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BT-5/D-18 35083

YARN MANUFACTURE-III

TT-303

Time : Three Hours] [Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section.

Section A

1. (a) Which type of hooks are removed during drafting ? Explain with a mathematical expression.

   (b) Which type of irregularities are created by roller slip and roller eccentricity ? How can these be identified ?

   (c) Write a short note on fibre fractionating efficiency of a comber. **10+5+5**

2. (a) Describe the theory of drafting wave formation.

   (b) Explain the concept of 'drafting force'.

   (c) Deduce a mathematical expression to find the carding cylinder load. **5+5+10**

Section B

3. (a) Draw a suitable diagram to show that forces acting on yarn and traveller during ring spinning and give comprehensive analysis in the absence of air drag.

   (b) Briefly describe the factors affecting spinning tension in ring spinning. **14+6**

4. (a) Discuss various factors affecting end breaks during yarn formation on ring frame.

   (b) What is the importance of evaluating blend intimacy ?

   (c) List the factors affecting twist flow in ring spinning. **10+5+5**

Section C

5. (a) With the help of neat and clean sketches show the passage of materials through a rotor spinning machine.

   (b) Which of the two rotor and ring spun yarns is more even and why ?

   (c) Compare the internal and external structure of ring and rotor spum yarns. **8+7+5**

6. (a) With the help of suitable sketches, discuss the mechanisms of fibre accumulation and twisting in DREF spinning systems.

(b) Discuss the principle of yarn formation in air-jet spinning. How do these yarns differ from dref and ring spun yarns ? **8+12**

Section D

7. (a) Outline the production processes of :

(i) Core sperm yarn

(ii) Sewing Thread.

(b) Discuss different types of fancy yarns along with their applications. **10+10**

8. (a) Differentiate Ring-doubler and TFO twister.

(b) Describe the principle and working of COM4 compact spinning system. **8+12**