Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Subject Code: 2712502 **Date:05/01/2017**

Subject Name: Theory & Design of Textile Machine I

Time: 2:30 pm to 5:00 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		Which modifications made in cylinder, licker in and flat wire for high speed production card.	**14**
Q.2	**(a)**	Write a note on design modification made in builder mechanism flyer and type of drive used on roving frame.	**07**
	(b)	Explain the use of robotics for piecing, cleaning and transportation of material on a ring frame.	**07**
		OR	
	(b)	Give a brief account of modernization ring and traveler combinations used for high speed ring frame.	**07**
Q.3	**(a)**	How condensed spun yarn is better than ring spun yarn? What is the drafting modifications made in ring frame for condensed spinning?	**07**
	(b)	What are advantages of unidirectional feed in modern card compared with conventional feed?	**07**
		OR	
Q.3	**(a)**	Which design modifications were done in rotor spinning to produce better quality yarn?	**07**
	(b)	What are main purposes of blending? Mention 3stages of blending operation. Also compare hopper weighing system with metered weighing system with neat sketch.	**07**
Q.4	**(a)**	Explain lap preparation sequence used for short staple Indian cotton processing. Which sequence gives maximum batt strength and cohesion?	**07**
	(b)	With neat sketch explain working of dedusting devices in blowroom.	**07**
		OR	
Q.4	**(a)**	Why did traditional blow room opening line fail in contributing positively to yarn quality?	**07**
	(b)	"New generation comber show better fibre selectivity with optimum noil%." Discuss the statement with reference to design modifications made in comb.	**07**
Q.5		Why automation is necessary to upgrade quality and productivity in spinning? State effect of automation in design of textile spinning line.	**14**
		OR	
Q.5		Define is blending delay? Why is it not a problem in conventional spinning line? What remedial actions are taken to avoid it in modern blow room?	**14**

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