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B. E./B. Tech. (Full-Time) DEGREE AND SEMESTER EXAMINATIONS, April/ May 2013
(Common to Mechanical, Manufacturing, Industrial, Mining and Printing Technology)
SECOND SEMESTER

CY182-CHEMISTRY II
(REGULATIONS-2004)

Time: 3 hr. Answer ALL questions Max Mark: 100

PART- A (10 x 2 = 20 Marks)

1. How will you estimate moisture in coal?
2. Define the term explosive range.
3. Classify refractories with example.
4. Explain cloud and pour point.
5. What is the cause for boiler explosion? Give details.
6. What is the function of drier in paint formulation? Give example.
7. Define the term condensed phase rule.
8. How is metal powder prepared in chemical reduction method?
9. Define complexometric titration with one example.
10. What is the role of calibration curve in AAS.

Part - B (5 x 16 = 80 Marks)

11.	i.	Write an account on estimation of Zn and Ni by redox titration method.	(8)
	ii.	Draw a neat black diagram of AAS and explain its working principle.	(8)
12a.	i.	Describe the fractional distillation technique of petroleum refining with a neat diagram.	(8)
	ii.	Draw a neat diagram and describe Bergius process.	(8)
		(OR)	
12b.	i.	Illustrate with a neat diagram of manufacture of producer gas.	(8)
	ii.	Exemplify with diagram on Orsat apparatus.	(8)
13a.	i.	Write any two properties of refractories.	(8)
	ii.	Write the preparation, properties and uses of zirconia bricks.	(8)
		(OR)	
13b.	i.	Define the term grease and explain on cup and soda greases.	(8)
	ii.	Distinguish between commodity plastics and engineering plastics with example.	(8)
14a.	i.	Write an account on demineralization process.	(8)
	ii.	Describe boiler corrosion and priming and foaming.	(8)
		(OR)	
14b.	i.	Define the term desalination and write notes on reverse osmosis process.	(8)
	ii.	Write the primary constituents of paint and explain them.	(8)
15a.	i.	Draw phase diagram and explain a simple eutectic system.	(8)
	ii.	Describe with a phase diagram of Zn-Mg system.	(8)
		(OR)	
15b.	i.	Write the principle and advantages of physical metallurgy.	(8)
	ii.	List out the various applications of P/M technique.	(8)