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RN-6901

B. E. - III (Sem. V) (Textile Technology) Examination

May / June – 2010

Yarn Manufacturing - III

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. - 3 (Sem. 5) (Textile Technology)

Name of the Subject :

☛ Yarn Manufacturing - 3

☛ Subject Code No. : 6 9 0 1 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

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

(3) Tie two sections separately.

(4) Figures to the right indicate full marks.

SECTION – I

1.(a). Inspite of tremendous space saving advantage, Verticle spinning system did not become popular. Give reasons **[3]**

(b). Define the terms with reference to traveler : **[8]**

- Traveller count
- Centre of gravity
- Centre of symmetry
- Back tracking

(c). **Fill in the Blanks :** **[5]**

i. The inclination of the drafting arrangement in modern ring spinning machines now lies between α = _____ to _____.

ii. In tape drive to the spindles, speed variations of _____ % do occur and are accepted.

iii. In ring frame, the back zone drafts are in the range of _____ to _____ .

(d). Give percentage consumption of power supplied to ring frame by different parts. **[4]**

2.(a). Discuss the advantages obtained by the combination of the antiwedge ring and the elliptical travelers. [5]

(b) Discuss the features of Rieter Orbit Ring spinning System. [10]

OR

2.(a). Discuss the effect of Air drag on yarn tension [5]

(b). Enlist the package parameters. Briefly describe how these can be optimized. [10]

3. Write Short Notes [**ANY THREE**] [15]

(i) Offset drafting
(ii) Tangential belt drive
(iii) Reverse warp wind
(iv) Fiber guiding devices

SECTION – II

4.(a). **Define the terms :** [6]

i Ply Yarn
ii Cable yarn
iii Double yarn

(b). Answer the following [4]

i. What is the speed of modern rotors?
ii. Write the equation to calculate production of rotor spinning machine.
iii. As the opening roller speed increases , production increases. True or False
iv. As the micro dust & trash increases the life of rotor _____ .

(c). Discuss the manufacturing of two colour spot yarns. [6]

(d) Discuss the changes required in machine parameters for processing of man made fibers on rotor spinning briefly. [4]

5.(a) With a neat sketch , discuss the principle of yarn formation in rotor spinning. [10]

(b). Compare properties of rotor yarns as against properties of Ring frame yarns. [5]

OR

5.(a) Discuss the integration of Hooked fibres in detail with suitable diagram. [10]

(b). With a neat sketch describe the structure of rotor yarn. [5]

6. **Write Short Notes [ANY THREE]** [15]

i Limitations of Ring frame
ii Integration of Class II fibres.
iii Economic advantages of Rotor Spinning
iv Blow room line required for rotor spinning