C 3419

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

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. Distinguish between mean deviation and standard deviation.

2. What are the key variables to be considered for controlling comber noil %?

3. What are the causes of nep generation?

4. How will you assess fiber blend variation?

5. Define cleaning efficiency.

6. What are the different wastes extracted from carding process?

7. How will you classify yarn faults?

8. What is slub and where will you remove it?

9. Define productivity indices.

10. What is Snap study efficiency in the Ring frame section?

PART B — (5 × 16 = 80 marks)

11. (a) Explain the concept of developing standards for yarn count variation. Describe the statistical techniques used in this context.

Or

(b) Distinguish between subjective and objective method of evaluation. Discuss the statistics involved in the above evaluation methods. What do you understand by the term "correlation co-efficient"?

12. (a) Explain an approach to linear programming for cotton mixing and quality. How will you do extensive experimentation before implementing linear programming?

Or

(b) How will you assess the blending homogeneity in polyester-cotton blends at different stages of processing? What is optimum blending?

13. (a) What are the records to be maintained for estimating yarn realisation? What do you mean by "Adjustment to stock in process"? What is invisible loss?

Or

(b) Give an account of Trash content and cleaning efficiency in blow room. Distinguish between learning efficiency and total waste %. How will you control good fiber loss in the blow room droppings?

14. (a) What are the factors affecting yarn strength? What do you mean by "corrected strength"? Explain the steps to be taken for controlling yarn strength variation.

Or

(b) What do you mean by "objectionable yarn faults"? Explain the USTER method of classifying yarn faults. State the causes and methods of reducing yarn faults during spinning process.

15. (a) What are the causes for end breaks in ring spinning? Explain the various measures to be taken to control end breaks. How will you minise Pneumafil waste in this context?

Or

(b) List out the necessary test instruments for machinery audit and implementation of process control in cotton spinning. Explain the relation between machine condition and yarn quality.