

17346

16117

3 Hours / 100 Marks

Seat No.

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

Marks

1. Solve any FIVE :

20

- (a) Explain the concept of Direct and Indirect yarn numbering system.
- (b) Define Twist, Twist directions, Twist multipliler, Twist factor.
- (c) What are the causes of Yarn Unevenness.
- (d) Explain the concept of Yarn Hairiness ?
- (e) Define the following terms :
- (i) Load
- (ii) Tenacity
- (iii) Breaking length
- (iv) Elongation
- (f) Explain and define the term $U\%$ and $CV\%$.
- (g) Discuss factors affecting tensile properties of textiles.

2. Solve any TWO : 16

- (a) Explain relation between yarn count and diameter with examples.
- (b) Describe the process testing of yarn twist in single yarn with neat diagram.
(any two method)
- (c) Explain measurement of unevenness by
 - (i) Visual examination method, (ii) Cutting & weighing method.

3. Solve any TWO : 16

- (a) Discuss the causes and effects of Yarn Hairiness.
- (b) Explain the working of “Stelometer” fibre strength tester with neat diagram.
- (c) Discuss with neat sketch stress-strain curve for synthetic fibres and natural fibres.

4. Solve any TWO : 16

- (a) Explain the working principle of Constant Rate of Extension (CRE) and Constant Rate of Loading (CRL).
- (b) Discuss the following :
 - (i) Twist and Yarn strength relationship
 - (ii) Effects of twist on fabric properties
- (c) Define the following terms and give their formulae to measure them.
 - (i) English count
 - (ii) Metric count
 - (iii) Worsted count
 - (iv) Tex count

5. Solve any TWO :**16**

- (a) Discuss the different methods for measurement of Yarn count.
- (b) Explain with neat diagram measurement of Yarn unevenness by Electronic capacitance principle.
- (c) Explain method of testing of yarn strength by (i) Lea strength tester, (ii) Single yarn strength tester.

6. Solve any TWO :**16**

- (a) (i) Explain variation in weight per unit length, random and periodic variation.
 - (ii) Explain effects of irregularity on yarn quality.
 - (b) Explain twist measurement in double yarn with take up twist tester.
 - (c) (i) Correct 60^S Ne English count to
 - (1) Metric count
 - (2) Tex
 - (3) Worsted count
 - (4) French count
 - (ii) Explain yarn hairiness testing by photoelectric method.
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