Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 712502N **Date: 26-12-2013**

Subject Name: **Theory and Design of Textile Machinery – I**

Time: 10.30 am – 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)**	Give a brief account of modernization ring and traveler combinations used for high speed ring frame.	**07**
	(b)	Discuss modifications made in cylinder and flat wire for high speed production card.	**07**
Q.2	**(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)	Write a note on simplafeed and exctafeed chute feed system on card.	**07**
		OR	
	(b)	Explain the use of robotics for piecing, cleaning and transportation of material on a ring frame.	**07**
Q.3		Why automation is necessary to upgrade quality and productivity in spinning? State effect of automation in design of textile spinning line.	**14**
		OR	
Q.3		What 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**
Q.4	**(a)**	What are main purposes of blending? Mention 3stages of blending operation. Also compare hopper weighing system with metered weighing system with neat sketch.	**07**
	(b)	List out and discuss the modifications made in the drafting system of a high speed draw frame for better yarn quality.	**07**
		OR	
Q.4	**(a)**	With neat sketch explain features of zone IV fine cleaning machine.	**07**
	(b)	Write a note on design modification made in builder mechanism flyer and type of drive used on roving frame.	**07**
Q.5	**(a)**	What are advantages of unidirectional feed in modern card compared with conventional feed?	**07**
	(b)	Explain lap preparation sequence used for short staple Indian cotton processing. Which sequence gives maximum batt strength and cohesion?	**07**
		OR	
Q.5	**(a)**	Explain modifications in Suessen Autocoro 288 to improve rotor 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**

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