

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER–III EXAMINATION – WINTER 2025****Subject Code:3132907****Date:22-12-2025****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.

		Marks
Q.1	(a) Define winding. What are the objects of winding?	03
	(b) Outline the flow chart of warp and weft preparatory processes.	04
	(c) Draw neat diagram and explain passage of yarn of a high speed winding machine.	07
Q.2	(a) Explain construction of woven and nonwoven fabric.	03
	(b) Discuss the objectives of sizing. How they are achieved in this process.	04
	(c) Explain the working principle of automatic pirn winder with diagram.	07
	OR	
	(c) Describe the working principle of a five cylinder sizing machine.	07
Q.3	(a) Explain following term: coil angle, wind, and traverse ratio.	03
	(b) What is random and precision winding: compare between them.	04
	(c) Discuss about different types of winding defect.	07
	OR	
Q.3	(a) State importance of anti patterning device.	03
	(b) Discuss about USTER Classimat- III.	04
	(c) What are the objects of yarn clearer? Discuss the photo electric type yarn clearer with block diagram.	07
Q.4	(a) Write about tensioner.	03
	(b) Classify warping mentioning features of each class.	04
	(c) Explain about different types of creels used in warping.	07
	OR	
Q.4	(a) Describe ball warping process.	03
	(b) Discuss about factors affecting size pick-up.	04
	(c) Write short note on Sectional warping.	07
Q.5	(a) Discuss the role of adhesive in sizing paste.	03
	(b) Mentioned technological changes in yarn that occur due to sizing.	04
	(c) Explain about methods of drying. Explain the working of multi cylinder and ruti hot air drying system.	07
	OR	
Q.5	(a) Give the production formula of sizing machine to find production in kg/day.	03
	(b) Discuss about drawing-in and denting process.	04
	(c) Describe about the functions of ingredients in a size paste.	07
