

22366

23242

3 Hours / 70 Marks

Seat No.

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- 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 of the following:** **10**
- a) Draw diagrams of different winding packages used on warping machine. Comment on the types of warping creel required for each type of package.
 - b) State functions of sectional warping machine.
 - c) On sectional warping machine leasing is done at the start of each section while doing warping operation. State the reason for the same.
 - d) Give classification of warping machines.
 - e) State function of differential cone drive on sizing machine.
 - f) On a sizing machine, length of warp on each warping beams put on the creel is 5000 meters. The length of sized warp is 5090 meter after sizing the set. Calculate the stretch %.
 - g) Define size pick-up and size add on.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Compare beam warping with sectional warping w.r.t. creel capacity speed, types of read used, function, application.
 - b) Elaborate headstock region of a beam warping machine w.r.t. type of drive, braking arrangement, expanding comb, types of doffing, system to give pressure on beam and its importance.
 - c) Describe in detail passage of warp through sectional warping machine with the help of a neat labelled diagram.
 - d) Describe the process sequence to procedure stripe pattern on Weaver's beam.
- 3. Attempt any THREE of the following:** **12**
- a) Explain the concept of single end warping. State application of this concept.
 - b) Elaborate importance of tensioners on warping machine, types of tensioners, range of tensions, merits and demerits of tensioners.
 - c) Describe various salient features of a modern sectional warping machine.
 - d) Draw diagram of a multi-cylinder sizing machine and label the parts.
- 4. Attempt any THREE of the following:** **12**
- a) List down various sizing ingredients used to prepare size paste. State function of each ingredient.
 - b) Describe in detail cooking of size paste and its storage. Formulate recipe to size 30^s cotton warp to woven with 72^s reed at 180 rpm.
 - c) Define stretch at sizing. Explain various zone at which stretch is taking place. Elaborate the procedure to calculate stretch at each zone.
 - d) List down various types of creels used on sizing machine. Compare their relative merits and demerits.
 - e) Draw neat labelled diagram of size box. State function of each element of size box.

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

- a) Define rappers and migration. State the causes of rappers and migration. Also explain the measurements of migration.
- b) A warp containing 2800 ends is required to be sized to 25%. The length of sized warp on the sized beam is required to be 1080 yards. If the count of unsized warp is 40^s cotton, calculate
 - i) The weight of size on the warp
 - ii) The weight of sized warp
 - iii) The count of sized warp
- c) A warping machine is warping 30^s cotton yarn at a warping speed of 600 yards / min. Calculate the production in yards and kg in a shift of 8 hours if the number of ends on the beam is 540 and efficiency of machine is 70%. Also calculate number of beams produced in a shift of 8 hours if length of warp on each beam is 20160 yards.

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

- a) A beam for strip fabric is to be produced with 52 ends/inch, 84 inch fabric width, 87.36 inch reed space, 240 creel capacity and 11% warp crimp on sectional warping machine. The length of fabric required is 1000 meters.
Calculate
 - i) Warp length
 - ii) Beam width
 - iii) Section width
 - iv) Total number of sections
 - v) Total ends
 - b)
 - i) Explain various factors which affect size pickup percentage.
 - ii) State importance of congealing and keeping properties of size paste.
 - c) Elaborate various elements and their functions of splitting zone and head stock zone of multicylinder sizing machine.
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