

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –II<sup>st</sup> SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1721607

Date: 12/07/2012

Subject Name: Polymer Materials & Testing

Time: 10:30 am – 13:00 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)** Discuss the Drawbacks of Raw Rubber and List the properties of Vulcanized rubber. (07)

**Q.1(B)** Discuss the properties and advantages of Reclaimed Rubber. (07)

**Q.2(A)** Define the term “Fibre”. List the important requirements of a Fibre and give the difference between Natural fibres & Artificial Fibres. (07)

**Q.2(B)** Explain in detail about different methods of Spinning a Fibre. (07)

OR

**Q.2(B)** List the different types of rayon. Discuss in detail about any one type of rayon. (07)

**Q.3(A)** Compare the structure of Polyvinylchloride with that of Polyethylene and explain how structure is related to its properties. What are the important fields of application of PVC? (07)

**Q.3(B)** What are different forms of Polypropylene? Discuss the type of catalyst employed for the manufacture of Polypropylene and the properties of the three forms of the polymer. (07)

OR

**Q.3(A)** Short note on Laminates. (07)

**Q.3(B)** What are unsaturated Polyester resins? Discuss the characteristics and uses of Polyester resins in general. (07)

**Q.4(A)** Discuss the importance of Test Results Variable. (07)

**Q.4(B)** ‘Storage & Conditioning affects performance & properties of product’. Justify in detail. (07)

OR

**Q.4** Discuss the Test Method Value according to Accuracy, Relevance, Significance & Discrimination. (14)

**Q.5(A)** Write the importance of Tensile Test for Polymer Products. Discuss in detail about the Test methods, Procedure & Calculation. (07)

**Q.5(B)** Write about the classification of most common polymers according to elements present. (07)

OR

**Q.5(A)** Explain in the test for Polyacrylonitrile and Acrylonitrile & Polystyrene and Styrene Copolymers. (07)

**Q.5(B)** Discuss in detail about the Impact Resistance Test. (07)

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