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B.Tech.(Textile) (2011 Onwards) (Sem.-3)
INTRODUCTION TO TEXTILE ENGINEERING
Subject Code : BTTE-302
Paper ID : [A2741]

Max. Marks : 60

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

1. Answer briefly :

- a) Calculate the equivalent denier of 3.9 micronaire cotton.
- b) Give a brief classification of weaving machines.
- c) What are the objects of carding machine? How the performance of a drawframe be assessed?
- d) Give the object of sizing. Is there any necessity of sizing synthetic yarn?
- e) Define a fibre and give its characteristic requirements.
- f) How crystallinity and orientation can affect the properties of fibre?
- g) Differentiate between woven and nonwoven fabrics.
- h) What are the objects of singeing? Why singeing of yarn from manmade fibre yarn is not recommended before dyeing?
- i) Define short staple and long staple spinning systems,
- j) State a process for printing in textiles.

SECTION-B

2. Give a classification of different motions of a plain loom giving the object of each motion.
3. Give a flow chart for preparing a 60^s N_e polyester cotton blended yarn. Also justify the sequence you suggested. How the spinning line will change if you want to produce 100% cotton yarn of same count?
4. Provide a flow chart for weaving preparatory stages that is to be followed for 100% cotton warp preparation.
5. Give a classification of manmade fibres giving example of each. Also give their possible application area.
6. How does the discharge style of printing differ from the resist style of printing?

SECTION-C

7. a) Give a spinning line for producing 30s Ne rotor spun yarn giving appropriate justification. (5)
b) Show the carding action and stripping actions with the help of neat sketches. Also show the tooth disposition at the cylinder doffer junction. (5)
8. State also the basic ingredients for bleaching of cotton grey fabric and discuss their role in the process. State the objects of scouring. Classify the desizing process and describe the best method of desizing for cotton fabric. (10)
9. a) Write a brief note on different modes of polymerization. (3)
b) Explain the object of warp winding machine. Also give passage of yarn through warp winding machine with suitable sketch. (4)
c) Give a comparison of conventional and shuttleless weaving machines. (3)