

22369

24225

3 Hours / 70 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 FIVE of the following** **10**
- a) Define metric count with formula.
  - b) Define twist. List down twist directions.
  - c) Classify the Variations.
  - d) List the factor responsible for yarn unevenness.
  - e) Define yarn hairiness. List various yarn hairiness testing methods.
  - f) Explain concept of CSP.
  - g) List the factors affecting yarn strength.

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- 2. Attempt any THREE of the following** **12**
- a) Define english count and denier count with formulae
  - b) Explain effect of twist on yarn properties.
  - c) Explain index of irregularity.
  - d) Explain causes of yarn hairiness.
- 3. Attempt any THREE of the following** **12**
- a) Explain capacitance principle used for measurement of yarn evenness.
  - b) Describe method for measurement of yarn hairiness by photo electric method.
  - c) Compare CRE and CRL Principle to measure tensile strength of textiles.
  - d) Describe procedure to measure crimp rigidity of synthetic yarn.
- 4. Attempt any THREE of the following** **12**
- a) Describe procedure used to measure yarn count in Ne by wrap reel.
  - b) Describe measurement procedure for twist in double yarn with suitable diagram.
  - c) calculate twist multiplier for 40 Ne yarn having 24 twists per inch.
  - d) Explain factors affecting tensile properties of textile yarn.
  - e) Calculate dimensional stability of polyester yarn whose 1.5 meter length become 1.35 meter after hot air oven treatment.

**5. Attempt any TWO of the following****12**

- a) Convert 150 denier into Tex and Metric count.
- b) Describe procedure for measurement of yarn evenness by ASTM yarn appearance tester.
- c) Explain factors affecting the yarn strength with respect to following points.
  - i) Load elongation curve
  - ii) Stress strain curve
  - iii) work of rupture.

**6. Attempt any TWO of the following****12**

- a) State the causes of yarn unevenness. Also explain the effect of irregularity on the properties of yarn.
  - b) Describe procedure for measurement of ballistic strength of yarn with suitable diagram.
  - c) Describe procedure for measurement of count strength product (CSP) of cotton yarn with suitable diagram.
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