THE TEXTILE ASSOCIATION (INDIA)
A.T.A. (REVISED) PART-II EXAMINATION – 2013
PAPER – A 2.3
PRINCIPLES OF TEXTILE WET PROCESSING

Date: 25.12.2013  MARKS : 100  Time: 2 pm to 5 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. Attempt any Ten of the following : (20)

i. Write any four objectives of desizing.

ii. Explain significance of scouring.

iii. Enlist the different methods of Singeing.

iv. Write the chemical formulae and names of any two bleaching agents.

v. Why is stabilizer added during hydrogen peroxide bleaching?

vi. Why are chlorine based bleaching agents avoided for bleaching.

vii. What are exhausting agents? Give two examples.

eight. Explain MLR with two examples.

ix. Write the names and the chemical formulae of the chemicals used in vat dyeing.

x. Define the term ‘Printing’.

xi. Why are gums used in print paste formulation.

xii. Enlist the different methods of printing.

xiii. What are the objectives of ‘Finishing’.

xiv. Name any two chemical and two mechanical finishes.

xv. Define Temporary and Permanent Finish.

Q.2. Attempt any Two of the following : (16)

i. With a neat labeled diagram, explain the principle and the working of plate and gas singeing machine.

ii. Write the procedure of dyeing of cotton using direct dyes and basic dyes.

iii. Enlist the ingredients of printing paste. Write the function of each ingredient in the print paste formulation.

Q.3. Attempt any Two of the following : (16)

i. Write a detailed note on the different method of desizing textiles. Write the advantages and limitations of the preferred method of desizing.

PTO
ii. Draw a neat labeled diagram of a jet dyeing machine and winch dyeing machine. Write the working principle of the same.

iii. Write a detailed note on the different types of steamers used for the fixation of prints.

Q.4. Attempt any Two of the following:

i. With a neat labeled diagram, explain the principle and working of Kier boiling and continuous scouring of cotton.

ii. What are Ingrain colours. How are they produced on textiles? Explain the different methods of Naphthenation and stabilization of bases.

iii. With the help of a neat labeled diagram, explain the working principle of a rotary printing machine. Also mention its advantages and limitations.

Q.5. Attempt any Two of the following:

i. What are OBA’s and Bluing agents? How do they differ from each other? Write the procedure of Combined scouring, bleaching and Optical brightening of cotton. Also compare it with the cotton which is scoured, bleached and OBA treated separately.

ii. Explain in detail, the classification of colour based on application.

iii. Write the recipe and procedure for printing of cotton using pigments and reactive dyes by adopting direct style of printing.

Q.6. Attempt any Two of the following:

i. With the help of a neat labeled diagram, explain the principle and working of a stenter. Also mention the different functions of stenter and comment on the different types of fuels used in stenters for achieving the desired temperature.

ii. What are reactive dyes? Give the classification of the same. Also write the dyeing procedure of the same.

iii. Explain the different styles of printing. Give the recipe and procedure for discharge style of printing for vat dyed substrate.

Q.7. Attempt any Two of the following:

i. What is calendaring? With a neat labeled diagram, explain the different effects achieved on calendaring machine.

ii. Write the procedure of dyeing of polyester by HTHP method and Thermosol method.

iii. Write a detailed note on the washers used in printing department. Draw a neat labeled diagram of a washer.

Q.8. Attempt any Two of the following:

i. Write a detailed note on the different types of chemical finishes used for cotton. Also mention two objectives and applications each of the different types of finishes.

ii. What are retarders? Explain the chemistry involved in the functioning of different types of retarders. Also enlist the different methods of dyeing acrylic fibres.

iii. Write the recipe and the procedure of printing of polyester using disperse dyes and nylon using acid dyes.