

**C 3168**

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

Second Semester

Textile Technology

CY 1155 — CHEMISTRY — II

(Common to Textile Technology (Textile Chemistry))

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define 'cetane number'. How do you improve its value?
2. State Dulong's formula for calorific value of a fuel.
3. Define the terms -- functionality and degree of polymerization.
4. What is a laminated glass? Give its important uses.
5. Illustrate 'differential aeration corrosion'.
6. Give the constituents of lacquers.
7. State the disadvantages of using hard water in textile industries.
8. Mention the requisites (any four) of drinking water.
9. What is the composition of lithophone? Give its uses.
10. Give the preparation and uses of silicon carbide.

PART B — (5 × 16 = 80 marks)

15.

11. (a) (i) Describe the proximate analysis of coal along with the significance. (8)
- (ii) Describe the method of fluidized bed catalytic cracking to obtain synthetic petrol. (8)

Or

- (b) Write detailed notes on the following :
- (i) Water gas. (6)
- (ii) Orsat apparatus. (6)
- (iii) Gross and net calorific values. (4)
12. (a) (i) Give an account of classification of polymers based on source and applications. (6)
- (ii) Discuss the mechanism of free radical addition polymerization. (10)

Or

- (b) (i) Discuss the preparation, properties and applications of Teflon, PMMA and polyurethanes. (12)
- (ii) Distinguish between thermoplastics and thermosetting plastics. (4)
13. (a) (i) Give a detailed account of chemical and electrochemical corrosion. (10)
- (ii) Differentiate between paints and varnishes. (6)

Or

- (b) (i) Describe the methods of corrosion control by cathodic protection. (8)
- (ii) Discuss the compositions and applications of fire retardant paints and luminous paints. (8)
14. (a) (i) Describe the method of water softening using ion-exchange resins. Give the merits and demerits of the process. (8)
- (ii) Discuss the sequence of steps involved in domestic water treatment. (8)

Or

- (b) (i) Describe the various internal conditioning methods employed in the treatment of boiler water. (8)
- (ii) Give a detailed account of electrodialysis process adopted for water desalination. (8)

15. (a) (i) What are zeolites? Give their various types and applications. (8)  
(ii) Write an elaborative account on bleaching agents. (8)

Or

(b) Write a detailed account on the following :

- (i) Silicone oil. (6)  
(ii) Ultramarine. (5)  
(iii) Magnesite bricks. (5)
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