Reg. No. : | | | | | | | | | | |

Question Paper Code: 31014

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

First Semester

Civil Engineering

01UCY104 - ENGINEERING CHEMISTRY

(Common Mechanical Engineering)

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What is meant by vulcanization of rubber?
2. Define composite materials.
3. What are nanomaterials?
4. Define flash point.
5. What is electroless plating?
6. List out any two important objectives of electro plating.
7. Define desorption.
8. Give an example of auto catalysis reaction.
9. State Beer-Lamberts law.
10. What are the types of electronic transitions?

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss in detail about addition and condensation polymerisation with suitable examples. (16)

Or

(b) Explain free radical mechanism of polymerization. (16)

12. (a) Describe the manufacture of Portland cement by wet process. (16)

Or

(b) What are solid lubricants? Mention their advantages with a neat sketch, explain the functioning of any one solid lubricant. (16)

13. (a) What is meant by electrochemical corrosion? Describe the mechanism of electrochemical corrosion. (16)

Or

(b) How is corrosion controlled by sacrificial anode and impressed cathodic current methods? (16)

14. (a) Derive Langmuir's adsorption isotherm. (16)

Or

(b) Describe any three methods of removal of heavy metals from effluents. (16)

15. (a) State the principle of flame photometry? How do you estimate sodium using flame photometry. (16)

Or

(b) Explain the principle and estimation of iron by UV-visible spectrometry. (16)

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