

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-IV Examination June- 2010

Subject code: 142802

Subject Name: Fiber Physics

Date: 18 / 06 /2010

Time: 10.30 am – 01.00 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) Enlist methods of investigation of fibre structure, explain X-ray diffraction with examples. 07
(b) Explain Scanning Electron Microscope with neat diagram. 07
- Q.2** (a) What is spectroscopy? Explain NMR spectroscopy. 07
(b) Discuss Glass transition temperature. 07
- OR**
- (b) Explain Thermal properties of HM-MT fibres 07
- Q.3** (a) Write a note on Reflection and luster. 07
(b) Explain Hydrogen bonding. 07
- OR**
- Q.3** (a) Explain Bowden and Leben apparatus. 07
(b) Describe Electrolytic effects. 07
- Q.4** (a) Discuss the relationship between moisture regain and relative humidity of different fibres. 07
(b) Effect of orientation on mechanical properties. 07
- OR**
- Q.4** Explain Stress-Strain curve and write a note on Initial modulus, Work factor and Yield point. 14
- Q.5** (a) Explain Flexural rigidity. 07
(b) Discuss Lenderman's experiments on primary creep. 07
- OR**
- Q.5** (a) Describe the factors determining the results of tensile equipment. 07
(b) Explain Dielectric constant. 07
