Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (OLD) - EXAMINATION – SUMMER 2017

Subject Code:182901 **Date:04/05/2017**

Subject Name: Principles of Textile Process

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.**

Q.1	**(a)**	What is perfect drafting? Explain theory of drafting put forwarded by Foster.	**07**
	(b)	Explain the term kinematics and derive an equation for sley velocity and acceleration.	**07**
Q.2	**(a)**	Derive an equation of drafting force.	**07**
	(b)	Derive an equation of yarn tension at any radius ‘r ‘.	**07**
		OR	
	(b)	Discuss the importance of size pick up. Hence discuss the various factor affecting the size pick up.	**07**
Q.3	**(a)**	Derive the methods to calculate the fractionating efficiency of comber.	**07**
	(b)	If a loom has reed space of 1.20 mts, the average velocity of shuttle is 12.8 mts/ses, shuttle enters the shed at 85^0 of crank and leaves at 215^0, the length of shuttle is 26 mm, Calculate maximum loom speed.	**07**
		OR	
Q.3	**(a)**	Discuss the important aspect to be considered for designing of picking cam.	**07**
	(b)	Discuss the cause of end breakage in ring frame.	**07**
Q.4	**(a)**	Discuss the drafting force on draw frame and factor affecting the drafting force.	**07**
	(b)	Calculate the traveler speed from the following data. Spindle speed = 14000 rpm, Bobbin diameter = 22 mm, Front roll rpm = 172, Front roll diameter = 1 inch, Ring diameter = 42 mm.	**07**
		OR	
Q.4	**(a)**	Explain the retardation of shuttle using floating swell with necessary diagram.	**07**
	(b)	Explain the alacrity of picking mechanism and drive its equation with the help of elastic model.	**07**
Q.5	**(a)**	Derive an equation of Traveller speed.	**07**
	(b)	Derive equation of winding Tension (Tw) in a spinning balloon zone.	**07**
		OR	
Q.5	**(a)**	Discuss the interrelationship with between shedding and beat up with suitable diagram	**07**
	(b)	Discuss the effect of cylinder loading on hook formation on the cotton card.	**07**

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