

7/10/13

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ANNA UNIVERSITY

B.E./ B.Tech.(Full Time) DEGREE END SEMESTER EXAMINATIONS, Nov/Dec 2013

(Common to Mech/ Manuf. /Industrial / Mining/ Printing)

II Semester (Regulations 2004)

CY 182 Chemistry II

Time: 3 hours

Max. Marks: 100

Answer ALL Questions  
Part - A (10X 2 = 20 Marks)

1. Define: octane number and cetane number
2. What do you mean by spontaneous ignition temperature?
3. Brief about cloud and pour point
4. What are abrasives? What are the types of abrasives?
5. Explain: phosphate conditioning
6. Write in brief about caustic embrittlement
7. Brief about compacting.
8. What is meant by degrees of freedom with respect to phase rule?
9. What is iodometry?
10. What are redox titration?

Part- B (5 X 16= 80 Marks)

- 11 i) Describe flue gas analysis by Orsat apparatus. Discuss its significance. (8)  
ii) Explain the proximate analysis of coal and its significance. (8)
- 12 a) i) Give the preparation, properties and uses of high alumina bricks (8)  
ii) What are lubricants? How they are classified. Give examples (8)  
(OR)  
b) i) Mention the important characteristics of polycarbonate and thermocole (8)  
ii) Give the properties of polymer blends with examples (8)
- 13 a) i) With a neat diagram, explain the ion exchange process for the purification of water. (8)  
ii) What are the factors which cause boiler corrosion and caustic embrittlement. (8)  
(OR)  
b) i) What is meant by sludge and scale in boiler. What are the causes of sludge and scale formation. (8)

ii) What is paint? What are its constituents? Give the mechanism of drying of an oil paint. (8)

14 a) i) Draw and explain a phase diagram of Pb-Ag system (8)

ii) Write any two methods of preparation of metal powder (8)

(OR)

b) i) Draw and explain a phase diagram for Zn-Mg system. (8)

ii) Write in detail about the compacting and sintering used employed in powder metallurgy. (8)

15 a) i) Write in detail about the estimation of iron by dichrometry (8)

ii) How is Mg estimated by complexometric titration using EDTA (8)

(OR)

b) i) Write in detail about the estimation of Pb and Ni by gravimetry. (8)

ii) What is the principle of atomic adsorption spectroscopy? Discuss the important components involved in AAS. (8)

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