

GUJARAT TECHNOLOGICAL UNIVERSITY**DIPLOMA ENGG.- VIIth SEMESTER-EXAMINATION – JUNE/JULY- 2012****Subject code: 372303****Date: 30/06/2012****Subject Name: HIGH PERFORMANCE AND GREEN PLASTICS****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.**
- 4. English version is considered to be Authentic**

- | | | |
|-------------|--|-----------|
| Q.1 | (a) How will you design a blend? Give its step wise procedure. | 07 |
| | (b) Write properties and applications of TPE | 07 |
| Q.2 | (a) Discuss advantages and disadvantages of bio degradable polymers. | 07 |
| | (b) Which are the techniques used for preparation of Blend? Explain mechanical mixing with type of mixers, advantages and disadvantages. | 07 |
| OR | | |
| | (b) Write properties and applications of 1) PP-EPDM 2) NYLON-ABS blends. | 07 |
| Q.3 | (a) Classify various biodegradable polymers and explain properties and applications of any two. | 07 |
| | (b) Explain High Temperature Polymers and Photo Conductive polymers. | 07 |
| OR | | |
| Q.3 | (a) What is Poly Lactic Acid (PLA)? Give its properties and applications. | 07 |
| | (b) Explain polymer-polymer miscibility. Which are the methods used to check polymer-polymer miscibility? explain | 07 |
| Q.4 | (a) List various biomedical polymers and explain any two with properties and applications. | 07 |
| | (b) Write properties and applications of PEI. | 07 |
| OR | | |
| Q. 4 | (a) Define polymer blend and Alloy. Give significance of blending. | 07 |
| | (b) Which additives are used to make plastics biodegradable? explain various factors affecting biodegradable polymers. | 07 |
| Q.5 | (a) Write properties and applications of Polyarylates | 07 |
| | (b) Give a list of processing techniques for various biodegradable polymers and explain any two | 07 |
| OR | | |
| Q.5 | (a) Discuss the mechanisms of degradation for biodegradable polymer. | 07 |
| | (b) Explain fire resistant polymers & barrier polymers | 07 |
