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B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Fifth Semester

Textile Technology

TT 1302 — PROCESS AND QUALITY CONTROL IN SPINNING

(Regulation 2004)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   State the effect of sample size on the degree of control.

2.   What are process variables in card?

3.   What is linear programming?

4.   State the causes of nep generation during blow room and carding process.

5.   Which region of the carding machine, you will control good fiber loss and how?

6.   What is fractionating efficiency?

7.   What are the reasons for within bobbin yarn count variation?

8.   How does improper belt shifting on the cone drum (simplex) affect yarn count?

9.   What are the factors affecting the machine productivity in ring frame?

10. How do you take snap study and spindle wise study in ring frame?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain various control charts used in the spinning process with suitable examples.

    (ii) What is correlation co-efficient?

    (12 + 4)

    Or

    (b) Explain the scope of process control in a spinning mill with a flow chart.

12. (a) (i) What is fibre quality index and cost quality index?

    (ii) Explain the application of linear programming to optimise the mixing cost.

    (4 + 12)

    Or

    (b) (i) Explain blending irregularity.

    (ii) How will you assess the blend homogeneity?

    (iii) What is Limit irregularity?

    (4 + 8 + 4)

13. (a) How will you minimise the cost of yarn production in a spinning mill? What are the methods of establishing process and product norms? (8 + 8)

    Or

    (b) (i) How will you assess the performance of a blow room?

    (ii) What is invissible loss?

    (14 + 2)

14. (a) (i) Discuss the factors which affect regularity of the yarn.

    (ii) Explain the reasons of periodic variation in yarns.

    (8 + 8)

    Or

    (b) What are the different expressions of yarn unevenness? What are the measures to be taken for minimising yarn unevenness?

15. (a) Explain the "Productivity Index". How will you measure and control productivity in a ring frame?

    Or

    (b) Discuss on the influence of machinery maintenance and humidity of the department on productivity of draw frame, speed frame and ring frame.

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