

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- III (New) EXAMINATION – WINTER 2019****Subject Code: 3132907****Date: 3/12/2019****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.

		Marks
Q.1	(a) Draw the structure of woven, knitted and nonwoven fabric.	03
	(b) Draw and give the function of following part: i) Groove Drum ii) Sectional Drum	04
	(c) What are the objectives of yarn preparatory process? Give the flow chart of warp and weft preparatory processes	07
Q.2	(a) Give the difference between woven and nonwoven fabrics.	03
	(b) Derive the relationship of surface speed, traverse speed and winding speed for random winding machine.	04
	(c) Explain the types of tensioner and clearer use in winding machine.	07
	OR	
	(c) Give objective of pirn winding. Draw pirn built and explain how pirn built take place.	07
Q.3	(a) Draw the structure of various knots for yarn joining.	03
	(b) Calculate production of cone winding machine having following data. Drum Speed : 2000 rpm Drum Diameter : 3 inches No of Drum : 120 Shift Hours: 7.5 Efficiency: 85 % Count of Yarn: 60 Ne Find out actual production in kgs.	04
	(c) Draw yarn fault classification of Uster Classimat II. How output of yarn fault classification is useful in different ways?	07
	OR	
Q.3	(a) Define term: wind, traverse ratio and coil angle.	03
	(b) What is splicing? State the stages of splicing of spun yarn.	04
	(c) What is patterning? How patterning can be avoided? Explain anti patterning mechanism with neat sketch.	07
Q.4	(a) Compare ordinary and sectional warping machine.	03
	(b) Discuss about following winding package fault: i) stitches ii) wrinkles iii) wild yarn iv) yarn sloughs.	04
	(c) What are the basic requirements of weaver's beam? Explain warping process with neat sketch.	07
	OR	
Q.4	(a) Describe ball warping process.	03
	(b) Discuss about continuous chain creel, truck creel and magazine creel of warping machine.	04

- (c) Give the objective of warping process. Explain the concept of sectional warping process. **07**
- Q.5** (a) What are the adhesives used in sizing? **03**
(b) How is the level of size maintained in size box? **04**
(c) What are the objectives of sizing? Explain construction and working of size box with neat sketch. **07**
- OR**
- Q.5** (a) What do you mean by drawing-in operation? **03**
(b) Calculate production in kgs per shift of modern high speed beam warping machine from the following particulars: **04**
Rpm of winding drum : 260
Diameter of winding drum : 22 inches
No of ends : 420
Efficiency: 80 %
Count of Yarn: 32 Ne
(c) What are the types of creels used for sizing machine? **07**

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