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24225

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) Figures to the right indicate full marks.
  - (4) Assume suitable data, if necessary.
  - (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**

- (a) Define warp and weft.
- (b) List down the types of looms used for weaving fabric.
- (c) Define Tex numbering system with formulae.
- (d) State the need of yarn numbering system.
- (e) Convert 20 Tex into Denier and English count (Ne).
- (f) Name the different types of yarn faults.
- (g) Explain the concept of random winding.

**2. Attempt any THREE of the following :**

**12**

- (a) Draw the flow chart of conversion of yarn to fabric.
- (b) Differentiate between direct and indirect yarn numbering system.
- (c) Define English count (Ne) and Denier. Also write their formulae as well as length unit and weight unit.
- (d) Calculate the Tex-count of polyester yarn, if the length of the yarn is 20,000 yards and its weight is 400 grams.



- 3. Attempt any THREE of the following : 12**
- (a) Explain the objects of warp yarn winding.
  - (b) Discuss in brief conventional balloon breaker.
  - (c) Explain different types of knots used to join ends on winding machines.
  - (d) Explain the following defects in winding packages (i) Soft nose or base (ii) Yarn sloughs.
- 4. Attempt any THREE of the following : 12**
- (a) Discuss briefly about uster classimat-II faults.
  - (b) Explain about optical yarn clearer.
  - (c) Elaborate on knot factor and clearing efficiency.
  - (d) Define the term :  
(i) Traverse ratio (ii) Coil angle (iii) Wind angle (iv) Traverse length
  - (e) Write a note on cross wound package.
- 5. Attempt any TWO of the following : 12**
- (a) Explain the passage of yarn through warp winding machine with neat sketch.
  - (b) State the significance of objectionable yarn faults. Also explain spinners double and crackers type of yarn fault.
  - (c) Find out the production per shift in kg of an auto cone winding machine from the following data :  
(i) Drum speed – 2400 rpm; (ii) Drum diameter – 7.62 cm; (iii) Yarn count – 30 Ne; (iv) Machine efficiency – 72%; (v) No. of drums – 60
- 6. Attempt any TWO of the following : 12**
- (a) Explain any three indirect yarn numbering systems with their formulae.
  - (b) Compare between drum and precision winding.
  - (c) Discuss the principle of pneumatic splicing.
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