



B.TECH DEGREE EXAMINATIONS: MAY 2018

(Regulation 2015)

Sixth Semester

TEXTILE TECHNOLOGY

U15TXT601 : Textile Quality Evaluation

COURSE OUTCOMES

CO1: Explain the measurement of fibre properties

CO2: Explain the measurement of yarn properties

CO3: Generalize the advanced testing instruments

CO4: Summarize the working Principle of fabric testing instruments

CO5: Interpret and analyze the tested values

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Matching type item with multiple choice code

CO5 [K2]

List I		List II	
A. Sample		i. Bulk material	
B. Population		ii. Small fraction	
C. Laboratory sample		iii. Random sampling	
D. Test specimen		iv. Individual measurement	

- | | A | B | C | D |
|----|-----|----|-----|----|
| a) | ii | i | iii | iv |
| b) | iii | iv | ii | i |
| c) | ii | iv | iii | i |
| d) | iii | i | ii | iv |

2. The term _____ as used by metrologists means give the same value of the quantity measured. CO5 [K₁]

- | | |
|--------------|----------------|
| a) accuracy | b) calibration |
| c) precision | d) sensitivity |

3. The maturity of cotton is defined in terms of the development of cell wall. Mature fibre has: CO1 [K₂]

- | | |
|---------------------------|--------------------------|
| 1. Thick cell-wall | 2. Thin cell-wall |
| 3. Dye absorption is high | 4. Dye absorption is low |

PART B (10 x 2 = 20 Marks)

(Answer not more than 40 words)

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|---|-----|-------------------|
| 11. Outline the factors affecting the quality of textile materials. | CO5 | [K ₂] |
| 12. Relate the relationship between quality control and quality assurance. | CO5 | [K ₂] |
| 13. What is mean by Presley index? Mention the minimum strength of textile fibre. | CO1 | [K ₂] |
| 14. How time, temperature and the previous history of the sample affect the moisture region of textile materials? | CO1 | [K ₂] |
| 15. Write the connection between the yarn diameter and yarn count, assuming that the yarn is a cylinder. | CO2 | [K ₂] |
| 16. Are the twist is a considerable criteria of yarn strength? Relate twist and the yarn strength. | CO2 | [K ₃] |
| 17. Categorize the modern testing equipment's available for spinning mill. | CO3 | [K ₃] |
| 18. Name the type of tests can be measured by using Uster HVI 900 system. | CO3 | [K ₂] |
| 19. In woven fabric, the crimp of warp yarn is higher than weft yarn in most of the weaves. Why? | CO4 | [K ₂] |
| 20. Suggest a suitable instrument to test the strength of parachute fabric and give the reason for selection. | CO4 | [K ₃] |

Answer any FIVE Questions:-

PART C (5 x 14 = 70 Marks)

(Answer not more than 300 words)

Q.No. 21 is Compulsory

- | | | |
|---|-----|-------------------|
| 21. List the types of quality principles followed in textile industries. How the sampling technique helps to monitor and control the quality of textile materials? Explain the statistical tools which are facilitate the selection of sample size to maintain the quality. | CO5 | [K ₄] |
| 22. Effective length of cotton fibre is one among the deciding features of resultant yarn properties. Justify the statement and elaborate the method and instrument available to measure the effective length of textile fibres. | CO1 | [K ₂] |
| 23. Summarize the factors which affect the tensile properties of spun yarn. Name the testing instruments available for measuring yarn strength and recommend a suitable testing method to measure the lea strength of yarn and explain the same. | CO2 | [K ₄] |

24. Fibre, twist and hairiness are the related terminology influencing the performance of yarn. Write the influences of each factor on yarn appearance and performance. Illustrate the method of measuring the spun yarn twist using direct counting method. CO2 [K₅]
25. The unevenness is always expressed as between successive lengths and over a total length. What are the various components to be considered for calculating the unevenness using Uster evenness tester and explain the methods of measuring an overall value of yarn unevenness? CO3 [K₄]
26. Dimensional stability of woven and knitted fabrics is an important factor in garment manufacturing. Among the stability of cotton woven and knitted fabric, which fabric create more impact in the garmenting process and discuss the methods available to study the dimensional characteristic of knitted fabrics. CO4 [K₆]
27. Outdoor clothing, overalls and uniforms are types of clothing where tearing strength is very importance. Justify the statement and suggest any one suitable instrument to identify the tearing strength of woven fabric with suitable explanation and examples. CO4 [K₅]
