

C 3405

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Sixth Semester

Textile Technology

TT 1001 --- TEXTURED YARN TECHNOLOGY

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A -- (10 × 2 = 20 marks)

1. State the objectives of Texturization.
2. List out the types of Textured yarns.
3. Mention the need for "Heat Setting" in texturizing process.
4. What is meant by "Helauga process"?
5. Enumerate the various types of "Twisting Elements" in False Twist Texturing technique.
6. List out the merits and demerits of "Draw Texturizing Technique".
7. Enumerate the different types of yarns produced in "Air Jet Texturizing Technique".
8. Enlist the various process parameters in "Air Jet Texturizing Technique".
9. State basic principle of "Edge Crimping Technique".
10. What is "Chemo-Mechanical Texturing"?

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail the developments in high speed spinning of filament manufacturing and also discuss the characteristics of POY. Explain the basic concepts in the manufacturing of stretch, modified stretch and bulk yarns.

Or

- (b) Compare the characteristics of spun, filament and textured yarns and also discuss the need for bulking of synthetic filaments.
12. (a) Explain in detail the influence of "Heat and Time" on the annealing effects associated with crystallization by Differential Scanning Calorimetry (DSC) and Differential Thermal Analysis (DTA).

Or

- (b) Explain the effect of heat setting on fibre morphology and mechanical properties. Also discuss about "mechanisms of setting".
13. (a) Distinguish between "Simultaneous and sequential draw texturing" and their textured yarn applications. Also with neat sketch explain the working principle of any one of them.

Or

- (b) With neat sketches explain the various twisting devices used for false twist texturing process. Also discuss the suitability of POY and UDY for the false twist texturing process.
14. (a) Explain the basic principle of air jet texturing. Also discuss the various types of air jet textured yarns.

Or

- (b) Give an account on "Intermingling False". Also discuss in detail how the quality evaluation of air jet textured yarns can be done.
15. (a) With neat sketch explain the working principle, limitations and applications of "Knit-De-knit texturing". Also Explain in detail how texturing of polypropylene can be done.

Or

- (b) With neat sketch explain the working principle, limitations and applications of "Stuffer box texturing". Also explain in detail how texturing of jute fibre can be done.

Time :

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