

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VI • EXAMINATION – SUMMER • 2015

Subject code: 162305

Date: 12/05/2015

Subject Name: Additives and Compounding

Time: 10.30am-01.00pm

Total Marks: 70

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

- Q.1** (a) Define Additives. List at least 10 important additives. Give its complete classification. **07**
(b) Give complete classification of Coatings used as Additives in Plastics **07**
- Q.2** (a) Write in short about the (a) Metal Deactivators and (b) Heat Stabilizers. **07**
(b) Explain the function of Antioxidants with the help of its mechanism **07**
- OR**
- (b) What is compounding? Explain the working of a High Speed Mixer used for compounding with the help of a neat diagram **07**
- Q.3** (a) Write short notes on (a) Additives used to modify the optical properties of Plastics. (b) Measurement methods of anti-blocking agents **07**
(b) What are the important Modifiers? Explain its working on PVC material. **07**
- OR**
- Q.3** (a) Write short notes on (a) Phoshite or Phosphonites and (b) Thiosynerginst (Sulphur containing anti oxidants). **07**
(b) What are the Lubricants? Give its complete classification
- Q.4** (a) Define Blowing agents. List its types. Describe Physical Blowing agent in detail. **07**
(b) Give important criteria of selection of Pigments (Colorants) **07**
- OR**
- Q.4** (a) Write a short note on (a) Curing agents and (a) Coupling agents. **07**
(b) Describe in details about the External and Internal Anti Static agents. **07**
- Q.5** (a) Define Fillers. Give its classification and explain one of the important fillers used for plastics. **07**
(b) What is Flame Retardants? Give its mechanism, requirements of its working and examples. **07**
- Q.5** (a) Explain the Banbury Mixture with a neat diagram as compounding equipment. **07**
(b) Give a neat sketch of a Compounder Extruder, show the various parts and explain its working in detail. **07**
