

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]

Dec-22-0144

TE-304 (Fabric Manufacture-I)

B.Tech-3rd (CBCS)

Time : 3 Hours

Max. 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 Section A, B, C and D. Section E is compulsory.

#### SECTION-A

1. Write notes on
  - (a) Yarn clearer
  - (b) Yarn tensioner
  - (c) Anti-Patterning device
  - (d) Auto Coner
  - (e) Doubling. (10)
2. Explain Automatic doffing and thread stop motion used in hakoba pirn winding machine. (10)

#### SECTION-B

3. Derive the volume of yarn to be stored on beam. What are the factors effecting warp quality on beam? (10)
4. Define size percentage and size pick-up. Explain the effect of viscosity, size concentration, condition of the squeeze roller and size roller nip on the above two parameters. (10)

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#### SECTION-C

5. Explain the types of shedding with its advantages and disadvantages. What is the importance of bending factor in shedding? (10)
6. Distinguish between knotting and splicing techniques which are applied in drawing-in warp threads. Also draw a loom timing diagram showing the primary motions for early and late shedding. (10)

#### SECTION-D

7. Discuss the methods for calculating shuttle velocity and picking force. Write advantages and disadvantages of shuttle picking. (10)
8. What is sley eccentricity? Discuss the advantages and disadvantages of sley eccentricity ratio? What is the position of crank shaft at half maximum displacement if eccentricity ratio is 0.4? (10)

#### SECTION-E

9. (1) What do you understand by heald staggering?
- (2) What is the objective of sizing zero twist and low twist continuous filament yarn?
- (3) Discuss balloon breaker in winding machine.
- (4) What are the reasons for false picking and shuttle fly?
- (5) Explain shed timing.
- (6) "Positive tappet looms can run faster than negative tappet looms". Justify
- (7) Why is stretch important in sizing?
- (8) What are the objectives of TFO?
- (9) Calculate eccentricity of sley while taking crank arm length 14" and crank length 5".
- (10) Discuss compensating type tensioner. (10×2=20)