THE TEXTILE ASSOCIATION (INDIA)
G.M.T.A. (REVISED) EXAMINATION – 2018
SECTION – D  PAPER – D.2
WET PROC. - DYEING

Date: 23/12/2018  MARKS : 100  Time: 02.00 pm to 05.00 pm

Instructions:
1. Attempt any Six questions out of which Q.1 is Compulsory
2. Answer each next question on new page
3. Figures to the right indicate full marks
4. Illustrate your answers with neat sketches & flow charts wherever necessary
5. Use of non-programmable electronic pocket calculator is permissible
6. Mobile and any other communication devices are not allowed in the Examination hall.
7. Assume suitable data wherever necessary

Q.1  Attempt any Ten

1. Define MLR, LR and give one example each.
2. Define “Percentage Shade” and “Saturation Dyeing”
3. 100 kg of cotton fabric is to be dyed for 2% shade keeping MLR 1:20 & using 50 gpl of common salt as exhausting agent. If the stock dye solution concentration = 0.5% & Stock salt concentration = 10% i.e. 100 gpl, Calculate the amount of dye solution and salt solution required
4. Enlist the distinct stages involved in the dyeing of textiles.
5. Write the list of variables during the dyeing process
6. What are grey scales?
7. With reaction mention the type of dye fibre interaction between direct dye and cotton fibre.
8. What are Natural dyes? Write the names of any two natural dyes.
9. Write any two advantages of Natural dyes
10. What is garment dyeing gaining importance?
11. Write the names of chemicals used for dissolution of sulphur dyes and give its chemical formulae.
12. Why are vat dyes so called?
13. What are mordants? Give one example
14. What are acid dyes? How are they different from direct dyes?
15. Give the classification of metal complex dyes.
Q.2
1. With a neat labeled diagram, explain the working principle of jet dyeing machine.
2. Explain in detail, the reasons for blending. Explain the novel colour effects obtained in dyeing of blends.

Q.3
1. Draw a neat labeled diagram of a cheese dyeing machine and explain the working principle. Also write the advantages of dyeing in cheese form.
2. Write the mechanism of dyeing of polyester with disperse dyes. Explain the effect of heat setting on dyeing of polyester.

Q.4
1. Why are direct dyes so called? Explain the various after-treatments given to direct dyed fabrics.
2. Explain the dyeing mechanism of acid dyes on wool and write the detailed sub-classification of acid dyes.

Q.5
1. Explain with reactions, the mechanism of dyeing basic dyes on cotton fibres. What is the dye-fibre interaction between basic dyes and silk fibre? Write the properties of basic dyes.
2. Write a detailed note on the problems faced in processing of textiles due to water impurities.

Q.6
1. Write a detailed note on the dyeing of nylon cellulosic and nylon wool blends for achieving solid shade by one bath method.
2. Write a note on the industrial techniques of application of reactive dyes.

Q.7
1. Why are vat dyes so called? Write the dyeing procedure of vat dyes and comment on the different methods of dissolution of vat dyes.
2. Enlist the dyes used for dyeing various colour effects on polyester cotton blends? What are the machineries used for dyeing?

Q.8
1. Explain the distinct steps involved in the dyeing of sulphur dyes. Also explain the terms "Bronziness" and "Sulphur tendering".
2. Write the procedure of determining the colour fastness to washing and colour fastness to light.