blanket.	<b>04</b>
	(c) Describe about the dough preparation and spreading process used for manufacturing Printing Blanket.	<b>07</b>
<b>OR</b>		
	(c) Discuss about the solvent recovery, curing and testing process used for manufacturing Printing Blanket.	<b>07</b>
<b>Q.3</b>	(a) Explain the role of rubber in bridge bearings.	<b>03</b>
	(b) List the factors to predict the service life for Bridge Bearings. Write any of two in detail.	<b>04</b>
	(c) Discuss in detail about the manufacturing of Hot water bottle.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Write about the compound design for surgical tubing.	<b>03</b>
	(b) Short note on: "Elastomeric bearing".	<b>04</b>
	(c) Which are the testing methods for bridge bearings? Discuss in detail.	<b>07</b>
<b>Q.4</b>	(a) Which types of the precautions required while working with Marine Fenders?	<b>03</b>
	(b) Define the term Vibration & Shock in detail.	<b>04</b>
	(c) Discuss in detail about the Rubber Fenders.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Which rubbers are used for vibration isolation and shock absorption applications? Discuss the importance of stiffness and hardness of rubber used for same applications.	<b>03</b>
	(b) Write in detail about the function and benefits of rubber expansion Joints.	<b>04</b>
	(c) "Rubber bellows find extensive use in various industries and applications". Justify the statement.	<b>07</b>
<b>Q.5</b>	(a) List the applications of Rubber Roller.	<b>03</b>
	(b) Design the formulation for the Rubber Seal in oil industry which requires hardness is 60-65 SHA and black color.	<b>04</b>
	(c) Explain in detail about the manufacturing process of rubber gasket.	<b>07</b>
<b>OR</b>		

- Q.5**
- (a)** Draw the flow diagram for the manufacturing process of Ebonite rubber. **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)** Describe the manufacturing process of Rubber Roller for textile industry. **07**

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