

Mansoura University Faculty Of Engineering Textile Department	June 2012 Time:1.5 hrs 50 marks	Weaving Preparation 2 nd Term Final Exam 1 st year
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Answer the following question: (PartI)

1)-A)-i- Compare between the mechanical and electronic yarn clearers.

(5 Marks)

ii- A yarn with an input tension of 60 gm is running through a disc tensioner. The load applied to the tensioner is 100 gm. Then the yarn is running over a guide rod with an angle of lap equal 90° . Calculate the value of the output tension in gm if the coefficient of friction between the yarn and the surface over which it travels is 0.2.

(6 Marks)

B) Draw a layer of yarn on a package with a diameter of 12cm, if the traverse length is 30cm, and traverse ratio= 5/3.

(6 Marks)

2) -A)-The diameter of a cylindrical package is 6 cm, the spindle speed is constant at 3000 r.p.m, and the traverse velocity is 210 m/min, determine the angle of winding at diameter 16 cm.

(9 Marks)

B)- Calculate the residual twist in a plied yarn produced at $\alpha_e = 8$ in SZ direction composed of three plies each of 60 Ne yarn count and twist factor= 3 α_e . (7 Marks).

3)-A) Draw the yarn path through a sectional view of the ring and 2/1 twist frames. Illustrate the twist insertion zones. (9 Marks) .

B) Compare between the productivity of ring and 2/1 twisting frames if you are given the following data: (8 Marks)

M/c type	Spindle speed(r.p.m)	No. of m/c units	Twist factor α_m	Yarn count (Nm)
Ring	12000	400	160	80/2
2/1	9000	360	160	80/2

With My Best Wishes,

D/Ismail Rakha.