

22369

23124

3 Hours / 70 Marks

Seat No.

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

**Marks**

1. Attempt any FIVE of the following : 10
- Define Yarn Number.
  - Define Twist.
  - Define Periodic Variations in Yarn.
  - State any two causes of Yarn Hairiness.
  - Define Tenacity.
  - Define Crimp rigidity of textured yarn.
  - Find out the breaking length of Polyester yarn of 200 denier; which broke at a load of 300 gram.

P.T.O.

- 2. Attempt any THREE of the following :-** **12**
- a) Describe the procedure of determine the count of warp and weft of a fabric.
  - b) Explain the effect of Twist on fabric properties.
  - c) Describe cutting and weighing method for determination of yarn evenness.
  - d) Explain the cause of yarn unevenness.
- 3. Attempt any THREE of the following :** **12**
- a) Assuming suitable data, Drive mathematical relation between Yarn Count and Yarn Diameter.
  - b) Describe straightened fibre method of twist determination of yarn with neat diagram.
  - c) Suggest the fibre properties based on -
    - i) Fibre Fineness
    - ii) Fibre length
    - iii) Fibre strength to produce even yarn.
  - d) Describe Microscopic method for determination of Yarn Hairiness with diagram.
- 4. Attempt any THREE of the following :** **12**
- a) Explain the effect of Yarn hairiness on yarn and fabric quality.
  - b) Explain Instantaneous and time dependent effects during tensile testing of yarn.
  - c) Describe the method of determination of single thread strength by single yarn strength testing instrument with suitable diagram.
  - d) Compare the results of breaking lea of yarn tested on Lea Strength Tester and Ballistic Tester.
  - e) Describe any four features of advance strength testing machine.

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

- a) A Lea of 120 yards weighs 5.3 grams find out count of yarn in following systems :-
  - i) British Cotton
  - ii) Tex
  - iii) Metric
- b) Drive mathematical relation between Twist and Yarn Count, assuming suitable data.
- c) Compare random and periodic variation in yarn with graph based on wavelength and amplitude.

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

- a) Describe factors affecting tensile properties of yarn and results obtained from testing instruments.
  - b) Define Yarn Bulk and describe method to determine Yarn bulk by bulkometer.
  - c) Suggest the solution to reduced the yarn hairiness based on –
    - i) Fibre properties and
    - ii) Machine conditions.
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