THE TEXTILE ASSOCIATION (INDIA)
A.T.A PART – III NEW THREE YEAR EXAMINATION - 2017
PAPER – A.3.5
MODERN FABRIC MANUFACTURE

Date: 26.12.2017  Marks: 100  Time: 10.00 am to 1.00 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 indicate full marks
4. Illustrate your answer with sketches and flow chart whenever 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  Answer all the questions
   i. What are the different Fabric inspection systems
   ii. Monitoring and control of weaving machines by microprocessor is
easier way to operate the loom – Justify you answer
   iii. What are the main features of Rapier Weaving Mechanism?
   iv. What is Weft Accumulator?
   v. What are the yarn quality requirements for shuttle-less looms
   vi. Explain Weft Crack
   vii. Describe shuttle flying?
   viii. Define Half Pick?

Q2. Explain the following:
   a  Write brief note various types of Shuttle-less weaving machine in
terms of
      i)   Speed
      ii)  Power Consumption’
      iii) Fabric Defect
   b  What are the various mechanism used for flexible rapier loom?

Q3. Explain the following:
   a  Pre-Requisite for Successful installation of Shuttle-less loom
   b  The mechanism of Transfer of Weft End from the projectile feeder to
the projectile

Q4
   a  Write features of shuttle less looms and describe rapier head and
picking cycle of any dewas picking principle.
   b  What are the maximum operating speed and maximum working width
of Rapier Loom
c. What is Rapier Head?
d. Write briefly the Picking mechanism in Water jet loom?

Q5.
a. Explain in brief the main features of projectile weaving
b. How weft bar appears in fabric
c. Describe the various types of fabric grading and explain the fourpoint system of fabric grading

Q6.
a. Differentiate between the weft insertion by Rapier from Water Jet
b. What are the benefits of adoption of Microprocessors in monitoring and control of Weaving machines?

Q7.
a. Explain briefly the Projectile loom and the benefits of projectile weaving?
b. Explain in detail the Projectile guide and Projectile launching mechanism?

Q8.
a. Name any 5 important parts of Air Jet looms for Weft insertion. Explain the functioning of any of the three?
b. Write a small note on
   i) Air Index Value
   ii) Arrival Time
   iii) Filling Stop
   iv) Air Intake
c. Name the Factors that affect the Pneumatic weft Propulsion in Air Jet Weaving