Roll No. | | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech.(Textile) (2011 Onwards) (Sem.–5)

TEXTILE CHEMICAL PROCESSING-II

Subject Code : BTTE-504

M.Code : 71615

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer the following :

(a) Describe additive and subtractive theories of colour with examples.

(b) Discuss methodology of working of colour matching computer.

(c) With related chemistry, explain why alkali is used for fixation of reactive dyes on cotton?

(d) Discuss various criteria of dye structure to be considered for application of a specific after-treatment method on direct dyed cotton.

(e) Define various shades with examples developed during dyeing of blends.

(f) Classify various thickeners with examples in each cases.

(g) Discuss advantages and drawbacks of roller printing process.

(h) Explain mechanism of transfer of print in migration transfer method.

(i) Discuss function of Rongolite C used in printing with related chemistry.

(j) Explain function of dispersing agent in dyeing of polyester with disperse dye.

SECTION-B

2. Explain fundamental principle of manufacturing screen for printing. Discuss various chemical aspects associated with screen preparation, its exposure against light and hardening. (2+3)

3. Explore possibility and dyeing technology of developing various fancy shades on nylon-wool blend. (2+3)

4. Explain importance of identification of dyes while on textiles. Discuss various primary and confirmatory tests to identify sulphur dyes on cotton. (2+3)

5. Describe resist printing on cotton alongwith print paste formulation, sequence of printing and function of chemicals. (5)

6. Discuss various steps with related chemical aspects for vat dyeing cotton. Explain why concentrations of sodium hydrosulphite and hydroxide used in vat dyeing remain well beyond the stoichiometric concentrations. (5)

SECTION-C

7. With a neat labelled schematic diagram, describe construction and working of a HTHP dyeing machine. Discuss various problems associated with this machine with reasons and possible remedies. (7+3)

8. Explain with related chemistry why PAN is invariably dyed with cationic dye. Describe non-retarder and retarder methods of dyeing PAN. Explain mechanism of working of different types of retarders in this process. (2+4+4)

9. Describe carrier, HTHP and thermosol methods of disperse dyeing of polyester and state advantages and limitations of each method. Explain the dyeing cycle, various process parameters and chemicals alongwith their functions in these methods. (5+5)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.