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B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Second Semester

Textile Technology

CY 1155 — CHEMISTRY — II

[Common to Textile Technology (Textile Chemistry)]

(Regulations 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What do you mean by 'cracking'?

2. How is the percentage of volatile matter determined?

3. What is known as elastomer?

4. How is PVC produced?

5. Name two common solvents used for cellulose derivatives.

6. What is known as hydrogen embrittlement?

7. Classify refractories. Give an example for each category.

8. Mention the important characteristic properties of fire clay.

9. What is called sequestering?

10. List the disadvantages of zeolite process.

PART B — (5 × 16 = 80 marks)

11. (i) Define 'grease'. Explain the lubricating property of the grease. (8)

(ii) Discuss the characteristics and uses of carborundum bricks. (8)

12. (a) (i) What is called a zeolite? Briefly explain the zeolite process of softening. (8)

(ii) What is known as disinfection of water? Describe the sterilization by chlorine. (8)

Or

(b) (i) Distinguish between scales and sludges. Explain the mechanisms of scale formation. (8)

(ii) Briefly explain 'caustic cracking'. How is it prevented? (8)

13. (a) (i) Discuss in detail the cathodic protection method. (8)

(ii) Discuss the mechanism of drying of oil. (8)

Or

(b) (i) Describe the mechanism of differential aeration attack. (8)

(ii) Give an account of the factors affecting corrosion rate. (8)

14. (a) (i) What are called thermoplastics? How is it fabricated by injection moulding method? (8)

(ii) Describe the characteristics of bakelite and silicones. List their applications. (8)

Or

(b) (i) What are the drawbacks of raw rubber? How are the properties improved? (8)

(ii) Define condensation polymerisation and explain with a suitable example. (8)

15. (a) (i) Define octane number. How is it raised? Explain. (6)

(ii) Describe in detail the refining of crude petroleum. (10)

Or

(b) (i) How is the coke manufactured by Beehive Oven process. (8)

(ii) Calculate the weight and volume of air needed for the combustion of 1 kg of carbon. Give the composition of the combustion products. (8)
