Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGINEERING – SEMESTER –VI • EXAMINATION – WINTER 2015

Subject Code: 3362303 **Date: 16/12/2015**

Subject Name: PLASTIC MATERIALS-II

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.**
4. **Use of programmable & Communication aids are strictly prohibited.**
5. **Use of only simple calculator is permitted in Mathematics.**
6. **English version is authentic.**

Q.1		Answer any seven out of ten.	**14**
	1.	Write chemical structure and one application of polyimide.	
	2.	Write two properties and one application of polyamide-imide.	
	3.	Write two properties and one application of polyetherimide.	
	4.	Define polymer alloy.	
	5.	What is the miscibility of polymer means.	
	6.	Write two properties and one application of polyarylates.	
	7.	List polymers used in making sports equipments.	
	8.	List fire resisting polymers.	
	9.	List two polymer blends.	
	10.	List the polymers used in aerospace application.	
Q.2	(a)	State characteristic properties of high temperature polymer.	**03**
		OR	
	(a)	State characteristic properties of fire resisting polymers.	**03**
	(b)	State characteristic properties of barrier polymers.	**03**
		OR	
	(b)	State characteristic properties of electrical conductive polymers.	**03**
	(c)	Describe characteristic properties and applications of biomedical polymer	**04**
		OR	
	(c)	Describe characteristic properties and applications of thermoplastic polymer.	**04**
	(d)	Write short note on LCP	**04**
		OR	
	(d)	Write short note on polymer nanocomposites.	**04**
Q.3	(a)	Explain melt blending process.	**03**
		OR	
	(a)	Explain solution blending process.	**03**
	(b)	Write properties and applications of PP/EPDM blend.	**03**
		OR	
	(b)	Write properties and applications of PC/ABS blend.	**03**
	(c)	Write short note on selection of blend components.	**04**
		OR	
	(c)	State the importance of polymer alloys and blends.	**04**
	(d)	Explain the main reasons of blending.	**04**
		OR	
	(d)	Describe PC/PBT blends.	**04**

Q.4	(a)	Define biodegradable polymers with example and state its importance.	**03**
		OR	
	(a)	Write properties and two applications of starch.	**03**
	(b)	Write characteristic properties and application of cellulose.	**04**
		OR	
	(b)	Explain PHA& PHB polymer.	**04**
	(c)	Describe Water soluble polymers with applications.	**07**
Q.5	(a)	List plastics used in food and textile packaging with its characteristic properties.	**04**
	(b)	List plastics used in automobile and construction purpose with its characteristic properties.	**04**
	(c)	List three plastics used in medical application.	**03**
	(d)	List three plastics used in agriculture.	**03**

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