



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/M.TECH(MCP)/SEM-1/MCP-101/2012-13**

**2012**

**THEORY AND PRACTICES OF TEXTILE  
COLORATION**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives from the following :

10 × 1 = 10

- i) Interstitial protruding fibres can be singed properly by
  - a) plate singeing                      b) roller singeing
  - c) gas singeing                      d) all of these.
- ii) Bleaching of textile material is carried out in acidic pH during bleaching with
  - a) sodium hypochloride    b) bleaching powder
  - c) hydrogen peroxide      d) sodium chloride.
- iii)  $H_2O_2$  bleaching is carried out at pH and temperature
  - a) 10.5 and room temp.    b) 10.5 and 85°C
  - c) 7 and 85°C                      d) 12 and 85°C.



- iv) During cotton scouring waxes are converted into
- a) soluble product
  - b) emulsion
  - c) soap
  - d) precipitated.
- v) The unit of dye affinity is
- a) gm
  - b) kJ
  - c) kJ/mole
  - d) none of these.
- vi) Which dye-class has highest tinctorial value ?
- a) Basic dye
  - b) Acid dye
  - c) Reactive dye
  - d) Direct dye.
- vii) The highest quantity of dye-class used by weight globally is
- a) Reactive
  - b) Direct
  - c) Sulphur
  - d) Disperse dye.
- viii) Artificial light fastness test is carried out under
- a) Tungsten lamp
  - b) Fluorescent lamp
  - c) Xenon-arc lamp
  - d) Sunlight.
- ix) Reactive Read HE-8B is a ..... reactive dye.
- a) Vinyl sulphone brand
  - b) mono-functional
  - c) homo bifunctional
  - d) hetero bifunctional.
- x) Basic dye have light fastness
- a) poor on all fibres
  - b) poor on cotton only
  - c) high on wool
  - d) poor on wool and good on acrylic.

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**GROUP - B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Describe briefly about liquid ammonia mercerisation.
3. What is mass coloration ? What are its advantages ? Name the fibres which are mass coloured.
4. Write a short note on banning of harmful dyes and eco-friendly substitutes of conventional hazardous textile chemicals.
5. Write a brief note on derim washing.
6. Describe briefly the concept "R-cut-first time" dying.
7. Compare the chemistry of nucleophilic substitution and addition type of reactive dyes.

**GROUP - C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

8. State the advantages of using enzymes in textile chemical processing. Name various enzymes used along with their purpose of use. Describe biodesizing and biopolishing processes.
9. Discuss recent advances in desizing, scouring and bleaching processes of cotton material. Describe combi-steamer. Discuss a continuous method of combined scouring and bleaching cotton.



10. What are the essential properties of a dye for becoming suitable for coloration of textile materials ? What are chromophores, auxochromes and solubilising groups ? Discuss with examples. What are C.I. Generic Number and C.I. constitution number of dye ?
11. Name, describe briefly and compare various machines used for dyeing of textile fabrics. ( figures not required ).
12. Why are reactive dyes so named ? Name various types of reactive dyes used for dyeing of cotton materials. What are high fixation reactive dyes ? Describe a process of application of any type of reactive dyes on cotton.
13. What are the important characteristics of disperse dyes ? How are they classified ? Name various methods of dyeing polyester with disperse dyes. Describe a process briefly.

