# C 3413

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Fourth Semester

Textile Technology

TT 1251 — CHEMISTRY FOR TEXTILES

(Regulation 2004)

Time : Three hours                                    Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Justify the involvement of starch and cellulose in textile polymers.

2. Mention the innovations in regenerated cellulose textiles.

3. How proteins are identified?

4. Compare the impurities of natural fibres-fat, Gum and Wax.

5. Comment on the bleaching action of sodium hydrosulphite.

6. What is Furan? How is it involved in bleaching operation?

7. Give examples for azo dyes. Write the structure of one such dye.

8. List out important natural dyes. Why they are considered?

9. With example, justify the possibility of polymer dye interaction.

10. How free volume concept is useful in dyeing?

PART B — (5 × 16 = 80 marks)

11. (a) Show the reactive sites in cellulose polymer. Explain the arrangement of cellulose in cotton fibre. (6 + 10)

Or

(b) With sequential steps explain the process involved in the production of Lyocell fibre.

12. (a) Explain the structural aspect of silk protein. How is it differed from wool protein? (10 + 6)

Or

(b) What is the proportion of oil present in cotton fibre? How is the presence of oil in cotton fibre is confirmed? Write the mechanism of removal of oil from cotton fibre. (3 + 3 + 10)

13. (a) Give an account on the production of sodium hypochlorite using Electrolysis process.

Or

(b) Write the differences between reductive type and oxidative type bleaching actions.

14. (a) Explain the concepts associated with the light absorption properties of dyes.

Or

(b) Comment with structure on the synthesis of congored, alizarin, Indigoid and malachite green. (4 × 4 = 16)

15. (a) Explain with justification for the thermodynamic principle involved in dyeing.

Or

(b) With example, elaborate how solubility parameter is important in dyeing.

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