THE TEXTILE ASSOCIATION (INDIA)
A.T.A PART-III EXAMINATION -2019
Paper: A3C-2
MAN MADE FIBRE TECHNOLOGY
MARKS: 100

Date:22.12.2019 Time: 10.00am to 1.00pm

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. Answer the followings in two or three sentences and each questions carry equal marks (20)

1. i. What is thermoplastic fiber?
   ii. Define molecular orientation in fiber
   iii. What is partially oriented yarn?
   iv. Why filament yarns are intermingled?
   v. What is micro denier yarn?
   vi. What is the role of Titanium dioxide in fiber production?
   vii. What are the advantages of textured yarns?
   viii. Why polyester fiber is blended with wool fiber?
   ix. Why viscose fiber is not produced by melt spinning?
   x. What is meant by bulk in textured yarn?

   What is polymerization? And explain the different techniques of polymerization (8)

Q. 2 a What is melt spinning process? and state the advantages and disadvantages of melt spinning process (8)

Q. 3 a What are the raw materials for polyethylene terephthalate fibre production? And describe the polyester staple fibre production process. (8)

b Explain the microscopical appearance and physical characteristics of polyester fiber (8)

a Explain the differences between nylon6 and nylon 66 fibers (6)
Q. 
4  b Describe the manufacturing process for nylon 6 filament yarns 
   (6) 
   c Explain the various applications for nylon 6 and nylon 66 fibers 
   (4) 
   a What is modacrylic fiber? And state its end uses 
   (4) 
Q.5 b Describe the dry jet wet spinning process to manufacture acrylic staple fiber 
   (6) 
   c Explain the characteristics of acrylic fibres 
   (6) 
   a Why viscose fiber is known as regenerated fiber? justify 
   (4) 
Q.6 b What is LYOCELL fiber? And explain the production process of it 
   (6) 
   c Explain the characteristics of viscose fiber in detail 
   (6) 
   a What is draw texturizing? And describe the double heater draw texturizing process 
   (6) 
Q.7 b Why it is possible to texturize even thermoset yarns such as viscose in air jet texturizing process? explain 
   (4) 
   c What is hot crimp contraction of textured yarn? And explain the measurement procedure of it. 
   (6) 
   a What are the objectives of blending dissimilar fibers? 
   (6) 
Q.8 b Explain the various methods of blending fibers 
   (10) 

$\ldots$