

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – VI • EXAMINATION – SUMMER 2015

Subject Code: 3362303**Date:16-05-2015****Subject Name: Plastic Materials-II****Time: 10:30 AM TO 1:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

- Q.1** Answer any seven out of ten. **14**
1. _____ & _____ are high performance plastics.
 2. Applications of thermoplastic elastomers are _____ & _____ .
 3. _____ & _____ are examples of water soluble polymers.
 4. _____ & _____ are natural biodegradable polymers.
 5. What is biodegradation?
 6. Polylactic acid is used in applications like _____ & _____.
 7. Define Alloys and Blends.
 8. _____ & _____ are polymers used for making films for packaging applications.
 9. _____ is used in making pipes & _____ is used in making bottles for packing carbonated beverages.
 10. _____ & _____ are self extinguishing polymers.
- Q.2** (a) State the applications of polyetherimide. **03**
OR
(a) State the applications of poly(amide-imide). **03**
(b) State the properties of polyetherimide. **03**
OR
(b) List the properties of polyimides. **03**
(c) What are high temperature plastics? Give examples of high temperature plastics. **04**
OR
(c) What are thermoplastic elastomers? Give examples of TPE. **04**
(d) Explain liquid crystal polymers. **04**
OR
(d) List the classification of Biodegradable polymers. **04**
- Q.3** (a) Explain steps in designing polymer blend. **07**
OR
(a) What are the reasons for blending and how do you select blend components.? **07**
(b) List the blend preparation techniques and explain any one. **07**
OR
(b) State the properties and applications of PP/EPDM and PC/ABS blends. **07**
- Q.4** (a) List the advantages and disadvantages of biodegradable polymers. **03**
OR

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| | (a) | State the properties and applications of starch as a biodegradable polymer. | 03 |
| | (b) | Write a short note on applications of polymers in packaging. | 04 |
| | | OR | |
| | (b) | List the applications of polymers used in automotive applications. | 04 |
| | (c) | Write a short note on polymer nanocomposites | 07 |
| Q.5 | (a) | List the synthetic biodegradable polymers and state properties and applications of any one of them. | 04 |
| | (b) | Write a short note on applications of polymers in medical applications. | 04 |
| | (c) | State the applications of polymers used in building and construction. | 03 |
| | (d) | List the factors affecting biodegradability. | 03 |
