

Code: EE2T3, EM2T3, ME2T3

I B.Tech-II Semester-Regular Examinations - July 2013

**ENGINEERING CHEMISTRY
(For EEE, ECM, MECHANICAL)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) What is meant by water softening? Explain the ion exchange method. 7 M
- b) What is desalination of brackish water? Describe the method reverse osmosis with diagram. 7 M
2. a) Illustrate stoichiometric and non-stoichiometric semi-conductors 6 M
- b) What are liquid crystals? What are different types? Write important applications. 8 M
3. a) What is solar energy? Explain the advantages and disadvantages of solar energy 7 M
- b) Describe solar heaters and give some uses 7 M

4. a) Explain the factors influencing corrosion 6 M
b) Write notes on
i) sacrificial anodic protection
ii) impressed current cathodic protection 8 M
5. a) What are different methods of polymerization? Explain. 7M
b) Describe the preparation, properties and use of Polystyrene, PTFE and Bakelite 7 M
6. a) What is compounding of plastics? Explain various constituents. 7 M
b) Write notes on
i) Glass fiber reinforced plastics
ii) Bullet proof plastics 7 M
7. a) How a nano material is different from normal material? Explain 6 M
b) Describe preparation, properties and uses of fullerenes 8 M
8. a) What are the advantages of green approach in the synthesis of chemicals 6 M
b) Write notes on
i) Phase transfer catalysis
ii) Microwave induced method 8 M