

22366

11819

3 Hours / 70 Marks

Seat No.

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- 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) 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) State the objects of warping process.
- b) Draw any two types of winding packages used in warping machine.
- c) State the object of sectional reed on warping machine.
- d) Suggest the warping process required to produce a cotton fabric of single cotton warp yarn with justification.
- e) State the function of comb and drag roller in sizing machine.
- f) Define –
- (i) Lappers
- (ii) Migration in sizing
- g) List any four sized beam defects.

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- 2. Attempt any THREE of the following:** **12**
- a) Describe the passage of yarn through Indirect warping with neat diagram.
 - b) Describe V-creel used in warping with neat diagram.
 - c) Calculate the time required to produced 8 warper beams on two highspeed beam warping machine with warping speed of 560 yards per minute (calculated). The length of yarn on each beam is required to be 36000 yards, where efficiency is 80%
 - d) Calculate the number of ends required in a section in sectional warping from the following –
 - (i) Available creel capacity = 560
 - (ii) Total number of ends per pattern = 42
- 3. Attempt any THREE of the following:** **12**
- a) Describe with diagram the concept of single end warping process.
 - b) Explain the convection-hot air drying principle for sizing with suitable diagram.
 - c) Describe the modern development of beam warping machine.
 - d) A stripe warp has 42 stripes of 40 ends each, 40 extra pattern ends and selvedge ends 14 on each side. Find the number of sections. The creel has 500 bobbin capacity. Explain how sections are arranged.

- 4. Attempt any THREE of the following:** **12**
- a) Draw a neat diagram of passage of warp through multicylinder sizing machine.
 - b) Explain the role of Adhesive and weighting agent in sizing with one example.
 - c) The actual production of modern sizing machine is 42000 metres per shift of 8 hours. If the machine runs with a speed of 125 meters/minutes. Calculate the efficiency.
 - d) Explain with neat diagram the size level control by electrical conductivity principle.
 - e) Explain the function of immersion roller and squeeze roller of size box with neat diagram.
- 5. Attempt any TWO of the following:** **12**
- a) The weight of sized yarn on a beam was found to be 82.5 pound. The beam contains 1050 yards of warp, whose count before sizing was 50^s cotton. If the number of ends in the warp is 3000, Calculate –
 - (i) The weight of size on the yarn.
 - (ii) The percentage of size on yarn.
 - b) If the speed of the high speed slasher sizing machine is 100 yard per minute, then calculate –
 - (i) The actual production per shift of 8 hours at 70% efficiency.
 - (ii) The total length of warp sized in a shift, if the total ends is 3250 ends.
 - (iii) The total weight of the sized warp, if it is sized to 10 percent and the count of unsized yarn is 40^s cotton.

- c) (i) A modern high speed beam warping machine produces 8 beams containing 222720 yards of warp per shift of 8 hours. If the speed of warping is 580 yards per minutes, then calculate its efficiency.
- (ii) Calculate count of warp on beam, if beam contains 12600 yards of warp wound on it. The number of ends in a warp is 420 and the weight of the full beam is 361 pound. The weight of empty beam is 51 pound.

6. Attempt any TWO of the following:

12

- a) A sectional warpee beam quality is found defective by quality control department the recorded faults in beam is –
- (i) Snarling and overlapping
- (ii) High wastage rate
- (iii) Stripiness in the warp.
- Suggest the solution for this cause with justification.
- b) To achieve the even size pick-up % for 30^s cotton yarn. Suggest the sizing parameter with justification based on –
- (i) Size paste viscosity
- (ii) Size box temperature
- (iii) Squeeze roller pressure.
- c) Draw splitting and leasing arrangement used for 6 creel beams.
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