GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–IV • EXAMINATION – SUMMER • 2014

Subject Code: 142901   **Date: 16-06-2014**

Subject Name: Yarn Manufacturing- II

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)**	Explain the principle of roller drafting. Discuss the functions and features of various parts of draw frame machine.	**07**
	(b)	State the objectives of combing. Discuss the advantages and disadvantages of this process.	**07**
Q.2	**(a)**	Explain the passage of material on modern Speed frame with a neat sketch.	**07**
	(b)	Discuss the factors influencing drafting force on Draw frame.	**07**
		OR	
	(b)	Discuss the recent modifications in drafting system on Draw frame.	**07**
Q.3		Discuss the factors considered while preparing the lap for Comber, and write on the lap preparation systems	**14**
		OR	
Q.3	**(a)**	Explain briefly the noil theory by Gegauff.	**07**
	(b)	Discuss the role of cylinder and top comb during combing cycle.	**07**
Q.4	**(a)**	Write a short note on Autolevellors used on Draw frame.	**07**
	(b)	Calculate production of comber in kg/shift/machine from the following :	**07**

Detachment setting - 12 mm   Weight of lap - 7550 gms
Comber speed - 300 nips/min   Length of lap - 200 yards
Waste % - 12   Efficiency - 87%
No of heads- 2

OR

Q.4	**(a)**	Calculate production of draw frame in kg/day/machine from the following:	**07**

Hank of sliver - 0.17   Efficiency - 83%
No of heads - 2   Tension draft - 1.01
Surface speed of front roller - 650 yds/ min

Q.4	**(b)**	Calculate production of speed frame in kg/shift/machine from the following:	**07**

Spindle speed - 1000 rpm   Roving hank - 1.8
T.M. - 1.2   Efficiency - 90%
No of spindles - 120

Q.5		State the functions of builder motion and differential motion and discuss how it is achieved on modern Speed frame.	**14**
		OR	
Q.5	**(a)**	Write on the arrangement of roving bobbin on Speed frame and explain the construction of flyer.	**07**
	(b)	Discuss the technological design changes on modern Speed frame.	**07**

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