Answer the following questions:

Question no. 1 :

(35 marks)

. A ring spinning mill of total spindles 26148 ; 10244 spindles for producing combed yarn Nm 76 at 18% noil and 15904 spindles for producing blended yarn Nm 59 with blend ratio "polyester /combed cotton 65/35 "

   i)   Construct a suitable spin plan for these yarns
   ii) Find waste distribution, average total waste and cotton factors
   iii) Determine total amount of raw material used and fiber properties
   iv) Establish a production chart of the spinning mill including :   production data , Energy consumption , floor space and labor requirement

Question no. 2 :

(35 marks)

A spinning mill with automatic rotor spinning m/c' s (Autocore) producing Ne 28 carded cotton yarn with production rate 425 kg/hr

   i)   Construct a spin plan and production chart
   ii) Calculate the following :
          a- Piecing frequency per m/c hr
          b- Can and package run time (hr)
          c- End break free yarn length

   If number of rotor per m/c 216 , rotor speed 80000 r.p.m, twist factor 4.8 αe, can size 17.5" x 42" with capacity 14 kg , spinning breaks 140 per 1000 rotor hr and package weight 4 kg.

   iii) **Calculate the following:**
          d- Spindle allocation and
          e- Production per operative

   If the basic time / operative : 4.09 HM (where HM =100min)

   Allowance / operative :   4% basic allowance

                            10% relaxation

                            4% personal allowance

   M/c efficiency 97.4%

مسموح باستخدام الجداول والمنحنيات وتوزع بمعرفة الكنترول

أ . د بطام
م . د مريم المبلسي