

[Total No. of Questions - 9] [Total No. of Printed Questions - 2]
(2126)

16105(D) - 0 DEC 2016

B. Tech 3rd Semester Examination

Natural Fibres (CBS)

TE-302

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all selecting at least one from each Units i.e. I, II, III & IV. The Unit V is compulsory for all.

UNIT - I

1. (a) Brief about the four natural cellulosic fibres on the basis of their sources. (5)
- (b) Explain condensation and addition polymerisation with suitable examples (5)
2. Define textile fibre. What characteristics a fibre should possess to be used as a textile fibre? (10)

UNIT - II

3. Explain morphological structure of cotton with a neat sketch diagram. Also write three main properties of cotton and their uses. (10)
4. What do you understand by retting of jute fibre? Mention various types of retting process used in industry. (10)

UNIT - III

5. With reference to wool fibre comment on following:
 - (a) Directional fractional effect
 - (b) Cysteine Bond
 - (c) Crimp formation
 - (d) Scouring (10)

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6. (a) Compare silk and wool polymer systems. (5)
- (b) State different varieties of silk. (5)

UNIT - IV

7. Explain manufacturing process of viscose rayon with a neat sketch diagram. (10)
8. State the following test methods with standard results for textile fibre identification
 - (a) Burning test (5)
 - (b) Solubility of fibres in chemical reagent (5)

UNIT - V

9. Answer the following questions briefly:
 - (a) Medulla is associated with _____.
 - (b) Write two properties of a good fibre forming polymer.
 - (c) Density(gm/cm³) of cotton fibre is approximately _____.
 - (d) Which mechanical properties are influenced by drawing of synthetic filament?
 - (e) Condensation polymerization is used to produce _____.
 - (f) The cellulosic fiber obtained from leaf is _____.
 - (g) The fibre that dissolves in 59% (w/w) sulphuric acid solution is _____.
 - (h) Write 3-fibre properties that are governed by the amorphous content.
 - (i) Why wet tenacity is higher in natural cellulosic fibres?
 - (j) Write 3-fibres manufactured from natural polymers. (2×10=20)