Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER- IV EXAMINATION - SUMMER • 2014** 

•		ode: 142601 Date: 16-06-2014	
_		ame: Rubber Compounding Materials	
		30 am - 01:00 pm Total Marks: 70	
Instru	ctions:		
		Attempt all questions.  Take suitable assumptions wherever necessary.	
		igures to the right indicate full marks.	
		-gw- vo vo viiv 1-gv	
Q. 1	a.	Answer the following.	06
	i.	List the types of Softeners.	
	ii.	Write in brief about Barytes.	
	iii.	Which Points should be kept in mind while formulating a rubber compound?	
	b.	Compare the types of Process Oils used as Plasticisers in rubber compounding.	03
	c.	Short note on "Activators".	05
Q. 2	a.	Your company has to make a microcellular sheet of size 30"X30"X10mm.Find the	07
		manufacturing cost considering 25% expansion in mould release.	
Q. 2	b.	List the different grades of Carbon Black manufacturing by Furnace Process .Write	<b>07</b>
		the properties and applications of each.	
		OR	
	b.	Explain the production process of channel black in detail with sketch.	07
Q. 3	a.	List the properties required for Accelerators. Explain all in detail.	05
	b.	Define the term" Blowing Agents". State the difference between Organic and	05
		Inorganic blowing agents.	
	c.	Write about Flame Retardants and Antistatic agents.	04
		OR	
Q. 3	a.	Short note on "Retarders".	05
	b.	"Textiles are used as reinforcing agent." Justify the statement.	05
	c.	Which blowing agent is widely used for rubber compounding? Write in detail about	04
		it.	
Q. 4	a.	What do you mean by Ageing? Discuss the factors affecting Ageing.	07
ζ	b.	Short note on Organic Pigments.	07
	ν.	OR	0.
Q. 4	a.	Discuss in detail about desirable properties of Antioxidants.	07
•	b.	Write about the Red and Yellow Inorganic Pigments.	07
Q. 5	a.	Explain in detail about Reinforcement Concept.	08
	b.	Write in detail about Peptisers.	06
		OR	
Q. 5	a.	Write in detail about Silica.	04
	b.	Compare Hard Clay and Soft Clay.	03
	c.	Describe in detail about Factice used as extenders in rubber compounding.	<b>07</b>

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