

# SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E/B.Tech – CSE/AERO/BIN/E&C/EIE/IT/M&P/  
MECH/BTE/ETCE

Title of the paper: Applied Chemistry - I

Semester: I

Max.Marks: 80

Sub.Code: 4ET104-5ET104-6C0004

Time: 3 Hours

Date: 15-05-2009

Session: AN

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PART - A (10 X 2 = 20)

Answer ALL the Questions

1. What is meant by caustic embrittlement?
2. 0.8g of  $\text{MgSO}_4$  is present in 1000 ml of the solution. Calculate its ppm.
3. Define: Functionality. Give any one example of a bifunctional monomer.
4. Explain the term compounding.
5. What is photochemical smog?
6. What are the consequences of global warming?
7. How is sored cement made?
8. Classify refractories. Give one example for each.
9. Name any two high explosives.
10. State any two limitations of powder metallurgy.

PART – B  
Answer All the Questions

(5 x 12 = 60)

11. (a) Describe the process of demineralization of water using ion exchange resins. (10)  
(b) Compare the lime soda process with zeolite process of water softening. (2)  
(or)
12. Discuss the estimation of hardness of water by EDTA method.
13. (a) Distinguish addition polymerization from condensation polymerization. Give two examples for each. (8)  
(b) How will you prepare bakelite? Mention its uses. (4)  
(or)
14. With a neat diagram, explain extrusion and transfer moulding.
15. (a) Explain the depletion of ozone layer, its causes and effects.  
(b) How is BOD determined experimentally?  
(or)
16. (a) Explain trickling filter process of sewage treatment.  
(b) Enumerate the biochemical effects of Hg and Pb.
17. What is Portland cement? With flow diagram describe the manufacture of Portland cement.  
(or)
18. Describe any five important properties of refractories.
19. (a) Explain the classification of rocket propellants with suitable example. (10)  
(b) Mention different types of dynamites. (2)  
(or)
20. (a) Describe the chemical and electrochemical process for the production of metal powders. (10)  
(b) Mention the steps involved in powder metallurgy. (2)

