THE TEXTILE ASSOCIATION (INDIA)
A.T.A. (REVISED) EXAMINATION – 2015
PART II – PAPER A.2.2

PRINCIPLES OF FABRIC MANUFACTURE

Date: 25.12.2015
Marks: 100
Time: 2 pm to 5 pm

Instructions:
1. Attempt six questions out of which Q1 is compulsory
2. Answer each next question on new page
3. Figure to the right indicate full marks
4. Illustrate your answers with sketches and flow chart wherever necessary
5. Use of non programmable electronic pocket calculator permissible
6. Mobile and any other communication devices are not allowed in exam hall
7. Assume suitable data wherever necessary

Q1
a. Fill in the blanks
   i. In case of dobby shedding, up to .......... number of heald shafts can be used.
   ii. 30° Ne=........... tex
   iii. When the speed of sizing machine is increased, size pickup .......... 05
   iv. In a weaving machine motion helps in maintaining uniform pick spacing
   v. In a plain power loom, the rotational speed of the crank shaft is .......... times the rotational speed of bottom shaft.

b. Match the following
   i. Grey warp                      a. Sizing
   ii. Immersion roller             b. Direct warping
   iii. Multicolored warp           c. Cone winding
   iv. Back rest                    d. Sectional warping
   v. Slub catcher                 e. Weaving

05

Q1

Q2

a. Describe the working principle of Modern automatic warp winding machine

b. In a drum winder, the dia of drum is 75 mm, traverse length is 100 mm and number of crossings on the drum is 3. Calculate the winding speed in Meter/min, if the drum rotates at 3200 rpm.

Q3

a. Describe the importance of drying of wet sized yarn. Describe briefly about various drying methods used in sizing.

b. What are the functions of Adhesive in sizing
Q4  Draw the design with draft & peg plan
   i. 2/1 Twill
   ii. 8 end sateen
   iii. Crepe
   iv. Huck a Back
Q5  a. Describe briefly about different types of warping creels.
    b. What is the importance of sectional warping? Describe the working principle of sectional warping machine
Q6  a. A warper's beam, having 600 numbers of warp yarn, contains 10000 meter length of yarn. If the count of yarn present on the beam is 30s Ne, then calculate the weight of warp yarn on that beam.
    b. Describe briefly the objectives of Pim Winding. Write down its advantages & disadvantages.
Q7  a. Describe the working principle of negative let-off motion with diagram.
    b. Calculate the production of a plain power loom in Meter/8 Hr. if the loom is running at 200 rpm, the pick/inch of cloth is 70 & efficiency of the loom is 85%.
Q8  Write down the short note on any two:
   i. Principle of Dobby
   ii. Cone over pick mechanism
   iii. Knotting operations
   iv. Weft fork motion