(Compulsory Question)

9. Answer all the questions : **10×2=20**

(a) What are Autolevellers ? Which type of autoleveller is generally used in card ?

(b) Explain stripping action.

(c) Determine the combined cleaning efficiency of blowroom and card, if the cleaning efficiency of blowroom is 63% and that of card is 94%.

(d) What do you understand by piecing in combing operation ? Explain.

(e) What do you understand by objectionable faults ? Explain.

(f) What do you understand by lot management in mixing ? Explain.

(g) Explain how fly is generated in ring spinning. What is pneumifil waste ?

(h) Write the formula to calculate production of comber in kg/shift ?

(i) Count of yarn is 40 Ne and strength of yarn is 60 lbs. Calculate count strength product.

(j) Draw the flow diagram of blowroom line of a spinning mill indicating various machines used.

Roll No. ..... Total Pages : 04

July-22-00394

B. Tech. EXAMINATION, 2022

Semester VI (CBCS)

MECHANICS OF TEXTILE PROCESS

TE-606

Time : 3 Hours *Maximum Marks : 60*

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt *Five* questions in all, selecting *one* question from each Sections A, B, C and D. Q. No. **9** is compulsory.

Section A

1. (a) Explain the different actions performed by blowroom machines for tuft opening. Explain the functions and working of piano feed regulation motion with neat and clean diagram. **7**

(b) Determine the cleaning efficiency of blowroom line consisting of three machines with individual cleaning efficiency of 30%, 35% and 30% respectively. 3

2. Explain the objectives of carding machine. Explain Kaufiman's theory of carding action and also explain the transfer efficiency of a carding machine. 10

Section B

3. (a) Explain the preparation of stock for combing. Why even number of machines are required between card and comber ? 5

(b) Explain different types of feed for noil extraction in comber. 5

4. (a) Explain how hooks are removed in roller drafting in detail. 5

(b) What do you mean by drafting force ? Also explain its impact on drawing quality. 5

Section C

5. (a) Drive an expression for tension in yarn during ballooning with suitable diagram. 7

(b) What do you understand by hard waste and soft waste in spinning ? Which waste can be used again ? 3

6. (a) What are the functions of simplex frame ? Explain why drawn sliver is not directly used in ring frame ? 3

(b) What are the objectives of building motion in roving frame ? Explain how tapered shape is provided to the roving bobbin with the help of suitable diagram. 7

Section D

7. (a) What are the requirements of tensioning devices in winding ? Explain different types of tensioning devices used in winding with suitable diagrams. 7

(b) Calculate the time required to wind 400 lbs of 12 Ne cotton yarn on 10 drums. The actual production per drum per minute is 560 yards. 3

8. (a) Explain mechanism of picking with suitable expression and figure. 5

(b) Explain negative cam shedding with the help of suitable figure. 5