

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2024

Subject Code:3132907

Date:06-07-2024

Subject Name: Fabric Formation I

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) What are the objectives of tensioners? **03**
(b) Discuss on additive & multiplicative yarn tensioner. **04**
(c) Discuss objects of winding. What winding should not do? List out important mechanisms of winding machine. **07**

- Q.2** (a) Write on different wound packages. **03**
(b) Differentiate between random and precision wind. **04**
(c) What are the objects of yarn clearer? Discuss on capacitance type yarn clearer **07**

OR

- (c) Write short note on pirn winding. **07**

- Q.3** (a) With suitable example, explain term: wind and traverse ratio. **03**
(b) Discuss in brief about splicing techniques. **04**
(c) Give classification of traverse motion on winding machines. Write on grooved drum type in short. **07**

OR

- Q.3** (a) Discuss about knotting operation. **03**
(b) How one can evaluate the winding performance? Which are the factors affecting warp breaks due to knot? **04**
(c) Discuss on mechanical yarn clearers. Why mechanical yarn clearer is not capable of removing all objectionable yarn faults? **07**

- Q.4** (a) Why direct warping is not preferred for complex colour design? **03**
(b) Explain different type of warping machine. **04**
(c) Explain different types of warping creels with their neat sketches. **07**

OR

- Q.4** (a) What is formula to calculate production in kg/hours for a sectional warping machine? **03**
(b) What is reed count? Discuss the utility of reed count. **04**
(c) Describe with diagram the passage of yarn on sectional warping machine. **07**

- Q.5** (a) Described the yarn stretch zone in sizing machine. **03**
(b) Explain how starch based sizing recipe is prepared for cotton yarn. **04**
(c) With the help of a suitable diagram explain the different parts and their functions of a conventional slasher sizing machine. **07**

OR

- Q.5** (a) Explain the need of drawing-in operation. **03**
(b) Give the functions of binders and softeners, **04**
(c) State the objects of sizing & mention the factors affecting size pick-up during sizing process. **07**
