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B.E./B.Tech.(Full Time) DEGREE END SEMESTER EXAMINATIONS, MAY 2012

(Electrical and Electronics Engineering Branch)

SECOND SEMESTER

CY 183 –CHEMISTRY II

(REGULATIONS 2004)

Time: 3 hours

Max. Marks: 100

Instructions: 1.....
2.....

Answer ALL Questions

Part - A (10 X 2 = 20 Marks)

1. State Grotthus Draper law.
2. What is meant by radiolysis?.
3. Name the monomers used in the preparation of urea formaldehyde
4. What is the definition of optical fibre?
5. Write in brief about the corrosion inhibitors?
6. Write note on pitting corrosion.
7. Distinguish between nuclear fission and nuclear fusion
8. What is meant by nuclear fission?
9. What is a Hoop's process?
10. What are the advantages of electrochemical machining?.

Part-B (5 x 16 = 80)

11. i) How is aluminium extracted using Bayer process? (8)
ii) Explain the theory electron transfer in heterogeneous systems. (8)
12. a) i)What do you understand by the term quantum yield of a photochemical reaction.
How it is determined experimentally? (8)
ii) Write in detail about the photochemical decomposition of HI and HBr (8)

(OR)

- b) i) Write in detail about fluorescence and phosphorescence. (8)
ii) How the quantum yield is determined using chemical actinometer (8)
13. a) i) Write preparation, properties and uses of urea formaldehyde. (8)
ii) Write in detail about chemical structure and electronic behavior of conducting polymer(8)

(OR)

- b) i) What is meant by vulcanization? Explain the process of vulcanization of rubber. (8)
ii) Describe the principle and structure of optical fibre (8)
14. a) i) What is cathodic protection? How the corrosion can be controlled by sacrificial anode?(8)
ii) Explain the mechanism of chemical corrosion (8)

(OR)

- b) i) What is a paint? What are the constituents of paints? Discuss their functions? (8)
ii) Write in detail about stress corrosion and galvanic corrosion. (8)
15. a) i) Explain the construction and working of lead acid storage cell. (8)
ii) What are the components of nuclear reactors? What are their functions? (8)

(OR)

- b) i) Explain about solar cell and nickel- cadmium cell (8)
ii) Explain the construction and working of hydrogen oxygen fuel cell. (8)
