THE TEXTILE ASSOCIATION [INDIA]
A.T.A. PART- III NEW THREE YEARS EXAMINATION-2014
PAPER- A 3. OC
PRE-TREATMENT & DYEING

Date: 26.12.2014
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 wherever necessary
5. Use of nonprogrammable electronic pocket calculator permissible
6. Mobile and any communication devices are not allowed in exam hall
7. Assume suitable data wherever necessary

Q. 1 Answer the following questions in brief (Any ten) (20)
   a. Give the elements of cylinder singeing method.
   b. Say true or false. If false write correct sentence,
      1. Enzymatic desizing is done in alkaline pH.
      2. Dyeing with acid dyes is done in acidic pH.
   c. What is degumming of silk?
   d. Explain the meaning of reductive bleaching of wool.
   e. Define: 1. Exhaustion  2. MLR
   f. Fill in the blanks-
      Direct dye is fixed with cotton by ____ bonds and Reactive is fixed by ____ bonds.
   g. Give reason: Vat dyes have excellent fastness to washing.
   h. What is the principle of jet dyeing machine?
   i. What is function of stabilizer in peroxide bleaching?
   j. Match the following-
      \[
      \begin{array}{|c|c|}
      \hline
      A & B \\
      \hline
      Desizing & Whiteness \\
      Scouring & Improve dye uptake \\
      Bleaching & Removal of added impurity \\
      Mercerisation & Absorbency \\
      \hline
      \end{array}
      \]
   k. Dyeing recipe is given as below.
      Red = 0.53 %
      Yellow = 1.35 %
      Blue = 0.72 %
      What is the percent shade dyed on fabric? Give explanation.
   l. How will you check whiteness of OBA treated goods?

Q. 2 Answer the following
   a. What is the importance of inspection of grey fabrics? Write down some faults. (4)
   b. Explain bleaching of synthetic fibres. (6)
   c. Give the flow chart of classification of dyes. (6)

Q. 3 Answer the following
   a. Give difference between 1:1 and 1:2 metal-complex dyes. (4)
   b. What are different methods of degumming of silk? (6)
c. Explain with a neat and labeled diagram the construction of Jigger machine. (6)

Q.4 Answer the following
a. Explain enzymatic desizing of cotton. What is the test to check size on fabric? (6)
b. Write a note on scouring of Acrylic fibres. (4)
c. Explain the procedure of dyeing of wool with chrome dyes. (6)

Q.5 Answer the following
a. What is the technique of applying basic dyes on cotton? (5)
b. Explain method of assessment of washing fastness of dyed material. (6)
c. Explain the principle and process of applying optical whitening agent. (5)

Q.6 Answer the following
a. Solve the following example for reactive dyeing-
   Given: Weight of material = 80 gm
   Calculate: Total volume of liquor
   MLR = 1:6
   Amount of dye, salt and soda ash
   Depth of shade = 2.3 %
   Glauber's salt = 60 g/l
   Soda ash = 20 g/l
   Why it is possible to do continuous singeing and desizing? Explain the process. (6)
c. Which precautions are necessary while scouring of viscose? (4)

Q.7 Answer the following
a. Draw a neat and labeled diagram of Jet machine.
   Explain the functions of nozzle and heat-exchanger in jet machine. (6)
b. Explain dyeing of nylon with acid dyes. (5)
c. Describe any one method of dyeing azoic colours. (5)

Q.8 Answer the following
a. How will you remove black stains and fungus stains from fabric? (4)
b. Explain the method of cold pad-batch dyeing of reactive dyes. (6)
c. Give reason: Singeing of polyester/cotton blended fabric is done after dyeing. (3)
d. Explain the method of finding % expression of padding mangle. (3)