

Enrolment No./Seat No _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III EXAMINATION – SUMMER 2025

Subject Code:3132907

Date:06-06-2025

Subject Name:Fabric Formation I

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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1 (a) Explain parallel wind and cross wind package with suitable example. 03
(b) Explain following term with suitable diagram: 04
Woven, knitted, nonwoven and braided fabric.
(c) Write short note on warp and weft yarn preparatory process. 07

- Q.2 (a) What is patterning? How can we control it? 03
(b) Discuss about following winding package fault: 04
i) stitches ii) wrinkles iii) wild yarn iv) yarn sloughs.
(c) Explain the electronic yarn clearer with suitable diagram. 07

OR

- (c) Explain passage of yarn through pirn winding machine. 07
Q.3 (a) Explain principle of splicing. Also define term Retain splice strength. 03
(b) Compare random winding machine with precision winding machine. 04
(c) Explain different type yarn tensioner with suitable diagram. 07

OR

- Q.3 (a) Explain different type knots. Also define term knotting efficiency. 03
(b) Calculate production of cone winding machine having following data. 04
Drum Speed : 1600 rpm
Drum Diameter : 3 inches
No of Drum : 120
Shift Hours: 8
Efficiency: 90 %
Count of Yarn: 58 Ne
Find out actual production in kgs.
(c) Write short note on Uster Classimat II. 07

- Q.4 (a) What are the objects of warping machine? Give brief classification of warping machine. 03
(b) Calculate production in kgs per shift of modern high speed beam warping machine from the following particulars: 04
Rpm of winding drum : 255
Diameter of winding drum : 20 inches
No of ends : 440
Efficiency: 76 %
Count of Yarn: 30 Ne
(c) Explain any four, different types of creel used warping. 07

OR

- Q.4** (a) Describe ball warping process. **03**
(b) Briefly explain, concept of single end sizing. **04**
(c) Describe the working principle of sectional warping with suitable diagram. **07**
- Q.5** (a) Briefly explain objectives of sizing machine. **03**
(b) Explain the concept of convection, infrared and microwave drying of warp yarn. **04**
(c) Explain passage of yarn through multi cylinder sizing machine. **07**
- OR**
- Q.5** (a) Explore any two sizing faults causes and remedies. **03**
(b) Explain drawing-in and denting process briefly. **04**
(c) Explain function and role of different size ingredients. **07**
