Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER • 2015

Subject code: 162305 **Date: 12/05/2015**

Subject Name: Additives and Compounding

Time: 10.30am-01.00pm **Total Marks: 70**

Instructions:
1. Attempt all questions.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.

Q.1	**(a)**	Define Additives. List at least 10 important additives. Give its complete classification.	**07**
	(b)	Give complete classification of Coatings used as Additives in Plastics	**07**
Q.2	**(a)**	Write in short about the (a) Metal Deactivators and (b) Heat Stabilizers.	**07**
	(b)	Explain the function of Antioxidants with the help of its mechanism	**07**
		OR	
	(b)	What is compounding? Explain the working of a High Speed Mixer used for compounding with the help of a neat diagram	**07**
Q.3	**(a)**	Write short notes on (a) Additives used to modify the optical properties of Plastics. (b) Measurement methods of anti-blocking agents	**07**
	(b)	What are the important Modifiers? Explain its working on PVC material.	**07**
		OR	
Q.3	**(a)**	Write short notes on (a) Phoshite or Phosphonites and (b) Thiosynerginst (Sulphur containing anti oxidants).	**07**
	(b)	What are the Lubricants? Give its complete classification	
Q.4	**(a)**	Define Blowing agents. List its types. Describe Physical Blowing agent in detail.	**07**
	(b)	Give important criteria of selection of Pigments (Colorants)	**07**
		OR	
Q.4	**(a)**	Write a short note on (a) Curing agents and (a) Coupling agents.	**07**
	(b)	Describe in details about the External and Internal Anti Static agents.	**07**
Q.5	**(a)**	Define Fillers. Give its classification and explain one of the important fillers used for plastics.	**07**
	(b)	What is Flame Retardants? Give its mechanism, requirements of its working and examples.	**07**
Q.5	**(a)**	Explain the Banbury Mixture with a neat diagram as compounding equipment.	**07**
	(b)	Give a neat sketch of a Compounder Extruder, show the various parts and explain its working in detail.	**07**

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