Seat No.:	 Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY BE- VIth SEMESTER-EXAMINATION – MAY- 2012

u a company a co			ate: 19/05/2012	
•		lame: Additives & Compounding		
Time	: 10:	30 am – 01:00 pm Total Marks	s: 7 0	
Instr	ucti	ons:		
		empt all questions.		
		ke suitable assumptions wherever necessary.		
3.	Figu	res to the right indicate full marks.		
Q.1	(a)	Describe the methods of incorporation of additives in polymers materials.	07	
Q.1	(b)	Describe the mechanism of UV stabilization with suitable examples in	07	
	(6)	plastic materials.	07	
		F		
Q.2	(a)	Write down the various functional elements of single screw extruder with a	07	
		neat diagram.		
	(b)	Write short notes on	07	
		1. Anti- Blocking Agents		
		2. Colorants		
	(b)	OR Write down the compounding process of plactics by planetery miver	07	
	(b)	Write down the compounding process of plastics by planetary mixer.	U/	
Q.3	(a)	Describe in details the various functions of ribbon blender used for the	07	
~	(4)	compounding of plastics.	0,	
	(b)	Draw a schematic diagram for Banbury mixer. Explain the various steps of	07	
		compounding of plastics using this equipment.		
		OR		
Q.3	(a) What is the antioxidant? Explain the autoxidation cycle and mechanism of		07	
	(3. \)	antioxidant in plastics.	o=	
	(b)	What are the impact modifiers? Write down in detail the role of impact	07	
		modifiers on PVC.		
Q.4	(a)	What is plasticizer? Explain the various theories of plasticization and give 07		
٧٠٠	(4)	the relation of plasticizers with processing behavior of plastics.		
	(b)	Write down the uses of plastics in packaging and agriculture; Explain the	07	
		significance of their use in the said applications.		
		OR		
Q.4	(a)	Describe in detail the various additives used for recycling of plastics.	07	
	(b)	Write short notes on	07	
		 Lubricants Heat stabilizers 		
Q.5	(a)	Explain the differences between single and twin screw extruder with near	07	
Q.S	(a)	diagram.	U1	
	(b)	Write short notes on	07	
	V-)	1. Conductive additives		
		2. Filler and reinforcements		
		OR		
Q.5	(a)	Write a short note on mixing and mixing equipments used for	07	
	/= `	compounding of plastics.	.=	
	(b)	What is the coupling agent? Explain the role of coupling agent with	07	
		suitable example.		