

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII EXAMINATION – SUMMER 2016****Subject Code: 182302****Date: 05/05/2016****Subject Name: Plastics Alloys & Blends****Time: 10:30 AM to 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) Differentiate between Polymer Alloys & Polymer Blends. Explain the reasons for making polymer blends. **07**
(b) List the steps in designing a polymer blend. **07**
- Q.2** (a) Enlist the methods of blending. Explain any one method in detail. **07**
(b) Define 1) Engineering polymer blend 2) Compatibilizer 3) Interpenetrating networks 4) Miscible polymer blend 5) Composite 6) Engineering plastics 7) Thermoplastic Elastomer. **07**
- OR**
- (b) Explain in detail thermodynamic approach for miscible blends. **07**
- Q.3** (a) How does mixing happen in a twin screw extruder? **07**
(b) Write a short note on PVC/ABS blend. **07**
- OR**
- Q.3** (a) Explain the construction and working of a Two roll mill with a neat diagram. **07**
(b) Write a short note on blends of PC/ABS and PC/PBT. **07**
- Q.4** (a) How do we select blend components ? Explain giving suitable examples. **07**
(b) With a neat sketch explain the construction and working of a banbury mixture used in polymer blending. **07**
- OR**
- Q.4** (a) Explain the compatibilisation mechanism through reactive blending technique. **07**
(b) Write a short note on NORYL blends. **07**
- Q.5** (a) Discuss in detail about Thermoplastic Elastomers. **07**
(b) How the differential scanning calorimetry (DSC) technique is useful to characterize the polymer blends? **07**
- OR**
- Q.5** (a) Explain the construction and working of hot and cold mixer used for blending. **07**
(b) Write a short note on PVC/NBR blends. **07**
