Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III • EXAMINATION – SUMMER • 2014

Subject Code: 132902 **Date: 30-05-2014**

Subject Name: Yarn Manufacturing-I

Time: 02.30 pm - 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.**

Q.1	**(a)**	Discuss (1) Fibre quality index (2) Flock blending (3) continuous metering dosing system (4) Relationship between mechanical draft and actual draft.	**14**
Q.2	**(a)**	What are the effects of card setting on card sliver quality? State the effect of wire point density and speed of cylinder on card sliver quality.	**07**
	(b)	What is the limitations doffer comb doffing? Discuss modifications in web doffing system.	**07**
		OR	
	(b)	List out and explain different types of coiler systems used at high production card.	**07**
Q.3	**(a)**	What are the objects of ginning process? With neat sketch explain the working of a saw gin.	**07**
	(b)	Write a note on blending grab.	**07**
		OR	
Q.3	**(a)**	List out and explain the factors influencing opening and cleaning process in short staple spinning blow room line.	**07**
	(b)	Describe various lap defects and remedial measures for the same.	**07**
Q.4	**(a)**	What are the disadvantages of stripping by plain brush stripping roller? Discuss working of vacuum stripper with neat sketch.	**07**
	(b)	What is the need of grinding card clothing? Also discuss the effect of heel and toe arrangement on extracted waste % at card.	**07**
		OR	
Q.4	**(a)**	Write a note on working of zone II machines in blow room line.	**07**
	(b)	Briefly discuss the effects of settings between flat and cylinder, and design of undercasing on card sliver quality.	**07**
Q.5	**(a)**	What are the advantages and disadvantages of chute feed systems?	**07**
	(b)	Calculate card production in kg and card sliver hank with following specifications: Doffer diameter – 30” Doffer speed – 45rpm Draft at card – 90 Time – 8hrs. Lap hank – 0.0016 Efficiency – 92% Waste – 5%	**07**
		OR	
Q.5	**(a)**	With neat sketch explain open loop and close loop principle of autoleveller.	**07**
	(b)	Calculate blow room production in kgs/shift from the following particulars. No. of scutcher – 2 Shell roller diameter – 23cms Shell roller speed – 15rpm Blow room lap hank - 0.0015 ne Blow room efficiency – 83%	**07**

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