

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2022****Subject Code:3162607****Date:03/06/2022****Subject Name:High Performance Elastomers****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
<b>Q.1</b>	(a) Give the difference between General purpose elastomer and Speciality elastomer.	<b>03</b>
	(b) Draw the schematic diagram of HNBR manufacturing process.	<b>04</b>
	(c) Discuss in detail about the influence of Acrylonitrile Content and Unsaturation on HNBR Properties.	<b>07</b>
<b>Q.2</b>	(a) Write the application of High performance elastomers.	<b>03</b>
	(b) Draw the molecular structure of Fluoroelastomer.	<b>04</b>
	(c) Discuss in detail about the selection of right Fluoroelastomer.	<b>07</b>
	<b>OR</b>	
	(c) Explain in detail about the compounding of Fluoroelastomer.	<b>07</b>
<b>Q.3</b>	(a) Give the importance of Fluoroelastomer.	<b>03</b>
	(b) Draw the base structure of different Polyacrylate.	<b>04</b>
	(c) Discuss in detail about the Polymer selection process of Polyacrylate elastomer.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) List out the different grades of ACM rubber.	<b>03</b>
	(b) Write the influence of ACM composition on Properties.	<b>04</b>
	(c) Explain in detail about the effects of different fillers on Polyacrylate elastomer.	<b>07</b>
<b>Q.4</b>	(a) Draw the structure of Vamac ethylene acrylic elastomers.	<b>03</b>
	(b) Write the different serviceable fluid names in which Vamac is used.	<b>04</b>
	(c) Explain in detail about the manufacturing process of Polyepichlorohydrin Elastomer.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) List out the different commercial grades of acrylic elastomers.	<b>03</b>
	(b) Write the primary benefits of AEM rubber.	<b>04</b>
	(c) Discuss in detail about the different applications of Polyepichlorohydrin Elastomer.	<b>07</b>
<b>Q.5</b>	(a) Draw the structure of Chlorosulfonated polyethylene and Alkylated Chlorosulfonated polyethylene	<b>03</b>
	(b) Write the Basic properties of Solid Polysulfide.	<b>04</b>
	(c) Explain in detail about the structure property relationship Ethylene vinyl acetate	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Give the comparison of different properties of CSM and ACSM.	<b>03</b>
	(b) Write the importance of Plasticizer and Softner in Polysulfide Elastomer.	<b>04</b>
	(c) Discuss in detail about the compounding of Ethylene vinyl acetate	<b>07</b>

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