THE TEXTILE ASSOCIATION (INDIA)
ATA PART-III EXAMINATION - 2016
COMPULSORY PAPER
MAN MADE FIBRE TECHNOLOGY

Date: 24.12.2016
Marks: 100
TIME: 10.00 am to 1.00 pm

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

Q.1 a Fill up the Blanks
1. Thermoplastic fibre softens on ________
2. Monomer is converted into polymer by ________ process
3. Texturising process ________ bulkiness of filament yarn
4. Pure terephthalic acid and ________ are the raw materials for polyester fibre
5. Breaking elongation of cotton fibre is ________ than polyester fibre

Q.1 b Define following:
1. Synthetic fibre
2. Crystallinity in fibre
3. Dope dyed fibres
4. Tight spots of textured yarns

Q.2 a Describe the dry jet wet spinning process along with a neat line diagram

Q.2 b What is molecular orientation? And explain the effect of molecular orientation on the tensile properties of fibre
Q. 3 a. Explain the extrusion of polyester partially oriented yarn along with process parameters.
   b. Explain the tensile and thermal properties of polyester fibre and also state the applications for polyester fibres.

Q. 4 a. Describe the manufacturing process of high wet modulus viscose fibres.
   b. Discuss about the various types of commercially available viscose fibres.

Q. 5 a. Describe the manufacturing of polypropylene filament yarn using melt spinning process.
   b. What is modacrylic fibre?
   c. Explain the physical properties of polyacrylonitrile fibre.

Q. 6 a. What is false twist texturising process?
   b. Describe the false twist draw texturising of polyester filament yarn.
   c. What is hot crimp contraction of textured yarn? How is it measured?

Q. 7 a. Compare the structure of false twist and air jet textured yarns.
   b. Explain the stuffer box crimping process.
   c. Discuss about the faults in false twist draw textured yarns.

Q. 8 a. What are blended yarns? And state the objectives of manufacturing blended yarns.
   b. Compare blowroom blending with draw frame blending.
   c. What types of modifications are required to be made in carding and draw frame to process 100% polyester fibres?