

17346

16172

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any TEN :

20

- (a) What is meant by linear density ?
- (b) Write down any two advantages of direct yarn numbering system.
- (c) If a cotton is having count of 40^s Ne, then find its diameter in inch.
- (d) State the function of twist in yarn structure.
- (e) Define “twist direction” and draw its diagram.
- (f) Differentiate between random and periodic variation.
- (g) Explain any two main causes of yarn irregularity.
- (h) What is the effect of yarn irregularity on yarn property ?
- (i) Define the term :
 - (1) CV %
 - (2) U%

- (j) What is yarn hairiness ?
- (k) What is meant by Elastic Recovery ?
- (l) Explain – work of rupture.
- (m) With diagram explain CRL principle.
- (n) Write down any two advantages of Instron Tester.
- (o) What is CSP ? Write its importance.

2. Attempt any FOUR :

16

- (a) What is meant by Lea ? How it is prepared ?
- (b) Derive the relation between Denier and Tex.
- (c) Define the Term – (i) Cotton count (ii) Metric count. Also write its formula.
- (d) What is twist multiplier ? Write down its significance.
- (e) How twist affects on yarn strength ? With graph explain twist and staple yarn strength relation.
- (f) Explain capacitance principle involved for determination of evenness of yarn.

3. Attempt any FOUR :

16

- (a) A yarn of 300 metre length weighs 6 gms. Find out Denier and Tex.
- (b) How yarn twist affects on Mechanical property of fabric ? Explain.
- (c) Explain :
 - (i) Addition of irregularity
 - (ii) Reduction in irregularity
- (d) Describe visual examination for determination of yarn evenness.

- (e) How evenness of lap, silver and yarn is tested ? Explain.
- (f) List the various methods for hairiness testing and explain any one.

4. Attempt any FOUR :**16**

- (a) Write down the causes and its remedies for yarn hairiness.
- (b) With suitable diagram, explain time dependent effect and instantaneous effect.
- (c) Explain the terms :
 - (i) Tenacity
 - (ii) Breaking length (Give formula)
- (d) Explain the procedure for conversion of load – elongation curve to stress-strain curve.
- (e) Explain the procedure to find Yarn Ballistic strength test. Draw neat diagram.
- (f) What are the effects of yarn irregularities on fabric properties ?

5. Attempt any FOUR :**16**

- (a) How yarn hairiness affects on yarn and fabric properties ?
- (b) Explain the factors which affects on Tensile properties of textiles.
- (c) What is meant by short term and long term variation in yarn ? Explain.
- (d) Explain the terms :
 - (i) Twist
 - (ii) Amount of Twist
- (e) Explain indirect yarn numbering system. Write its advantages.
- (f) What different methods are used to find yarn count ? Explain any one method.

P.T.O.

6. Attempt any TWO :**16**

- (a) (i) How twist of yarn is measured by straighten fibre method ? Explain with neat diagram.
 - (ii) Write the principle of twist to break method.
 - (b) (i) What is yarn Evenness ?
 - (ii) Explain – Limit Irregularity.
 - (iii) Write down the significance of Index of irregularity.
 - (c) (i) Explain Lea Strength Testing with suitable diagram.
 - (ii) Give the advantages of Lea Strength Test.
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