Seat No.: En	rolment No
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Subject Code: 162305

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI • EXAMINATION – WINTER • 2014

Date: 03-12-2014

Tim	•	Name: Additives and Compounding 2:30 pm - 05:00 pm Total Marks: 70 ons:	
Q.1	(a) (b)	List at least 10 types of Plastics Additives with examples and their functions. Defines (a) Fillers (b) Pigments (c) Plasticizers and (d) Stabilizers	07 07
Q.2	(a)	Give at least 20 types of Fillers / Reinforcements with their characteristics/ Main applications.	07
	<b>(b)</b>	Write in short about the effect of Fillers on (a) Mechanical Properties (b) Thermal Properties (c) Moisture contents and (d) Reinforcement Mechanism on Plastics.  OR	07
	<b>(b)</b>	Discuss in details about the Calcium Carbonate as Fillers.	07
Q.3	(a) (b)	Write short notes on (a) Kaolin and (b) Microspheres In relation to Surface Modification, write short notes on (a) Particle Geometry (b) Coatings (c) Microspheres and (d)Nanotechnology  OR	07 07
Q.3	(a)	Discuss Fibre Reinforcement in detail by giving its function, properties affected, material/characteristics, advantages, disadvantages and new developments.	07
	(b)		07
Q.4	(a)	What do you understand by Colorants, Pigments and Dyes as Additives for Plastics for giving special effects. Discuss its functions, properties affected, material/characteristics, advantages, disadvantages and new developments.	07
	<b>(b)</b>	What are the Pigments used as Additives, for the special effects. Describe in short about (i) Aluminum Pigments (ii) Pearlescent (iii) Light Interference Pigments and (iv) Fluorescents.	07
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Q.4	(a) (b)	Discuss the Pigments used for the Laser Marking and Engineering Plastics List the various types of White and Black Pigments and Colors. Give advantages and the disadvantages of them	07 07
Q.5	(a)	List the various Polymer Heat Stabilizers? Discuss the Antioxidants in detail	07
	<b>(b)</b>	How do the U V Stabilizers work? Write in short about the UV Screening Pigments & Scavengers.	07
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Q.5	(a)	Explain in detail about the Flame Retardants and it's working. List the main types of Flame Retardant Additives with its mechanism and Technical comments.	07
	<b>(b)</b>	Give details of Antistatic Conductive Additives. Give its classification and explain the Metallic Additives in detail.	07

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