

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VIII (New) EXAMINATION – WINTER 2019****Subject Code: 2182902****Date: 29/11/2019****Subject Name: Process & Quality Control in Weaving****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Which loom mechanism/parts affect loom speed? Discuss any two in short. **03**
(b) Calculate expected efficiency of a warping machine from following data: **04**
Speed: 550 ypm Set length: 18000 m
Yarn length on cheese: 54000 m
No. of ends/beam: 540 End breaks/400 ends/1000 m: 2.4
Time to mend a warp break: 38 sec Time to change a beam: 400 sec
Time to change a creel: 2000 sec
(c) Explain variable staggering of healds and asymmetric shedding tappets. **07**
- Q.2** (a) Give equation to calculate operative efficiency. **03**
(b) Following data is available from slub catcher: **04**
No. of objectionable faults : 235 No. of knots put : 174
No. of objectionable faults removed by slub catcher : 65
Calculate clearing efficiency, knot factor and quality factor of the slub catcher.
(c) Explain in detail various quality point about sizing beams. **07**
- OR**
- (c) Write in detail on stops on loom due to shuttle change and loss of efficiency due to same. **07**
- Q.3** (a) What are the control measures related with yarn content on pirn? **03**
(b) Discuss on weft tension control in shuttle **04**
(c) Write a short note on effect of condition of machine on end breaks at warping. **07**
- OR**
- Q.3** (a) Give equation to calculate tension during unwinding of a bobbin. Also discuss effect of each parameter. **03**
(b) Explain terms like clearing efficiency, knot factor, relative strength of splice and clearing curve. What is the importance of these terms? **04**
(c) Discuss effect of depth of immersion roller, level of size paste and density of ends on average size pick up. **07**
- Q.4** (a) What is recommended creel tension level for warping? Give value of tension and weight of discs for high speed warping for different count groups. **03**
(b) List causes & remedies for patterning damage occurring on wound bobbins. **04**
(c) Write a short note on hard waste control in weaving preparatory processes. **07**
- OR**
- Q.4** (a) Give sizing-weaving curve and hence discuss how optimum size pick up level is decided? **03**
(b) With sketch explain in short use of after waxing. How it helps in improving performance at sizing? **04**

- (c) Discuss causes and remedies for following defects: **07**
(i) Weft Bar **03** (ii) Weft Snarl **04**
- Q.5** (a) Write three points to control small weft loop (Phurkies) damage. **03**
(b) What are the causes of tightness/slackness in shed connections? How ratio of front and back heald shaft lift is calculated? **04**
(c) Discuss in short what special care is required during weaving of Polyester Filament yarn as weft in shuttle looms? **07**

OR

- Q.5** (a) What are the effects of reed parameters on weaving performance? What is air space? **03**
(b) What do you understand by smoothness of shedding in a loom? **04**
(c) Write in detail on role of swell release mechanism in shuttle checking. **07**

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