



17346

15162

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) Define the terms :
 - i) British
 - ii) Tex
 - iii) Metric
 - iv) Worsted.
- b) i) Define twist and Twist factor.
ii) List different methods of twist measurement.
- c) What is limit irregularity and Index of irregularity ?
- d) What are the causes of hairiness in the yarn ?
- e) Explain the principle of CRL and CRT tensile testing machine.
- f) Convert 40^s English cotton count to metric system and Denier.
- g) Define the terms :
 - i) Twist direction
 - ii) Yarn Hairiness.

2. Solve any four.

16

- a) Write a note on “Yarn Numbering System”.
- b) Explain the effect of twist on Yarn strength.
- c) Explain the nature of irregularity in the material.
- d) How irregularity of material is reduced by doubling ?
- e) Explain the microscopic method to test the yarn hairiness.
- f) Define the terms :
 - i) Tenacity
 - ii) Elongation
 - iii) Work of rupture
 - iv) Work factor.

P.T.O.

**3. Solve any four.**

- a) A lea (120 yd) of cotton yarn weighs 35 grains, calculate its count in New English count and Tex system.
- b) Explain the effects of twist on fabric properties.
- c) Explain the variance - length curves.
- d) With sketch explain the photoelectric method of Yarn hairiness testing.
- e) Explain the stress-strain curve of textile fibre.
- f) Explain the principle of strain gauge.

4. Solve any four.**16**

- a) Write the relation between yarn count and diameter.
- b) Explain the method to determine twist in double yarn.
- c) Give the relationship between turns per Inch and count.
- d) Explain the visual examination method to measure the unevenness.
- e) Explain the Instantaneous and time dependent effects of a specimen.
- f) What are factors that affects the tensile properties of textiles ?(any four).

5. Solve any four.**16**

- a) Describe any one method to calculate the count of yarn in package form.
- b) Explain the principle of impact strength tester.
- c) Describe the twist contraction method.
- d) Explain diamond bars and weft bars in fabric.
- e) Compare single yarn strength tester with lea strength tester.
- f) What are the causes of unevenness ? Explain any four.

6. Solve any two.**16**

- a) With neat sketch. Explain the method to measure the count of yarn in a fabric form.
 - b) With neat sketch explain electronic capacitance tester.
 - c) Explain the principle and working of "Stelometer".
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