

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019****Subject Code:2162605****Date:21/05/2019****Subject Name:Thermoplastics Elastomers & Polymer Blends****Time:10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

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

- Q. 1** (a) List the advantages of Teleblock polymers. (03)
(b) Define the term: (i) Hard Phase, & (ii) Vicat Softening Point. (04)
(c) Name the crosslinking system for XLPE. Explain any one in detail. (07)

- Q. 2** (a) Write the advantages of SBS polymers modification by use of Polystyrene. (03)
(b) List the application of Thermoplastic elastomers and polymer blends. (04)
(c) Explain the Extrusion processing conditions for Polyester Thermoplastic Elastomer. (07)

OR

- (c) Explain the Injection Molding processing conditions for Polyester thermoplastic elastomers. (07)

- Q. 3** (a) What is the Grafting? List the name of Thermoplastic Elastomer which are produced by grafting reaction. (03)
(b) Describe the Blow Molding process for the Polyolefin Thermoplastic Elastomer. (04)
(c) Short note on: “Uniroyal TPR (Polyolefin thermoplastic elastomer)”. (07)

OR

- Q. 3** (a) Give the importance of Hytrel 10 MS grade for Polyester Thermoplastic Elastomer. (03)
(b) ‘The largest application area for the Polyolefin Thermoplastic Elastomer is in the Automotive Market.’ Justify the statement. (04)
(c) Short note on: “Dry blending process”. (07)

- Q. 4** (a) What are the full names of t-CD and TDI? (03)
(b) Discuss Ethylene vinyl acetate copolymers. (04)
(c) Describe in detail about the Chemistry of Thermoplastic Polyurethane (TPU). (07)

OR

- Q. 4** (a) Write the importance of Diisocyanate in TPU Elastomer. (03)
(b) Discuss about the calendaring processing conditions for Thermoplastic Polyurethane Elastomer. (04)
(c) Discuss in detail about compounding and properties of SEBS block polymers. (07)

- Q. 5** (a) List out the chemicals those resistances by Polyester Thermoplastic Elastomer. (03)
(b) Explain the Properties of 1, 2-Polybutadiene thermoplastic elastomer. (04)
(c) List the polysiloxane based TPE. Explain any one in detail. (07)

OR

- Q. 5** (a) Which are the future requirements of TPE? (03)
(b) Write the application and features of 1, 2- Polybutadiene thermoplastic Elastomers. (04)
(c) List the weather and environmental properties of Polyester TPE. Explain it in detail. (07)

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