

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E/B.Tech – Common to All

Title of the paper: Applied Chemistry / Applied Chemistry - I

Semester: I

Max. Marks: 80

Sub.Code: ET104/ 3ET104/ 4ET104/ 3ET104/6C0004

Time: 3 Hours

Date: 11-12-2006

Session: FN

PART – A

(10 x 2 = 20)

Answer all the Questions

1. Differentiate between scale and sludge.
2. Analysis of hard water shows that it contains 111mg of CaCl_2 and 60mg of MgSO_4 per litre. Calculate the hardness.
3. Define: Functionality. Give one example of a bifunctional monomer.
4. How will you prepare Bakelite?
5. Define BOD.
6. What is acid rain?
7. What is soundness in cement?
8. How are refractories classified? Give one example for each class.
9. What is meant by the primary explosive? Give two examples.
10. What are the advantages of powder metallurgy?

PART – B

(5 x 12 = 60)

Answer any FIVE Questions

11. (a) How can the total hardness of water be estimated using EDTA method?
(b) Explain reverse osmosis. Mention its advantages.
(or)
12. (a) Explain the zeolite process of softening hard water.
(b) Explain break – point chlorination. State its significance.

13. (a) Distinguish addition polymerization from condensation polymerization. Give at least two examples for each.
(b) Give the preparation, properties and uses of PVC.
(or)
14. Explain with neat diagram injection and extrusion moulding of plastics.
15. (a) Write short notes on green house effect.
(b) Discuss the biochemical effects of mercury and carbon monoxide.
(or)
16. (a) Discuss Ozone layer depletion.
(b) Explain briefly activated sludge process.
17. Give important methods of manufacturing Portland cement and discuss the chemistry involved in the setting of cement.
(or)
18. Explain refractoriness, thermal spalling, porosity and thermal conductivity of refractories.
19. Describe any three methods of manufacturing metal powders.
(or)
20. (a) Write short note on rocket propellants.
(b) Give the applications of powder metallurgy.