Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 132902 **Date: 07-01-2013**

Subject Name: Yarn Manufacturing-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)** Discuss " Mixing" **07**

(b) Explain carding action with transfer of fibres from licker-in to cylinder and cylinder to doffer. **07**

Q.2 **(a)** Describe basic elements of a opening and cleaning machine with setting points. **07**

(b) Explain pre-carding and post-carding elements on high production card. **07**

OR

(b) Describe continuous card feeding with basic elements, advantages and limitations. **07**

Q.3 **(a)** State the following settings for cotton and polyester and explain their effects on quality of card sliver and waste extraction. **07**

1. Cylinder to doffer . 2. Cylinder to licker-in .
3. Cylinder to flat.

(b) Calculate 1. Mechanical draft 2. Actual draft 3. Production in kgs/shift at 85% efficiency from the following particulars of a card. **07**

1.card sliver hank -0.18 Ne
2. Waste % -5
3. Blow room lap hank -0.0012 Ne.
4. Coiler calendar roller speed -600 rpm
5. Coiler calendar roller diameter-2 inch

OR

Q.3 **(a)** Explain roller doffing devices on a high production card. **07**

(b) Discuss the important modifications made in the licker-in region of a modern card. 07

Q.4 State the characteristics of a blow room lap and explain about the arrangements provided on a scutcher to get these characteristics of a blow room lap. **14**

OR

Q.4 Describe principle, type of feed, beater speed, production, cleaning efficiency, position in blow room and working of the following machines.(any two) **14**

1. Mono cylinder cleaner.
2. Multi mixer.
3. Automatic bale opening machine.

Q.5	**(a)**	State the objectives of ginning and explain working of the roller gin with a neat sketch.	**07**
	(b)	State the objects and methods of grinding with integrated grinding system on a modern card.	**07**

OR

Q.5	**(a)**	Calculate blow room production in kgs/shift from the following particulars. 1. No of scutcher -2 2. Shell roller diameter -25 cms. 3. Shell roller speed -13 rpm. 4. Blow room efficiency -78 %. 5. Hank of Blow room lap -0.0016 Ne	**07**
	(b)	State and explain important parameters of metallic card clothing for cylinder, doffer and licker –in.	**07**

****