I B. Tech II Semester Supplementary Examinations, December 2015

ENGINEERING CHEMISTRY

(Common to Civil Engineering, Electrical and Electronics Engineering and Mechanical Engineering)

Time: 3 Hours   **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
         Answer any **FOUR** questions from **Part-B.** All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. What is hardness? Give any two disadvantages of hardness of water.

2. Define single electrode potential?

3. Define Pilling and Bedworth Rule?

4. Why HCV is greater than LCV?

5. Give any two differences between Addition and Condensation polymerization.

6. Explain the importance of using green solvents in the green synthesis.

PART B

4 × 12 = 48 M

1. a) What is Softening of water? Explain how hard water can be softened by Ion Exchange Process. (6M)

   b) Discuss how the municipalities treat the water to supply potable water. (6M)

2. a) Explain the construction and working of a Lead acid storage cell. (8M)

   b) Write a brief note on working of solar parabolic trough collector in harnessing solar energy. (4M)

3. a) Explain the theory of wet corrosion with example. (6M)

   b) Distinguish Galvanization with Tinning. (6M)

4. a) What are bio degradable polymers? How PHBV is prepared and give their applications. (6M)

   b) Write the preparation, properties and engineering applications of Thiokol Rubber. (6M)

5. a) How Calorific Value of a coal can be determined by Bomb Calorimeter. (6M)

   b) What is Synthetic petrol? Discuss the process of Fischer Tropsch for the preparation of synthetic petrol. (6M)

6. a) Explain in brief note on green synthesis of aqueous phase method. (6M)

   b) Discuss the principles of green chemistry. (6M)

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