Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-III Remedial Examination March 2010

Subject code:132902 **Subject Name: Yarn Manufacturing I**

Date: 09 / 03 / 2010 **Time: 03.00 pm – 05.30 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 are the objectives of Ginning department? Explain the working of Saw Gin with a neat sketch. **07**

(b) What are the objectives of Blow room? State the sequence in which the machines are arranged in Blow room. Explain the factors influencing the opening and cleaning. **07**

Q.2 **(a)** Explain the effect of following on opening and waste extracted at Licker-in : **07**

a) Increase in licker-in speed
b) Wider setting between licker-in and moteknife
c) Wire point density
d) Design of undercasing

(b) State the factors deciding the optimum settings of card and give the settings between (i) Cylinder to flat (ii) Cylinder to doffer for cotton and polyester and explain their effects on quality of sliver and waste extraction. **07**

OR

(b) The carding department of a mill has 25 cards. Calculate the production in kilograms of the Carding department(working continuously) for the month of August from the following particulars : **07**

Doffer diameter = 27” Doffer speed = 18 rpm
Efficiency = 85% Lap roller diameter = 6”
Coiler calendar roller diameter = 2”
Coiler calendar roller speed = 260 rpm
Lap roller speed = 1 rpm Tension draft = 1.07
Waste extraction = 5% Hank of lap fed = 0.0015

Q.3 **(a)** Discuss in details about the Opening devices at Blow room with neat sketches. **07**

(b) Explain the Piano feed mechanism at Scutcher of Blow room with a neat sketch. **07**

OR

Q.3 **(a)** What are the basic elements of a beater? Describe briefly each and show the setting points of a beater with a neat sketch. **07**

(b) Discuss the principal and working of Zone III machines at Blow room. **07**

Q.4 **(a)** Explain the factors responsible for complete transfer of fibres from Licker-in to Cylinder and Cylinder to Doffer at card. **07**

(b) Explain the following with neat sketches : **07**

(i) Roller doffing devices
(ii) Tandem carding

OR

Q.4	**(a)**	Discuss the effect of the following on quality of carding and waste extraction : (i) Importance of front plate and back plate settings (ii) Heel and toe arrangement	**07**
	(b)	Describe the chute feed system with basic elements, advantages and disadvantages.	**07**
Q.5	**(a)**	Discuss the principal and working of Zone I machines at Blow room.	**07**
	(b)	Discuss the modern developments in the Licker-in region of Card.	**07**

OR

Q.5	**(a)**	Discuss the principal and working of Zone II machines at Blow room.	**07**
	(b)	State the type of coiler system used at High Production card and describe any one in detail.	**07**

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