22246

12425

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 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 : **10**

(a) List down various types of looms used for weaving.

(b) Define Denier and give an expression for the same.

(c) Define worsted count and give an expression for the same.

(d) Draw diagrams of different types of feed and delivery packages of winding process and write names of them.

(e) State the function of clearer on winding machine.

(f) List down types of knots used on winding machine. Draw diagram of any one of them.

(g) List down various end uses of winding packages.

2. Attempt any THREE : **12**

(a) Describe the process of conversion of yarn to fabric with the help of a flow chart.

(b) Define following and give expression for the same :

(i) English count (ii) Metric count

(iii) Tex (iv) French count

(c) Describe functions of warp winding.

(d) Describe the process of passage of yarn through winding machine with the help of a neat diagram.

3. Attempt any THREE : **12**

(a) Distinguish between direct and indirect yarn numbering system.

(b) Describe different types of yarn faults in ring-spun yarn.

(c) Describe various features of precision winding machine.

(d) State function of yarn tensioners used on winding machine. Draw diagrams of different types of yarn tensioners.

4. Attempt any THREE : **12**

(a) (i) A 120 yard lea of cotton yarn weighs 3.24 gm. Calculate the count of yarn.

(ii) A 100 meter of polyester filament yarn weighs 2.00 gm. Calculate the denier and tea of the same.

(b) Describe the significance of various objectionable faults during subsequent processes after winding.

(c) Distinguish various salient features of drum winding and precision winding.

(d) State functions of yarn clearer. List down various yarn clearers used on winding machine. Compare their relative merits and demerits.

(e) List down various winding package faults. State various causes and remedies of the same.

5. Attempt any TWO : **12**

(a) (i) A cotton yarn cone of 40^S Ne count weighs 2 kg. Find out the length of yarn it contains.

(ii) Calculate the equivalent English count for the following counts :

(p) 120 Denier

(q) 24^S worsted

(r) 15 Nm

(s) 20 Tex

(b) Construct classimate-II chart for different sizes of yarn defects.

(c) Explain yarn traversing of winding machine with the help of a neat diagram.

6. Attempt any TWO : **12**

(a) Explain methods of joining the yarn. Explain the principle of splicing. Compare the Knotted yarn with spliced yarn with respect to their performance in subsequent processes after winding. Which type of yarn would you suggest for warp of airjet weaving ?

(b) Describe following winding parameters :

(i) Traverse length

(ii) Traverse ratio

(iii) Coil angle

(iv) Wind angle

(c) Calculate production of a winding machine in kg/shift of 8 hours from following data :

(i) Drum diameter = 3"

(ii) Drum speed = 2400 rpm

(iii) Efficiency = 80%

(iv) Number of positions = 50

(v) Count of yarn = 30^{S} Ne
