

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E Sem-I Regular Examination January / February 2011****Subject code:712404N****Subject Name: Additives & Compounding Of Plastics****Date: 04 /02 /2011****Time: 02.30 pm – 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) What are additives for plastics? **07**
(b) Explain the differences between reinforcing agent and filler. **07**

- Q.2** (a) What is coupling agent? Explain its mechanism of functions in the composites. **07**
(b) How do you make plastics toughened? **07**

OR

- (b) Write down the difference between pigment and dyes? Give name of few pigments which can act as UV stabilizer. **07**

- Q.3** (a) Explain the effect of plasticizer on the glass transition temperature of plastics. **07**
(b) What are the difference between curing agent and cross-linking agent? **07**

OR

- Q.3** (a) What is compounding? Depending on the efficiency of mixing classify the mixing equipments used for the compounding of plastics. **07**
(b) Describe any one of the intensive mixer with a neat diagram. **07**

- Q.4** (a) Give a brief account of compounding process by twin screw extruder. **07**
(b) Draw a schematic diagram for Banbury mixer. Explain the various steps of compounding of plastics using this equipment. **07**

OR

- (a) What is Farrel continuous mixer? Give a details account of operation of Farrel continuous mixer with a diagram. **07**
(b) Write a brief notes on the following **07**
1. Double Planetary Mixer
2. Two Roll Mill

- Q.5** (a) Write a brief notes on the following **07**
1. Processing aids
2. Lubricants
(b) Describe in details the various functions of kneaders used for the compounding of plastics. **07**

OR

- Q.5** (a) Write down the name of the plastics which are used very frequently for food packaging and medical applications? **07**
(b) How do you select the additives for plastics used in food packaging applications? **07**
