I B.Tech I Semester Supplementary Examinations, Dec.-2016

ENGINEERING CHEMISTRY-I
(Common to all branches)

Time: 3 hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks

1. a) Explain the principle of Joule Thomson Effect and mention its applications.
    b) Explain any one method for desalination of brackish water and its advantages.   (8+7)

2. a) Discuss the factors influencing the viscosity of a liquid.
    b) Discuss the important conditions for fermentation process.   (8+7)

3. a) Explain fluorescence and phosphorescence with the help of Jablonski diagram.
    b) Write notes on biosensors.
    c) Give any five applications of nuclear magnetic resonance.   (6+5+4)

4. a) Write the properties of superconductors.
    b) Discuss the types of liquid crystals.   (8+7)

5. a) Explain the determination of percent carbon, nitrogen and sulphur by ultimate analysis.
    b) Explain the working of thermal power station.   (8+7)

6. a) What are primary batteries? Explain the working of a dry cell.
    b) Write notes on concentration cells.   (8+7)

7. a) Write notes on nuclear fission. Give examples.
    b) Write notes on breeder reactor.   (8+7)

8. a) Discuss the need of green chemistry to the society.
    b) What is a solar cell? Explain the working of photovoltaic cell   (8+7)