Reg. No. : | | | | | | | | | | | |

T 3491

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

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. Show the similarities between Starch and Cellulose.

2. Name the textile materials contain cellulose and ligno-cellulose.

3. How proteins are tested?

4. Write the chemical composition of wool fibre.

5. Show how hypochlorite is different from chlorite.

6. What are the derivatives obtained from pyrrole?

7. Mention the light absorption properties of dyes.

8. What are the dyes based on acridine and cyanide?

9. State Ficks laws of diffusion.

10. Write the free volume concept in dyeing.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the structure, properties and reactions of cellulose. (5 + 5 + 6)

Or

(b) Elaborate on delignification process with reference to suitable textile material.

12. (a) Explain the structural aspects of silk fibre with reference to its chemical properties.

Or

(b) What are the impurities present in grey cotton fibre? Explain, how they are analysed and removed. (4 + 6 + 6)

13. (a) Elaborate the mechanism of bleaching of hydrogen peroxide.

Or

(b) Give a brief account on sodium hydro-sulphite, furan, thiophene and indole. (4 + 4 + 4 + 4)

14. (a) Explain about colour and constitution with respect to dye. (8 + 8)

Or

(b) Write about natural dyes with respect to sources, extraction and structure. (6 + 6 + 4)

15. (a) Explain with example about the concept of kinetics and thermodynamics of dyeing. (8 + 8)

Or

(b) Derive William Landel Ferry (WLF) equation. Explain its significance in dyeing. (10 + 6)