17568

15116

3 Hours / 100 Marks Seat No. | | | | | | | | |

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.

(8) Use of steam tables, logarithmic, Mollier's chart is permitted.

Marks

1. Answer any FIVE from the following : **20**

(a) What are the objectives of winding ? Write the different types of winding machine.

(b) Compare properties of single yarn with double yarn.

(c) State the limitations of ring spinning.

(d) State the operating principle of friction spinning.

(e) State the properties of yarn produced by compact spinning.

(f) State the requirements for raw material in rotor spinning.

(g) State any four applications of open end yarn (rotor).

(h) Describe the principle of REPCO spinning with the help of a neat diagram.

2. Answer any TWO from the following : **16**

(a) With neat sketch, explain the working of TFO machine.

(b) State the objects of yarn clearing device and explain any one electronic yarn clearer with neat sketch.

(c) State the principle of open end spinning and write any four properties of rotor yarn.

P.T.O.

3. Answer any TWO from the following : **16**

(a) With neat sketch, describe the process of Siro spinning. Also write any four properties of Siro yarn.

(b) State the effect of wrapper fibres and rotor groove on rotor spun yarns.

(c) (i) Compare drum winding machine with precision winding machine.

(ii) State the characteristics of viole yarns and sewing threads.

4. Answer any TWO of the following : **16**

(a) (i) Explain the effects of twist direction and amount of twist on double yarn properties.

(ii) Calculate the resultant count of three folded cotton yarn, if the component yarns are having 30^S, 40^S, and 20^S cotton yarns.

(b) State any four modern developments in rotor spinning and calculate production of rotor spinning machine in kgs per 8 hrs with the given data :

(i) Rotor speed = 1,50,000 rpm

(ii) T.P.M. = 875

(iii) Count of yarn = 30 tex

(iv) Spinning positions = 120

(c) Explain the role of following in Airjet spinning :

(i) Speed of air jets

(ii) Drafting system

(iii) Twist in yarn

(iv) Traverse guide for yarn winding

5. Answer any TWO of the following : **16**

(a) Explain with neat sketches different yarn tensioning devices used in winding machine.

(b) Explain the construction and working of opening roller and feed tube in rotor spinning.

(c) (i) State the operating principle of wrap spinning with a neat sketch.

(ii) With neat sketch, explain the bobtex process.

6. Answer any TWO of the following : **16**

(a) State the different types of Fancy yarns. Explain in brief manufacturing of any three fancy yarns with sketch.

(b) State the causes of any four package faults produced during winding.

(c) (i) Compare rotor yarn with ring spun yarn.

(ii) Explain the false-twist effect in rotor yarn formation.

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