SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E./ B.Tech – CSE/IT/MECH/M&P/E&C/EIE/ ETCE/AERO/Bio Informatics /Bio Technology
Title of the paper: Applied Chemistry – I/ Applied Chemistry
Semester: I Max. Marks: 80
Sub.Code: ET104(2002)4ET104-5ET104-6C0004 Time: 3 Hours
Date: 20-12-2008 Session: FN

PART – A (10 x 2 = 20)

Answer All the Questions

1. Explain the principle of estimation of hardness of water by EDTA method.
2. How will you regenerate the exhausted resins in demineralization process?
3. Distinguish between LDPE and HDPE.
4. Compression moulding is not suited for thermoplastics. Why?
5. Distinguish between acute and chronic effects.
6. What do you mean by eutrophication?
7. What is meant by thermal spalling?
8. What is white cement?
9. Calculate the oxygen balance for NH_4NO_3.
10. Why is tungsten filament made by powder metallurgy technique?

PART – B (5 x 12 = 60)

Answer All the Questions

11. (a) What are the chemical reactions involved in the conditioning of water by lime-soda process? (8)

(b) Compare lime soda process with Zeolite process of water softening. (4)

(or)

12. (a) Write a note on boiler corrosion. (8)
(b) Discuss the various methods of sterilization. (4)

13. (a) What are the common constituents of plastics and what are their functions? (8)
(b) Write a note on functionality. (4)

(or)

14. (a) Give the preparation, properties and industrial uses of bakelite. (8)
(b) Write a note on injection moulding. (4)

15. (a) discuss the two biological oxidation systems used in the sewage treatment. (8)
(b) How is BOD of sewage water determined? (4)

(or)

16. (a) Discuss the various methods to control air pollution. (8)
(b) Discuss the biochemical effects of cyanide. (4)

17. (a) Discuss the following important properties of refractories
(i) Refractoriness (ii) Porosity (8)
(b) What is Portland cement? Why is it called so? Give its composition. (4)

(or)

18. (a) Explain the chemical principles involved in the manufacture of cement. (8)
(b) Write a note on classification of refractories. (4)

19. Discuss the low and high explosives with suitable examples.

(or)

20. (a) Write a note on chemical propellants. (8)
(b) Discuss the mechanism of compacting. (4)