

M.TECH DEGREE EXAMINATIONS: JANUARY 2011

First Semester

TEXTILE TECHNOLOGY

TTX501: Theory of Textile Fibres

Time: Three Hours

Maximum Marks: 100

Answer All Questions:-

PART A (10 x 2 =20 Marks)

1. Write the relationship between moisture content and regain
2. Draw the load-elongation curve and stress-strain curve
3. Write the principles of scanning tunneling and atomic microscope
4. Name any four methods of increasing the electrical conductivity of non conducting synthetic fibres
5. What structural changes takes place in second order transition
6. Prediction of actual specific heat of fibre is very difficult even at constant regain-Justify
7. Define the terms a) static frictional force b) dynamic frictional force
8. Write the principle of NMR and FT-IR spectroscopy
9. Compare the mechanical properties of glass and carbon fibres
10. List the applications of high performance fibres

PART B (5 x 16 = 80 Marks)

11. a) Briefly explain the fibre forming processes and structural principles of polymeric fibres
(OR)
b) Discuss the influence of Morphological structure on fibre properties.
12. a) Describe the principle and operation of deletion microscope
(OR)
b) Explain the working of scanning Tunneling microscope.
13. a) Explain the mechanism of deformation in Textile fibres.
(OR)
b) Discuss the stress – strain behavior of textile fibres
14. a) Explain the time of temperature dependence of Mechanical properties.
(OR)
b) How do you measure electrical resistance of fibres. Explain
15. a) Explain the factors influence the dielectrical properties of fibres.
(OR)
b) Write short notes on: Carbon fibre, slant fibres
