

**B.TECH DEGREE EXAMINATIONS: NOV/DEC 2014**

(Regulation 2009)

Sixth Semester

**TEXTILE TECHNOLOGY**

TTX202: Texturizing Technology

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. Texturizing process introduces
  - a) Stretch
  - b) Bulk
  - c) Crimp
  - d) All the above
2. The Partially oriented PET yarn is produced at spinning speeds of
  - a) > 1000MPM
  - b) 1500 – 3500 MPM
  - c) 5000 – 6000 MPM
  - d) < 6000 MPM
3. Thermo-dynamic free energy can be calculated as
  - a)  $F=U+TS$
  - b)  $F=U-TS$
  - c)  $F=US+T$
  - d)  $F=US-T$
4. Helanca process is based on which of the following principle
  - a) Thermo- mechanical
  - b) Chemo - mechanical
  - c) Chemical
  - d) None of the above
5. False-twisting means
  - a) Twisting in the false direction
  - b) Not twisting
  - c) Introducing equal and opposite twist
  - d) Twisting with friction discs
6. In textured yarn shrinkage test, the skein length is
  - a) 5m
  - b) 1m
  - c) 3m
  - d) 8m
7. One of the most significant modified air-jet texturizing method is called as
  - a) Single
  - b) Hybrid
  - c) Hetero
  - d) Slub

8. The type of yarn produced by air-jet texturizing is
- |             |         |
|-------------|---------|
| a) Crinkled | b) Loop |
| c) Wavy     | d) None |
9. Method used to texturize glass fibre is
- |                  |                  |
|------------------|------------------|
| a) Stuffer box   | b) Air-jet       |
| c) Edge crimping | d) Gear crimping |
10. A spin finish formulation contains
- |               |                |
|---------------|----------------|
| a) Delustrant | b) Whitener    |
| c) Lubricant  | d) Antioxidant |

**PART B (10 x 2 = 20 Marks)**

11. Define the term ‘texturization’
12. Mention the need for bulking of synthetic filaments.
13. Enlist various factors influencing the Heat setting process.
14. Define modified stretch yarn.
15. Enumerate the various twisting devices used in false twist texturizing.
16. What are 4 T’s in false twist texturizing?
17. What is Helanca process?
18. List out the nozzles used in air- jet texturizing.
19. How to find out the loop size in air - jet textured yarn?
20. Write short notes about Chemo-mechanical process

**PART C (5 x 14 = 70 Marks)**

21. a) Classify texturizing based on principles, techniques and applications.
- (OR)**
- b) Discuss in detail about various developments in High speed spinning.
22. a) Write a detailed account on:  
Thermo- mechanical Texturization & Chemo-mechanical Texturization.
- (OR)**
- b) With a neat sketch explain the working principle and application of “Helanca process” and also state the merits and demerits of the same.
23. a) Explain about the working of false twist texturizing machine with a neat sketch.
- (OR)**

b) Explain the various testing methods used to evaluate the false twist textured yarn.

24. a) Discuss about the working principle and application of air-jet texturizing machines.

**(OR)**

b) Discuss in detail the various factors affecting the bulk or loop characteristics of air-jet textured yarn.

25. a) Discuss in detail with neat sketches the working principle and applications of Knit-de-knit texturising and Edge crimping methods.

**(OR)**

b) Write detailed notes on:

(i) Stuffer box texturizing. (7)

(ii) Gear crimping. (7)

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