KUMARAGURU
college of technology
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B. TECH DEGREE EXAMINATIONS: DEC 2024

(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. Evaluate the nep generation per cent in blow room and nep removal efficiency at card. The neps/ gram present in the mixing, chute batt and carded sliver are 192, 312 and 112 respectively.   CO1   [K3]

2. Solve the following to find fibre quality index of cotton mixing.   CO1   [K3]
   50% Span length: 12 mm, Fineness: 3.4 µg/ inch, Bundle fibre strength= 20 g/tex, Maturity Coefficient: 0.80

3. Enumerate the factors controlling the soft waste.   CO2   [K4]

4. Brief on control measures of invisible loss in a spinning mill?   CO2   [K2]

5. Outline on cleaning efficiency?   CO3   [K4]

6. Relate the RH% and cotton ring spinning performance.   CO3   [K1]

7. What are drafting waves?   CO4   [K2]

8. Justify the importance of snap study.   CO4   [K3]

9. What is the splicing strength of a yarn?   CO5   [K3]

10. Outline on loom-efficiency?   CO5   [K1]

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

11.   Analyze the causes of nep generation, nep removal pattern and process in carding   16   CO1   [K3]

and combing.

12. Demonstrate the reasons and control measures of hard waste in ring frame and cone winding. 16 CO2 [K$_4$]

13. a) Estimate the yarn realization of a spinning mill with 25,000 ring spindles and running for 350 days a year with the following parameters and the trash in mixing= 3.5 %, Flat waste= 3 %, Licker in & Other card wastes=4%, Noil waste= 12%, Hard waste in Ring Spinning & winding are 0.3% and 0.4% respectively. 10 CO3 [K$_4$]

   b) Justify the causes for low yarn realization in a spinning mill. 6 CO3 [K$_2$]

14. Illustrate on the end breaks, its causes, effects and control measures in spinning and winding. 16 CO4 [K$_4$]

15. Illustrate on the process control measures in sizing department with respect to size pick-up, stretch and moisture. 16 CO5 [K$_3$]

16. Discuss on various classimat faults with suitable diagram 16 CO4 [K$_4$]

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