

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER 2013****Subject Code: 162305****Date: 30-05-2013****Subject Name: Additives and Compounding****Time: 10.30 am - 01.00 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) Defined Additives. List the most important Additives. Give complete classification of Additives. **07**
- (b) List the technical requirements of Additives. Explain the (1) Compatibility and Mobility of Additives and (2) Migration and Consumption of Additives **07**
- Q.2** (a) What do you understand by Antistatic Agents used as Additives? Explain about the 1. External Antistatic Additives, 2. Internal Antistatic Additives and 3. Factors affecting Antistatic Properties. **07**
- (b) Give important criteria of selection of Pigments (Colorants) **07**
- OR**
- (b) Explain the Anti blocking Agents and basic mechanism of its action on plastics **07**
- Q.3** (a) Describe in details about the External and Internal Anti Static agents. **07**
- (b) Discuss the Additives used for recycling of Plastics. **07**
- OR**
- Q.3** (a) Define Blowing agents. List the various types of Blowing agents. Give a complete description of Chemical Blowing agents. **07**
- (b) What is Flame Retardants? Give its mechanism, requirements of its working and examples. **07**
- Q.4** (a) Write short notes on (1) Additives used to modify the Optical properties of Plastics. (2) Measurement Methods of Anti Blocking agents. **07**
- (b) Write short notes on (1) Electrical properties of polymers. (2) Factors affecting Antistatic properties. **07**
- OR**
- Q.4** (a) Write short notes on (1) Phosphite or Phosphonites (2) Thiosynerginst (sulphur containing anti oxidant) **07**
- (b) Write short notes on (1) Brightening agents (2) Nucleating agents **07**
- Q.5** (a) What are the Lubricants? Give its complete classification **07**
- (b) Define Fillers. Give its classification and explain one of the important fillers used for plastics. **07**
- OR**
- Q.5** (a) What is Compounding, and the methods of Compounding? Explain a High Speed Mixer used for compounding. Give its sketch. **07**
- (b) Write short notes on Curing Agents & Colorants, **07**
