

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-IV Examination June- 2010

Subject code: 142901**Subject Name: Yarn Manufacturing-II****Date: 17 / 06 /2010****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 the objective of Draw frame and discuss how they are accomplished. **07**
 (b) Discuss the role of Cylinder and Top-comb during combing cycle. What care should be taken to maintain these parts? **07**

- Q.2** (a) What are the objectives of Speed frame? Describe the operating sequence in a Speed frame. **07**
 (b) Enumerate on drafting systems employed on modern Draw frames. Draw neat sketches of roller arrangement wherever necessary. **07**

OR

- (b) Write briefly on the following with reference to Draw frame: **07**
 i) Role of fibre-fibre friction
 ii) Stick-slip phenomenon
 iii) Factors affecting drafting

- Q.3** (a) State the principle of Autolevellers used on Draw frame and discuss why Autolevelling at high speed Draw frame is inevitable. **07**
 (b) Calculate the production per spindle in Hanks, lbs and kilograms from the following particulars of a Can-fed Inter : **07**
 Spindle speed = 1800 rpm T.M. = 1.2
 Number of spindle = 120 Hank of rove = 1.45
 Efficiency = 85% Hours/shift = 8

OR

- Q.3** (a) A Laxmi Rieter Draw frame works with the following : **07**
 Front roller diameter = 38mm
 Front roller rpm = 1800
 Hours/shift = 8
 Hank delivered = 0.16
 Calculate the production/delivery/shift in kilograms.
 If the Draw frame works at 75% efficiency what will be the production?
 (b) Write on the following with reference to the performance of Comber : **07**
 i) Comber waste extraction
 ii) Fibre fractionation

- Q.4** (a) Write in short on the following : **07**
 i) Why preparation is required of carded stock before combing process
 ii) Number of passage between Card and Comber and level of pre-comber draft
 (b) Explain the noil elimination with counter (backward) feed. **07**

OR

- Q.4 (a)** Describe the influence of machine components and settings on Combing performance. **07**
- (b)** Write on the modern developments in Combing. **07**
- Q.5 (a)** State the functions of Builder motion used on Speed frame. Explain briefly how these functions are accomplished on modern Speed frame. **07**
- (b)** Write a short note on Flyers at Speed frame. **07**
- OR**
- Q.5 (a)** Sketch and describe the working of a Differential motion on a LF 1400 Speed frame. **07**
- (b)** Write briefly on technological design changes on modern Speed frame. **07**
