

(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID: 199355/199365

Roll No.

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B.TECH

(SEM. III) THEORY EXAMINATION, 2015-16

POLYMER SCIENCE AND TECHNOLOGY

[Time : 3 hours]

[Maximum Marks : 100]

Note : The Question Paper contains three Sections.

Section-A

Q1. Attempt all parts of the following. All parts carry equal marks. Write answer of each part in short. (2×10=20)

- What is Functionality of monomers?
- Give the preparation of BUNA-S and its one application.
- Why do polymers possess an average molecular weight?
- What are polymer composites?
- Define filler and plasticizers.
- Distinguish between Block and Graft copolymers.
- What do you understand by Nylon-6?
- Define the term Polymer Fracture.
- Give two optical properties of polymer.

Q2. Identify the monomers in the compounds: Neoprene, Dacron, Nylon 6, 6 and Poly tetrafluoro ethylene.

Section-B uptuonline.com

Note: Attempt any five questions from this section.

(10×5=50)

- Discuss the formation and applications of silicon rubber.
- Explain the mechanism of co-ordination polymerization.
- What is natural rubber? Write its limitations. Discuss the vulcanization of rubber.
- What are high Performance polymers? Give the structure, properties and applications of Kevlar and Fluoro polymers.
- (a) Discuss the preparation, properties and application of PVA or PVC.
(b) If 10 gm of (Poly ethylene) is completely burnt in the presence of excess air, how many moles of CO₂ will be produced?
- Write down the applications of polymer in Automobile and Electronic field.
- Q12. (a) Explain viscometry technique for determining the polymer molecular weight.
(b) Discuss the application of polymers in sports and space field.
- What do you mean by Ring-opening Polymerization?