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RN-7505

B. E. - IV (Sem. VII) (Textile Technology) Examination

May / June – 2010

Process Control in Spinning

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. E. - 4 (Sem. 7) (T. T.)

Name of the Subject :

☛ Process Control in Spinning

☛ Subject Code No. : 7 5 0 5 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

(2) Answers to the **two** sections must be written in **seaprate** answer books.

(3) Figures to the right indicate full marks.

(4) Tie **two** sections **separately**.

SECTION - I

1 (a) Do as directed :

(i) Autoleveller monitors the sliver in off-line process. (state true or false) **1**

(ii) What is machinery audit? **1**

(iii) Combing straightens majority of the _____ hooks. **1**

(iv) Hard waste is a type of product waste. (State true or false) **1**

(v) If the cleaning efficiency of the Blow Room is less than the norm and collected waste is equal to the norm, what corrective action is required? **1**

(b) Explain allowance for hank meter reading in the calculation of yarn realization. **7**

(c) Explain control of mixing quality through fibre characteristics in detail. **8**

2 (a) Explain modern process control for ring frame in terms of ring data system and speed control package. 8

(b) How assessment of Blow Room is done for collected waste and cleaning efficiency? 7

OR

2 (a) Discuss various "Technological considerations" involved in control of comber waste. 8

(b) Explain considerations involved in deciding 'key variables' in process control in spinning. 7

3 Write short notes on : (any **three**) 15

(i) Machinery audit

(ii) Control of waste at card

(iii) Calculation for lint : trash ratio in waste of Blow Room.

(iv) Fractionating efficiency of comber.

SECTION - II

4 (a) Answer the following :

(i) Explain the terms API and AMPI for mill. 2

(ii) If the RKm value of yarn is 50 and strength is 300 gms, what will be the count of yarn? 2

(iii) Write the expression to calculate Labour employment ratio of mill. 1

(iv) The C.V% of between lap should not exceed _____% 1

(v) What is a cracker? 1

(vi) Drafting system at Draw Frame is responsible for high within bobbin count variation. True or False. 1

(vii) If the thick place are in excess to thin place in yarn, what can be the possible cause? 1

(viii) _____ instrument is used to measure load at the nip of drafting system. 1

(b) If PI of mill of 76, and LER is 120, calculate MPI of Ring Frame from following data : **10**

Department	**MPI**
Speed Frame	84.0
Draw Frame	70.5
Carding	94.5
Blow Room	100.2

Assume other suitable data as required.

5 (a) Discuss the various factors that affect the Yarn Strength briefly. **10**

(b) Discuss the modifications suggested at Ring frame to reduce end brokerage rate. **5**

OR

5 (a) Discuss Random, Periodic and Quasi periodic irregularities affecting the Yarn evenness briefly. **10**

(b) Discuss briefly how stretch can be controlled at Speed frame. **5**

6 Write short notes : (any **three**) **15**

(i) Slough off

(ii) Judging Yarn Appearance

(iii) Factors affecting Between Bobbin Count Variation

(iv) Factors affecting neps.