THE TEXTILE ASSOCIATION (INDIA)
A.T.A.(REVISED) EXAMINATION –2017
PART I- PAPER- A1.3
TEXTILE FIBRES

Date: 25.12.2017 
Marks: 100
Time: 10.00 to 1.00 pm

Instructions:
1. Attempt six questions out of which Q.1 is compulsory
2. Answer each main question on new page
3. Figures to the right indicate full marks
4. Illustrate your answers with sketches and flow-charts wherever necessary
5. Use of non-programmable electronic calculator permissible
6. Mobile and any other communication devices are not allowed in exam hall
7. Assume suitable data wherever necessary.

Q1. a. State true or false, if false rewrite the correct statement
   i. Polyester is having more moisture content than polypropylene.
   ii. Burning of silk gives smell of burning paper.
   iii. Polyester is soluble in 70% (w/w) sulphuric acid
   iv. Cotton is having more strength in wet condition than in dry state.
   v. Nylon is soluble in formic acid.
   vi. Cotton is having more moisture content than wool.
   vii. Silk and wool are cellulosic fibres.
   viii. Acrylic fibre is manufactured by condensation polymerization.
   b. Fill the blanks with appropriate word
      i. Jute fibre is a -------- category (apparel, synthetic, industrial, plant)
      ii. Strength of viscose ------- on wetting (increases, does not change, decreases, changes)
      iii. ------- fibre is the only natural fibre obtained in filament form. (Jute, pineapple, banana, silk)
      iv. Nylon is manufactured using ------- (adipic acid, citric acid, caprolactam, terephthalic acid)

Q2. a. Describe in detail the chemical structure of wool.
   b. Write in detail the classification of textile fibres.

Q3. a. What are the various spinning techniques of manufacturing of manmade fibres? Explain anyone with a neat diagram
   b. Write a note on 'production of silk'

Q4. a. Give an account of burning test for identification all the fibres
   b. Give the differences between cellulosic and synthetic fibres

Q5. a. Discuss in detail the manufacture of Viscose
   b. Discuss in detail the manufacturing of acrylic fibres

Q6. a. What are the recent developments of synthetic fibres
   b. What are the general properties of textile fibres

Q7 Answer the following questions in short
   a. What are the chemical properties of cotton?
   b. What is the microscopic appearance of silk?
   c. What are uses of polyester?
   d. Write the effect of alkalis on wool.
   e. Give the application of jute and flax fibres.
   f. What are the regenerated fibres?
   g. Write the effect of light and heat on cotton.
   h. Write the physical properties of viscose.
Q8  Write notes on any four of the following.
    a  Physical properties of cotton.
    b  Different types of Nylons.
    c  Effect of acid and alkali on silk.
    d  Manufacturing of polyester
    e  Importance of blending

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