# 22232
# 3 Hours / 70 Marks

Seat No. | | | | | | | | |

***Instructions :*** (1) All Questions are *compulsory.*

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

(5) Use of Non-programmable Electronic Pocket Calculator is permissible.

**Marks**

**1. Attempt any FIVE of the following :** **10**

(a) Name two methods to establish standards & norms for key parameter.

(b) State the factors that decide the quality of knot in winding process.

(c) List 4-key parameters in warping process.

(d) List 4-key parameters in sizing process.

(e) Name 2-additional elements used on sizing machine to improve weavability.

(f) List the factors that decide productivity of the loom.

(g) Define “Process waste” & “Incidental waste”.

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

(a) Describe following 4-steps in implementing methodology of Direct control

(i) Identify key parameters

(ii) Setting up norms for key parameters

(iii) Collecting & interpretation of data

(iv) Take corrective action & m/c audit.

(b) (i) List the factors that decide built of pirn.

(ii) Name 3-types of yarn tensioners used on winding m/c alongwith their formulae to calculate output tension.

(c) Explain the nature of unwinding tension in ring bobbin on winding machine by drawing characteristic graph of tension vs bobbin length.

(d) Describe the causes of low productivity at warping.

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

(a) Explain the following assessment Indicators to judge the performance of winding process with an example

(i) Knot factor

(ii) Retained splice strength

(b) Analyse the causes & remedies for following winding package defects

(i) Patterning

(ii) Soft package

(c) Describe 4-factors that decide the quality of warpers beam produced in warping process.

(d) State the procedure to grade the fabric based on 4-point & 10-point system (include defect size & penalty points, criteria of grading)

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

(a) Explain the method to judge the performance of warping process.

(b) Explain the relevant ways to minimize end breakages at warping machine.

(c) Describe the method of controlling yarn stretch at creel & drying/splitting zone of sizing machine.

(d) Select the size receipt & pickup percentage for weaving medium warp count (20-40 Ne) & medium fabric construction.

(e) Explain the Scope of process control in loom shed.

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

(a) Explain the factors affecting size-pick up percentage.

(b) Calculate size loss/dead loss form following parameters

- Weight of sized material used = 25 kg
- Total weight of Unsized Yarn = 1000 kg
- Total weight of sized yarn = 1020 kg

(c) Enlist the factors affecting warp breakage, weft breakages & breakage due to mechanical failures in weaving machine.

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

(a) Explain the procedure to take snap round & calculate the shed efficiency.

(b) Determine :

(i) Optimum allocation of machine

(ii) Allocation of machine to minimise cost of production from following study :

| No. of looms allotted | Operative efficiency | Machine efficiency | Cost/meter in paisa |
|---|---|---|---|
| 12 | 44 | 84 | 42.66 |
| 13 | 48 | 83 | 42.48 |
| 14 | 52 | 82 | 42.56 |
| ⋮ | ⋮ | ⋮ | ⋮ |
| 22 | 80 | 74 | 45.44 |

(c) Describe the selection process and method to take care of

(i) Reeds,

(ii) Healds

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