THE TEXTILE ASSOCIATION (INDIA)
A.T.A PART-III NEW 3 YEARS EXAMINATION -2014
COMPULSARY PAPER
MAN MADE FIBRE TECHNOLOGY

Date: 25.12.2014 Marks: 100 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. 1

A. Fill up the Blanks:
1. Nylon 6 fibre is produced by __________ spinning technique
2. Polymerization process converts ______________ into polymer
3. In spinning process, ________ is converted into fibre
4. Drawing of filament yarn improves molecular __________
5. Spin finish reduces __________

B. Define followings:
1. Synthetic fibre
2. Texturising
3. Thermoset fibre
4. Micro denier fibre
5. Crimp contraction of textured yarns

Q. 2

A. Compare the wet spinning process with that of melt spinning process.

B. Define molecular orientation and how the improvement in molecular orientation increases the strength and decreases the elongation of the fibre

Q. 3

a. Describe the manufacturing process of viscose fibre along with line diagram.

b. Enlist all the physical characteristics of viscose fibre

Q. 4

a. Describe the manufacturing process of acrylic staple fibre.
b Explain the physical and chemical characteristics of acrylic fibre

Q.5
a Describe the melt spinning process for polypropylene filament yarn along with line diagram
b What are dope dyed fibres?
c Explain about the tensile and thermal characteristics of polypropylene fibres

Q.6
a What is false twist texturising?
b What is the role of primary heater used in false twist draw texturising process?
c Describe the false twist draw texturising process

Q.7
a What is crimp contraction? And how is it estimated for draw textured yarn?
b What is tight spot in case of textured yarns?
c What is the effect of D/Y on the characteristics of draw textured yarn characteristics
d What is fully drawn yarn?

Q.8
a What are blended yarns?
b What is draw frame blending technique? And state its advantages
c What types of modifications are required to be made in blow room to process 100% polyester fibres?