

Minor-I TXL 111 (Textile Fibres)

30-08-2016

Max Marks-20

9.30-10.30 am

LH-114

Attempt all questions.

1. List out major differences between natural and synthetic fibres. [2]
2. How is a smart textile different from a normal textile? [1]
3. Differentiate between multifilament and staple fibres. [1]
4. What is the role of molecular weight in determining the properties of a polymer? Elaborate with respect to any one property. [2]
5. Why do we refer to average molecular weight in reference to polymers and not to specific molecular weight? [1]
6. Why is moisture absorption an important fibre property? [1]
7. Compare chain growth and step growth polymerizations with reference to the following attributes:
Rate of increase in M. Wt., need for an initiator, byproducts [3]
8. With a neat diagram, show the arrangement of molecular chains in amorphous and crystalline regions of a textile fibre. [3]
9. What attributes of a fibre are affected by crystalline and amorphous regions? [2]
10. Elaborate the effect of orientation on various fibre properties. [2]
11. State whether true or false, with reasoning. [2]
 - a) Higher fraction of immature fibres in cotton can create problems.
 - b) Chemical resistance of a fibre depends on its crystallinity.
 - c) The tensile strength of most fibres increases with increasing humidity (RH) level.
 - d) A hard fibre is characterized by low modulus.

