Seat N	lo.:	Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
		BE - SEMESTER-IV(New) • EXAMINATION – WINTER 2016	
Subj	ect C	ode:2142601 Date:22/11/201	6
Subj	ect N	ame: Rubber Compounding Materials	
_		30 PM to 05:00 PM Total Marks: 70	
Instru			
		Attempt all questions.	
		Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
	<i>3.</i> I	igures to the right mateure run marks.	
Q.1		Answer the following.	14
	1	Define the term "Peptiser".	
	2	Which are the Accelerators used for Butyl Rubber?	
	3	Which properties are affected by Porous Carbon Black?	
	4 5	How Lithopone Pigment is obtained? List the name of Activators which are using to lowered the	
	3	decomposition temperature of Azo Dicarbon Amide.	
	6	List the name of Stiffening Agents.	
	7	In which rubber compound ZnO is used as a curing agent?	
	8	Write the chemical name of Renacit VII used as Peptisers.	
	9	Discuss the importance of Inert fillers.	
	10 11	List the types of Softeners. Write the function of Retarders.	
	12	List the name of Flame Retardants materials.	
	13	Define the term "Extender".	
	14	Define the term "Reinforcing Fillers."	
Q.2	(a)	Write about Coumarone Resins	03
	(b)	Short Note on "China Clay".	04
	(c)	"Textiles are used as reinforcing Agents." Justify the statement.	07
		OR	
	(c)	Describe in detail about Abrasives & Antistatic agents.	07
Q.3	(a)	Discuss in detail about Pine Tar & Bitumen.	03
	(b)	Write about the Hydrocarbon Waxes.	04
	(c)	Compare the Inorganic Pigments & Organic Pigments.	07
0.2	()	OR	0.2
Q.3	(a)	Write about the Esters Plasticisers.	03
	(b)	Short Note on "Yellow and Green Pigments".	04
0.4	(c)	Define the term "Factice". Discuss the different types of Factice.	07
Q.4	(a)	Write the applications & properties of Phenyl-naphthyl-amine(PAN) & Phenyl-β-naphthyl-amine(PBN).	03
	(b)	List the factors affecting Ageing.	04
	(c)	Discuss the importance of Activators in Rubber Compounding with	07
	()	examples.	
		P.T.O OR	
ΩA	(a)		03
Q.4	(a)	Write the applications & properties of Vulcanox 4010 NA & Vulkanox SP.	US

	(b)	Importance of Antioxidants in Rubber Compounding. List the desirable properties of Antioxidants.	04
	(c)	Write in detail about the types of Accelerators.	07
Q.5	(a)	Define the term 'Blowing Agents'. Which points should be kept in mind while using blowing agents in Rubber Compounding?	03
	(b)	Write about "Steel & Glass Fibre" used as a Special Purpose Additives.	04
	(c)	Write the properties & applications of FEF, GPF and SRF grade of Carbon Black.	07
		OR	
Q.5	(a)	Write about the uses of Lamp Black and Thermal Blacks in rubber compounding.	03
	(b)	Give the difference between types of Blowing Agents with examples.	04
	(c)	Explain the evaluation of Compound cost for Rubber Bush.	07
