PVP 12

Code: **CE1T3,CS1T4,EC1T3,IT1T3**

I B.Tech-I Semester – Regular Examinations-February 2014

ENGINEERING CHEMISTRY
(Common for Civil,CSE,ECE,IT)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1 a) Describe ion exchange process for demineralization of water. 7 M

b) What is meant by hardness of water? Discuss different types of hardness. 7 M

2 a) Write short notes on stiochiometric and non-stiochiometric semiconductors. 7 M

b) Define superconductivity. Mention its engineering applications. 7 M

3 a) Explain working principle of solar heater and photovoltaic cell. 8 M

b) What is green house effect? Discuss its consequences. 6 M

4 a) What are different types of corrosion. Explain the mechanism of dry corrosion. 7 M

b) Discuss the various factors influencing the rate of corrosion. 7 M

5 a) Write preparation, properties and uses of the following: 7 M

i) Poly vinyl chloride
ii) Poly carbonate

b) Discuss different types of polymerization with suitable examples. 7 M

6 a) Differentiate between thermosetting and thermoplastic resins. 7 M

b) Write the engineering applications of plastics. 7 M

7 a) What are nano materials? Discuss the properties of nano materials. 7 M

b) Enumerate the engineering applications of nano materials. 7 M

8 a) Mention the principles of green chemistry. 6 M

b) Describe these methods of green synthesis. 8 M

i) Phase transfer catalyst
ii) Microwave induced method