Seat No: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E – SEMESTER II • EXAMINATION – SUMMER - 2017

Subject Code:2722410 **Date:26/05/2017**

Subject Name: Additives & Compounding

Time: 02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Describe in detail, the role of plasticizers on PVC. Give mechanism.	**07**
	(b)	Explain (a) Halogenated fire retardants (b) Mechanism of Lubricants.	**07**
Q.2	**(a)**	Write a brief notes on the Flame retardant. How non-chlorinated flame retardant works?	**07**
	(b)	Write note on the UV and Heat stabilizer with examples?	**07**
		OR	
	(b)	Explain with Examples (i) Colorants (ii) Classification of antioxidants.	**07**
Q.3	**(a)**	Describes the all types of requirements for efficient additives. Give various methods of incorporation of additives in polymer materials.	**07**
	(b)	Write down the various functional elements of a High speed mixture with a neat diagram.	**07**
		OR	
Q.3	**(a)**	Briefly explain how antioxidant works with examples and mechanism.	**07**
	(b)	Explain the various steps involved in compounding process of PVC.	**07**
Q.4	**(a)**	What are filler additives? Give brief classification with examples.	**07**
	(b)	Write down the name of the plastics which are used very frequently for food packaging, transport and Agricultural applications.	**07**
		OR	
Q.4	**(a)**	Write down the various functional elements of a twin screw extruder with a neat diagram.	**07**
	(b)	Draw a schematic diagram of an intensive mixer, indicating the various parts. Explain their functions and applications.	**07**
Q.5	**(a)**	Write note on impact modifiers. Explain with examples.	**07**
	(b)	What are different types of plastic gears? Mention the materials for plastic gear with mechanism.	**07**
		OR	
Q.5	**(a)**	Write down the uses of plastics in medical and agriculture.	**07**
	(b)	Write a brief notes on the Compounding of Two roll mill.	**07**

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