Register Number:……..

B.TECH., DEGREE EXAMINATIONS NOV/DEC 2012

Sixth Semester

TEXTILE TECHNOLOGY

TTX202: Texturizing Technology

Time: Three Hours **Maximum Marks:100**

Answer ALL Questions:-

PART A (10x1=10 Marks)

1. What is the speed (m/min) used in the high speed spinning?
   a) 100 b) 1000 c) 10000 d) 100000
2. What is the degree of cystallinity of POY?
   a) < 5% b) 10 – 30% c) 30 – 50% d) >50%
3. What happens to crystallite size after heat setting?
   a) decreases b) increases c) remains same d) none of these
4. Heat setting temperature recommended for polyethylene terephthalate is --- ^{o} C
   a) 80 – 100 b) 120 – 140 c) 140 – 180 d) 180 – 220
5. Theoretically, the net twist in the false twist operation is ----
   a) positive b) negative c) zero d) all these
6. Select the appropriate test for testing of texturized yarn.
   a) tenacity b) density c) bulk d) melting point
7. Which one of the following effects is produced in air jet texturizing?
   a) crimp b) twist c) loop d) detwist
8. Commercially produced textured yarn using stuffer box is known as ----
   a) Ban Lan b) Crimp Lan c) Stuff Lan d) Bulk Lan
9. Cross-sectional shape of filament in edge crimping changes to ---
   a) triangle b) circle c) semicircle d) elliptical
10. Heat setting temperature used in the texturizing of PP is --- ^{o} C
    a) 220 b) 90 c) 110 d) 160

PART B (10 x 2 = 20 Marks)

11. Classify textured yarn based on its application.
12. Enumerate the disadvantages of flat yarns.
13. Classify heat setting based on degree of set.
14. What is the effect of heat setting on long range order of a fibre?
15. Suggest any one method to reduce filament breakage during draw texturing.
16. What is Barre' effect?
17. If two PP ends with a linear density of 330 decitex with 15% overfeed are treated together with two PP ends with a linear density of 330 decitex with 80% overfeed in air jet texturing, then calculate the resultant linear density of the yarn.
18. When do we recommend radial jets in air jet texturizing?
19. Compare the crimp appearance of the yarn obtained from stuffer box and gear crimping methods.
20. Compare the crimp appearance of the textured yarn using knit-de-knit and edge crimping.

PART C (5x 14 = 70 Marks)

21. a) List the needs for texturizing. (6)
Explain the characteristics of POY. (8)

(OR)

b) Explain the high speed spinning process and structural changes that take place in the yarn during high speed spinning process.

22. a) Explain the morphological changes that take place in the yarn during i) slack, taut heat setting process and ii) compare their properties. (7+7)

(OR)

b) Explain different degrees of setting and compare the yarn properties obtained at different degrees of set.

23. a) Illustrate and compare different methods used to friction twist the yarn in FT texturizing.

(OR)

b) Explain the process of draw texturizing using a suitable diagram.

24. a) Explain different characteristics of jet and their influence on yarn properties of air jet textured yarn.

(OR)

b) Explain different process variables that influence the properties of air textured yarn.

25. a) Compare the texturizing of bi-component with normal texturizing process. List of the applications of bi-component filament yarns. (10+4)

(OR)

b) Write neat sketch explain the functioning of gear crimping process and stuffer box crimping process. (7+7)

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