THE TEXTILE ASSOCIATION (INDIA)  
A.T.A.(REVISED) PART-III EXAMINATION – 2012  
PAPER – A 3.0B2  
MODERN FABRIC MANUFACTURE  
MARKS : 100

Date: 25.12.2012  
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 indicate 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. Answer the following questions.  
    (20)
    a. How shuttle-less looms overcomes the limitations of shuttle looms?  
    b. How Gabler system is different from Dewas systems of rapier weft insertions?  
    c. What are the main features of a projectile weaving machine?  
    d. Give classification of rapier weaving mechanisms.  
    e. What are the yarn quality requirements for shuttle-less weaving machines?

Q.2. a. Compare the various types of shuttle-less weaving machines in terms of the following :  
    (10)
    (i) Versatility  
    (ii) Speed  
    (iii) Power consumption  
    (iv) Fabric faults  
    b. Why weft accumulators and weft measuring are an essential requirement in air-jet weaving machines?  
    (06)

Q.3. a. Explain with neat sketch the projectile weaving machine’s sley drive.  
    (08)
    b. Draw a neat sketch of projectile picking mechanism and explain its working principle.  
    (08)

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Q.4.  
a. Which are the various types of transverse aids used for maintaining air flow in the air-jet weaving machine to propel the weft across the shed?  

b. Which are the various types of selvedges formed on shuttle-less weaving machines? Explain each of them with help of diagrams?  

Q.5.  
a. Which are the various mechanism used for flexible rapier drive?  

b. Which are the latest developments in rapier machines?  

Q.6.  
a. Explain water jet picking mechanism with the help of neat sketches.  

b. How fabric quality is controlled at loom state?  

Q.7.  
a. Define the following Fabric Defects and give remedial measures to avoid such defects.  

(i) Reediness  
(ii) Weft Bar  
(iii) Curled And Folded Selvedges  

b. What is the purpose of fabric grading? Explain the Four Point Inspection System.  

Q.8.  
a. What is Optimum loom assignment in a weaving shed?  

b. What are the applications of Microprocessor in Loom Shed  

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