22675

24225

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answer 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. Attempt any FIVE of the following: **10**

a) Enlist the modern development of draw frame.

b) State the objectives of rotor spinning.

c) State the operating principle of air-jet spinning.

d) Enlist the applications of friction spun yarn.

e) Classify the advanced spinning systems.

f) State the operating principle of air-vortex spinning.

g) List the properties of wrap spun yarn.

Marks

2. Attempt any THREE of the following: **12**

a) Describe with neat sketch working of Repco spinning.

b) State the influence of machine process parameters on air-vortex spun yarn.

c) State the modern developments in ring frame.

d) Discuss the following parts of rotor spinning :

i) Rotor

ii) Opening roller.

3. Attempt any THREE of the following: **12**

a) State the modern developments in comber.

b) Describe with neat sketch air-vortex spinning.

c) Calculate production of rotor spinning machine in kg/shift with following data;

i) Rotor speed = 1,15,000 rpm

ii) Twist multiplier = 4.7

iii) Yarn count = 14^s Ne

iv) Efficiency = 90%

v) No. of heads = 120.

d) Draw and explain the structure of air-jet spun yarn.

4. Attempt any THREE of the following: **12**

a) Summarise the features of modern card.

b) State the effect of opening roller speed, rotor speed and rotor diameter on yarn structure and quality.

c) Describe with neat sketch SIRO spinning process.

d) Give the properties and end use applications of air-jet spun yarn.

e) State the modern developments in DREF spinning machine.

Marks

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

a) Describe with neat sketch Rotor Spinning machine.

b) State the modern developments in speed frame.

c) Describe with neat sketch of PLYFIL spinning process.

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

a) With neat sketch describe the working of DREF-3 spinning.

b) Describe with neat sketch Air-Jet spinning process.

c) Discuss the following points on rotor spinning machine:

i) Navel

ii) Trash removal

iii) Yarn formation and twist insertion

iv) Yarn withdrawal tube.

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