

# 22675

**23124**

**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**
- Identify the major areas of automation on Ring frame machine.
  - List the limitation of Ring spinning system of yarn manufacture.
  - State the advantages of friction spinning (Dref-2, Dref-3)
  - State the range of count (Ne) produced by airjet spinning.
  - List the end uses of air jet spun yarns.
  - State the three important characteristics of Air vortex yarn.
  - Explain the Twist spinning process.

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- 2. Attempt any THREE of the following :** **12**
- a) List various features of modern card.
  - b) Draw the passage of material through Rotor spinning machine and label the parts.
  - c) Draw the sketch of DREF-II spinning machine and label the parts.
  - d) Draw the sketch of Murata jet spinning system and label the parts.
- 3. Attempt any THREE of the following :** **12**
- a) State various features of Modern Blow Room.
  - b) Describe characteristics of rotor spun yarn.
  - c) List various process parameters influencing properties of dref yarn.
  - d) List the various process parameters influencing properties of airjet spun yarn.
- 4. Attempt any THREE of the following :** **12**
- a) State the modern features of comber.
  - b) Describe the properties of airjet yarn.
  - c) Draw the sketch of spinning nozzle in air jet spinning machine.
  - d) Describe air vortex spinning principle with a neat sketch.
  - e) Explain the principle of self twist spinning with a neat sketch.

- 5. Attempt any TWO of the following :** **12**
- a) State the factors influencing characteristics of rotor yarn.
  - b) Draw the sketch of Dreff III spinning system.
  - c) Elaborate raw material requirements and various process sequences of sliver production for rotor spinning.
- 6. Attempt any TWO of the following :** **12**
- a) Draw the passage of material through wrap spinning process.
  - b) Calculate production of rotor spinning machine in a shift of 8 hours from following data
    - Rotor rpm = 1,10,000
    - Yarn count spun = 12<sup>s</sup> Ne
    - Twist multiplier = 4.5
    - No. of heads = 120
    - Efficiency = 92%
  - c) Describe PLYFil spinning process with sketch.
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