B. TECH.

(SEM. IV) EXAMINATION, 2006-07

TEXTILE CHEMISTRY - II

Time : 3 Hours] [Total Marks : 100

Note : Attempt all questions. All questions carry equal marks.

1 Attempt any one part of the following : \[3+3+4=10\]

(a) (i) What is a solubilised vat (Indigosol) dye? How these dyes differ from parent vat dye? Compare the advantages and disadvantages of a solubilised vat dye over vat dyes.

(ii) Explain a suitable process for dyeing either wool or cotton fabric with a solubilised vat dye giving recipe, function of chemicals and after treatment processes.

(b) (i) What are the advantages of a high exhaustion (HE) brand reactive dye over a hot brand reactive dye in exhaust dyeing of cellulosics. What are the differences between a HE and a ME brand reactive dye.

V–6013] 1 [Contd...
(ii) Explain a suitable process for exhaust dyeing of cellulosic fabric either with an HE or ME or H brand reactive dye giving recipe, dyeing conditions and after treatment processes.

2  (a)  (i) What is a metal complex dye? 3+5=8
Compare the properties of metal complex dyes against conventional acid dyes in dyeing wool.

(ii) Explain the mechanism of dyeing 5+7=12
Nylon with an acid dye. Describe in brief a suitable process for dyeing Nylon with an acid dye.

(b)  (i) Name different methods that are available for dyeing polyester with disperse dyes. Describe in brief the procedure for dyeing polyester or its blended yarns under high temperature - high pressure on a package dyeing machine. Why it is generally recommended to wind such yarns on dye springs, meant for H.T.H.P. dyeing.

(ii) Explain the role of a dispersing agent and a levelling agent in dyeing polyester with a disperse dye.

3  (a)  (i) Explain the use of Blue wool standards in evaluation of colour fastness to light of a dyed textile. Describe in brief how will you evaluate colour fastness to light of a dyed textile by following any standard test method.

V–6013] 2  [Contd..
(ii) What is an Optical Brightening Agent (OBA) and why a bleached white textile appear whiter on application of an OBA.

(b) (i) Discuss the causes for three common dyeing defects that may arise during exhaust dyeing and their remedial measures.

(ii) Explain in brief the procedure for dyeing cotton fabric with pigment colour.

4 (a) (i) Compare discharge and resist styles of printing. Explain the process for direct style of printing wool with an acid dye giving, recipe, function of chemicals, fixation conditions and after treatment processes.

(ii) Explain in brief only the principle of production of a “Batik Print” or “Bandhani” print on cotton fabric.

(b) Why sodium alginate is the recommended thickener in printing cellulosic fabrics with reactive dyes. Explain the process for printing cotton fabric with any one reactive dye class giving recipe, fixation conditions and after treatment processes.

5 (a) (i) Explain the basic mechanism in setting of woolen textiles. What is decatising and explain how will you impart decatising finish to a woolen or its blended textile on a batch type decatising machine.
(ii) Name the different types of softeners with example that are widely used in finishing of textiles in Indian Industry.

(b) (i) Describe in brief how will you impart flame retardant finish (either temporary or durable) to a cotton fabric.

(ii) Explain how the flame retardancy of a textile fabric is evaluated by using a vertical Flammability Tester or any other suitable equipment.