KUMARAGURU
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B.TECH DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Sixth Semester

TEXTILE TECHNOLOGY

U18TXT6003: Process Control in Spinning and Weaving

COURSE OUTCOMES

CO1: Outline the various fibre quality characteristics

CO2: Evaluate yarn realization, waste%, Invisible loss and various wastes.

CO3: Interpret the causes of various levels of cleaning efficiency and Solve the productivity calculations

CO4: Illustrate the various technical parameters related to yarn quality

CO5: Explain process control in the weaving process.

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

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1. What is index of blend irregularity?	CO1	[K1]
2. Infer briefly from fibre rupture analysis.	CO1	[K3]
3. Enumerate the factors controlling the waste in blow room.	CO2	[K2]
4. Interpret the reasons for high invisible loss in a spinning mill.	CO2	[K4]
5. Relate HOK and OHS of a spinning mill.	CO3	[K4]
6. Interpret the importance of cleaning efficiency?	CO3	[K3]
7. Compare the Zweigle S3 value and Hariness Index.	CO4	[K2]
8. What is the effect of spacer on yarn quality?	CO4	[K3]
9. Recall the factors influencing the end breaks in warping.	CO5	[K1]
10. Justify the quality of yarn through splicing than knotting.	CO5	[K3]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11. a) Demonstrate the nep removal process in carding and combing.   8   CO1   [K₃]

    b) Discuss on auto levelling and its importance on yarn quality.   8   CO1   [K₃]

12. a) Evaluate the yarn realization of 40s mixing of both carded and combed yarns in a spinning mill with 15,000 ring spindles, operating for 340 days in a year with the trash in mixing= 4.5 %, Flat waste= 3.5 %, Licker in & Other card wastes=4.5%, Noil waste= 16%, Hard wastes in Ring Spinning & winding are 0.3% and 0.4% respectively. The soft waste is reused in the factory.   8   CO2   [K₄]

    b) Analyze the reasons for high hard waste in a spinning mill.   8   CO2   [K₃]

13. a) Discuss the various valid factors are influencing cleaning efficiency of blow room and carding.   10   CO3   [K₄]

    b) Explain the importance of RH% in the process control of a factory.   6   CO3   [K₂]

14. Illustrate on the classification and causes of yarn faults and deliberate on the various methods to reduce yarn faults.   16   CO4   [K₄]

15. Elaborate on the process control of size pick-up in sizing and list the quality requirements of sized beam.   16   CO5   [K₂]

16. a) Analyze the factors influencing the efficiency of looms shed.   8   CO5   [K₃]

    b) Interpret the quality requirements of yarn package in winding   8   CO5   [K₃]

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