

Roll No.

Total Pages : 03

July-22-00393

B. Tech. EXAMINATION, 2022

Semester VI (CBCS)

THEORY OF TEXTILE STRUCTURE

TE-605

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. Show that the limit of twist is 70.5° . 10
2. Analyze the ideal open circular packing and hexagonal close packing upto 7 layers. 10

(2-07/12)W-July-22-00393

P.T.O.

Section B

- 3. Elaborate the techniques of determining the position of fibre in a yarn. **10**
- 4. Analyze the tensile behaviour of continuous filament yarn for small strain. **10**

Section C

- 5. Illustrate the pierce's classical modal of fabric geometry. **10**
- 6. Find out cover factor of a fabric which have epcm-28, ppcm-14, warp count-36 Ne, Weft count-25 Ne. **10**

Section D

- 7. Analyze Stress-strain behaviour of blended yarn with the help of Hemburger's theory. **10**
- 8. (a) Explain stress-strain curve of a fabric sample. **5**
(b) What is fabric shear property ? How do you evaluate it on tensile tester ? **5**

(Compulsory Question)

- 9. (a) Define twist angle. **2**
- (b) Define Twist contraction. **2**
- (c) Find out number of fibres in 5th layer of open circular packed yarn. **3**
- (d) Relation in h (Length of one turn of twist or inverse of twist), R (Radius of yarn) and L (Length of fibre at radius R with in yarn height h)..... **3**
- (e) TPI in the 25's Ne yarn when $TM = 3.0$ tpi $(Ne)^{-1/2}$ **2**
- (f) Define fibre migration in yarn. **2**
- (g) Write conditions of strictly similar yarns. **2**
- (h) What do you understand by packing density of the yarn ? **2**
- (i) Twist retraction R_y of a yarn, of which surface helix angle is 60° **2**