

**GUJARAT TECHNOLOGICAL UNIVERSITY****B.E. Sem-III Remedial Examination May 2011****Subject code: 132902****Date: 30-05-2011****Subject Name: Yarn Manufacturing****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) State advantages of automatic bale opening machines used in Zone-I. 07  
Describe the working of UNIfloc machine in detail.
- (b) What are the objectives of a Blow-room? State the sequence of machines 07  
used on a modern Blow-room line.

- Q.2** (a) Describe the importance of pre-cleaning devices used in Zone-II. Describe 07  
the working of Dual roller cleaner with a neat sketch.
- (b) State the objectives of Ginning. Explain the working of a Roller Gin and 07  
discuss why it is used widely in India?

**OR**

- (b) Explain FQI. Discuss the types of contaminants present in Indian cottons. 07  
Mention the dimensions of an Indian bale.

- Q.3** (a) Discuss the importance of air currents in transportation of material in a 07  
Blow-room line and its effects on yarn quality.
- (b) Discuss in detail about the opening devices used in Blow-room with neat 07  
sketches.

**OR**

- Q.3** (a) Explain the effect of following on opening and waste extracted at licker-in: 07  
in:-
- a) Increase in licker-in speed
- b) Wire point density
- c) Closer setting between licker-in and mote knife / carding bar
- (b) Discuss the important modifications made in the licker-in region of a 07  
modern card.

- Q.4** (a) State the objects & methods of grinding. Describe the advantages of 07  
Integrated Grinding System used on modern cards.
- (b) Describe the chute feed system with their basic elements. State the 07  
advantages and limitations of chute feed devices.

**OR**

- Q.4** (a) Write briefly on importance of pre-carding and post-carding elements 07  
used on high production cards and state their setting with the cylinder.
- (b) Highlight the importance of Auto-levelers used on a card along with their 07  
principles.

- Q.5 (a)** A card works with the following:- **07**  
 Doffer dia. – 27” Hank of lap fed – 0.00154  
 Doffer speed – 30rpm Waste at card – 4%  
 Draft at card – 88 Efficiency – 90%  
 Time – 8 hrs.  
 Calculate:-  
 1. Hank of card sliver  
 2. Production of card in Kgs.
- (b)** State the effects of the following on card sliver quality & waste **07**  
 extraction:-  
 1. Setting between front plate / back plate and cylinder  
 2. Setting between licker-in and licker-in under casing  
 3. Setting between flat and cylinder
- OR**
- Q.5 (a)** State the effect of following on quality of carding and waste extracted at **07**  
 card: -  
 (i) Metallic clothing, (ii) Stripping, (iii) Heel & toe arrangement
- (b)** Explain following with neat diagrams:- **07**  
 (i) Tandem carding, (ii) Roller doffing devices

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