THE TEXTILE ASSOCIATION (INDIA)
A.T.A. PART-III NEWN3 YEARS EXAMINATION - 2014
PAPER - A 3. OB
MODERN FABRIC MANUFACTURE

Date: 27.12.2014 Marks: 100 Time: 10 am to 1 pm

Instructions:
1. Attempt six questions out of which Q.1 is compulsory.
2. Answer each next main question on new page.
3. Figure to the right indicates full marks.
4. Illustrate your answer 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.

Q.1. Justify the following statement: (20)
   i. Non-conventional looms having higher productivity than conventional looms.
   ii. Suggest the remedies for the occurrence of Weft Squirs
   iii. A coarser yarn increase the air velocity during picking in air jet looms.
   iv. Temples are an essential requirement in loom.
   v. Monitoring and control of weaving machines by microprocessor is easier way to operate the loom.

Q.2. a. Define the following fabric defects and their remedies: (12)
   i. Missing end
   ii. Broken pattern
   iii. Float
   iv. Gout

   b. Write the characteristics of Pim packages (04)

Q.3. a Describe the different methods of air jet control in air jet loom. (06)
   b. Explain the beat up mechanism of air jet loom with neat sketch. (10)

Q.4. a. What are the differences between Dewas system and Gabler system of rapier looms. (08)
   b. Explain the Rapier picking mechanism with neat sketch. (08)

Q.5. Compare the types of shuttles-less loom in terms of the following: (16)
   i. Weft insertion rate
   ii. Fabric faults
   iii. Method of weft insertion
iv. Residual waste

Q.6. a. Explain in brief the main features of projectile weaving. (04)

b. With neat sketch, explain the transfer of weft end from the projectile feeder to the projectile. (04)

c. How Weft bar appears in the fabric. (04)

d. Explain applications of variable staggering of Heals. (04)

Q.7. a. What are the weft requirements and describe the selvedge formation methods in water jet machine. (08)

b. Describe the various types of selvedges that are formed on shuttle-less weaving machines. (08)

Q.8. a. What are the types of fabric grading and explain the four point system of fabric grading. (06)

b. A weaving shed is running with 24 over pick machine of 120 rpm, 96×98 set of fabric, 2/80 PV×76 D filament yarn of warp × weft at 76% efficiency. Calculate the production of shed in one day, one month and one year in meter. (10)