

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2017****Subject Code: 2182901****Date: 02/11/2017****Subject Name: Principles of Textile Processes****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) What is perfect drafting?	03
	(b) Why perfect drafting is not achieved in conventional draw frame?	04
	(c) Explain the retardation of shuttle with hinged swell, along with necessary diagrams.	07
Q.2	(a) Is the acceleration of shuttle uniform? Why?	03
	(b) Discuss the important of size pick.	04
	(c) What is transfer efficiency of card? Explain only procedure to find out transfer efficiency.	07
	OR	
	(c) What is cylinder loading? Drive an equation to calculate cylinder loading.	07
Q.3	(a) Give the factors affecting drafting force.	03
	(b) Explain the Foster's theory for perfect drafting.	04
	(c) Derive an equation of yarn tension at any radius 'r'	07
	OR	
Q.3	(a) What is cleaning efficiency of blow room?	03
	(b) Explain the techniques to detect fiber configuration in card sliver.	04
	(c) Derive an equation for traveler speed,	07
Q.4	(a) Write the various factors affecting motion of sley.	03
	(b) State the types of stretch in sizing and factors affecting it.	04
	(c) Discuss briefly various aspects of weft insertion in Airjet loom.	07
	OR	
Q.4	(a) State the limitations of negative friction type let off motion.	03
	(b) Explain briefly power required for picking.	04
	(c) Derive an equation for sley velocity with necessary assumptions and draw the curve.	07
Q.5	(a) Explain 'Alacrit' with respect to picking mechanism.	03
	(b) What are the reasons of end breaks at ring frame? Discuss any two.	04
	(c) Derive an equation to calculate the fractional efficiency of comber.	07
	OR	
Q.5	(a) State the configuration of fibers in card sliver.	03
	(b) Discuss interrelationship between shedding and beat up briefly.	04
	(c) Discuss briefly effect of l/r ratio on type of movement to sley.	07
