Seat No.: Enr	olment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2016 Subject Code: 2163606 Date:17/05/2016 Subject Name: Compounding and Processing of Plastics and Rubbers- II

Time: 10:30 AM to 01:00 PM

Total Marks: 70

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1. Attempt all questions.

compounding

- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

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Q.1	(a) Discuss in detailed with examples about the multiphase polymer system?(b) Explain in detailed with examples and application(i) Classification of blends (ii) Methods of blend preparation	07 07
Q.2	(a) Discuss the role of polymeric modifier for achieving improvement in the impact strength, modulus and chemical resistance of the polymer system	07
	(b) Explain different methods for the preparation of polymer nanocomposites and advantages and disadvantages of methods OR	07
	(b) Write a detailed note on microwave vulcanization with its advantages over conventional vulcanization process	07
Q.3	(a) Write a detailed note on PC/ABS blends with preparation technique and their applications	07
	(b) What is recycling of polymers mean? Explain in detail about various devulcanization technologies being used for elastomers/rubbers industry	07
Q.3	OR (a) Discuss the different techniques of vulcanization. Explain microwave curing. State the factors which affect the rate of vulcanization	07
	(b) Define: Nanocomposites, Matrix, Dispersed phase, Reinforcing agent, Toughened plastic, Power law, Flameretardant	07
Q.4	(a) Write a detailed note on PVC/CaCO ₃ nanocomposites and advantages of using nano-sized CaCO ₃	07
	(b) Write a short note on Electroplating & Metallization on plastics OR	07
Q.4	(a) Compare coupling agent vs compatibilization(b) Explain the role and function of ingredients in rubber compounding	07 07
Q.5	(a) Why blending is so important? What are deferent technique explain any one with with examples	07
	(b) Discuss how polymer rheology is important in polymer processing and	07

OR

- Q.5 (a) Define and compare: Polymer blend vs alloys, Composites vs Nanocomposites 07
 - (b) Discuss with one example how to achieve the selection of the polymersto prepare the polymer blend or polymer nanocomposites
