

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014

Subject code: 1721607

Date: 23-06-2014

Subject Name: Polymer Materials and Testing

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.**

- Q.1 (a)** Discuss in general about Silicone Rubber with their formula. (07)
(b) Describe in detail about two different mechanisms are used to control the molecular weight of the polymer during polymerization of Chloroprene Rubber (CR). (07)

- Q.2 (a)** Explain the description, uses for virgin plastic and uses for plastics made from recycled waste plastics for PVC,PP,PS. (07)
(b) Write the general properties of Polyethylene Terephthalate, High density polyethylene and Low density Polyethylene. (07)

OR

- (b)** Describe in detail about the classification of Plastics. (07)
Q.3 (a) Describe in detail about types of Yarn with its characteristics.. (07)
(b) Write the properties of Linen, Nylon and Rayon. (07)

OR

- Q.3 (a)** Give the classification of natural and Man-made fibres by chart. (07)
(b) Write the difference between woven and non-woven. (07)
Q.4 (a) Explain in detail about the purpose and importance of Testing for Polymer Products. (07)
(b) Write in detail about the Modes of Stressing. (07)

OR

- Q.4 (a)** Short note on Machining. (07)
(b) Discuss the importance of Test Conditions for Polymer Products. (07)
Q.5 (a) Write the importance of Tensile Strength properties for vulcanized rubber. Discuss the procedure, calculations and principle of the method. (07)
(b) State the importance of measuring Density of Polymer product. How many methods are used for measuring density of polymer product? Discuss in detail. (07)

OR

- Q.5 (a)** Define the term (i) Compression Stress (ii) Compression Strain (iii) Compression Set at Constant Strain. Write about the apparatus, Test Piece and Procedure for measuring Compression Set at Constant Strain. (07)
(b) List the different types of methods used for measuring Accelerated Aging on Vulcanised Rubber Products. Write in detail about any One. (07)
