22232

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) State the function and need of pirn winding machine.

(b) State the functions of various parts of automatic pirn winding machine.

(c) State objectives of all primary motions on loom.

(d) State requirement of pirn for auto-loom.

(e) State the function of warp protecting motion.

(f) Comment of built of pirn and its importance.

(g) Explain how weft bar occur in fabric.

2. Attempt any THREE : **12**

(a) With the help of a neat sketch explain the working of tappet shedding mechanism.

(b) Elaborate the concept of design, draft and peg-plan with the help of an example.

(c) Explain straight draft and skip draft with the help of an example.

(d) Elaborate characteristics of a good shed, state timing and setting of tappet shedding mechanism. Explain early shedding and late shedding.

3. Attempt any THREE : **12**

(a) Find the weight of yarn over the pirn if yarn count is 20 Ne and length of yarn over the pirn is 20,000 mm.

(b) State the function of Let-off motion. Describe the working of negative let-off mechanism with the help of a neat diagram.

(c) A fabric is woven with following particulars :

Reed count = 64^s

Ends drawn/dent = 3

Reed space = 50"

Calculate the ends/inch in the fabric if the fabric is contracted by 4% from reed width (Need space).

(d) Explain the working of over-pick mechanism with the help of a neat diagram.

4. Attempt any THREE : **12**

(a) Explain the working of seven wheel intermittent take-up motion.

(b) List down different types of cam shedding. Compare their relative merits and demerits.

(c) Draw diagrams and explain each type of shed used on various looms. State merits and demerits of each one.

(d) State functions of various parts of shuttle box.

(e) Explain cone under-pick mechanism with the help of a neat diagram.

5. Attempt any TWO : **12**

(a) Give detailed classification of fabric defects. State causes and remedies of any four warp wise defects.

(b) (i) State causes and remedies of any 3 weft wise defects.

(ii) State causes and remedies any 3 machine defects.

(c) Calculate the weight of warp and weft of a fabric having following particulars :

(i) Ends/inch – 64

(ii) Picks/inch – 48

(iii) Warp count = 30^s cotton

(iv) Weft count = 76 denier polyester

(v) Fabric length = 500 yard

(vi) Fabric width = 54″

(vii) Warp crimp % = 4%

(viii) Weft crimp % = 5%

6. Attempt any TWO : **12**

(a) Draw gearing diagram of a seven wheel take-up motion.

(b) (i) Draw drive arrangement to bottom and crank shaft.

(ii) State the concept of sky eccentricity. Elaborate the same with the help of an example. State its importance.

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(c) (i) State function and importance of weft-stop motion. State advantage of center weft fork over side weft fork.

(ii) Calculate production of a loom shed in meters per day from following data :

- Loom speed – 180
- Picks/inch – 45
- No. of looms – 48
- Efficiency of shed – 84%
