

# SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act,1956)

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

Title of the Paper :Applied Chemistry – I

Max. Marks :80

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

Time : 3 Hours

Date :17/05/2010

Session :AN

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## PART - A

(10 x 2 = 20)

Answer ALL the Questions

1. What are the salts responsible for temporary hardness of water?
2. What is zeolite?
3. What is co – polymerization?
4. How do you obtain Bakelite?
5. What is greenhouse effect?
6. Distinguish BOD from COD.
7. What is the function of gypsum in cement?
8. Define: Refractoriness.
9. What is sintering?
10. What is meant by oxygen balance of an explosive?

## PART – B

(5 x 12 = 60)

Answer All the Questions

11. (a) Describe the process of demineralization of water using ion – exchange resins.  
(b) Enumerate the various steps involved in the purification of water for municipal supply.  
(or)
12. (a) Briefly describe the estimation of hardness of water by EDTA method.  
(b) What is desalination? Explain any one method.
13. (a) Explain the terms addition polymerization and condensation polymerization with suitable examples.

(b) With a neat sketch explain extrusion moulding.

(or)

14. (a) What is meant by functionality of monomers? Explain its significance with suitable examples.

(b) What is compounding of plastics? Name the ingredients and discuss their functions.

15. (a) With a neat diagram explain any one method of sewage treatment.

(b) How is BOD determined? Mention its importance in waste water analysis.

(or)

16. (a) List the various source of air pollution and discuss their effects on the environment.

(b) Explain briefly any two primary treatment methods adopted for domestic sewage.

17. (a) Describe manufacture of Portland cement by wet process.

(b) Explain the following properties of refractories

(i) Thermal spalling (ii) Porosity

(or)

18. (a) What are special cements? Discuss the composition and characteristics of any two special cements.

(b) Discuss the chemistry of setting and hardening of cement.

19. (a) How will you prepare metal alloy powder? Explain.

(b) How are explosive classified? Give suitable examples.

(or)

20. (a) What is powder metallurgy? What are its uses? Mention its limitations.

(b) What are rocket propellants? Mention the characteristics of a good propellant.