SET - 2 | **GR 14** | CODE: GR14A1008

I B. Tech I Semester Regular Examinations, January, 2015

Engineering Chemistry

(Common to CE,ME,ECE, BT)

Time: 3 hours **Max Marks: 70**

PART – A
Answer ALL questions
All questions carry equal marks
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2 * 10 = 20 Marks

1). a	Define Caustic Embrittlement.	**[2]**
b	Write the important characteristic of Portable Water.	**[2]**
c	Define EMF of Cell.	**[2]**
d	What is Cathodic Protection?	**[2]**
e	Why Gypsum is added to Cement and write its chemical equation?	**[2]**
f	Define Viscosity Index.	**[2]**
g	Define Condensation Polymerisation with example.	**[2]**
h	Define the Conducting Polymers? Give examples.	**[2]**
i	Write the significance of Proximate Analysis.	**[2]**
j	What is Octane Rating of Gasoline?	**[2]**

PTO…

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PART – B
Answer any FIVE questions
All questions carry equal marks
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10 * 5 = 50 Marks

2. (a) Explain the principle involved in removal of hardness by Ion-exchange process. **[6 + 4]**

(b) How can you avoid scales and sludge's in Boilers?

3. (a) Briefly explain the working principle of Lithium Ion Batteries. **[6 +4]**

(b) Explain briefly the process of Copper Electroplating Coating.

4. (a) Explain the Setting & Hardening of Portland Cement. **[6 +4]**

(b) Explain the Thin Film Lubricant mechanism.

5. (a) Write differences between Thermoplastic Resins and Thermo Setting Resins. **[5 + 5]**

(b) Write a short note on Organic Light Emitting Diodes.

6. (a) Calculate the gross and net calorific value of a coal which analyses: C 74%, H 6%, N 1%, O 9%, S 0.8%, moisture 2.2% and ash 8%? **[5 + 5]**

(b) Describe the synthesis of Petrol by Fischer Tropsch's Method.

7. (a) Explain the Carbonate and Phosphate Conditioning Treatment. **[4+3+3]**

(b) Explain sacrificial Anodic Protection Method.

(c) Write a short note on application of Refractories.

8. (a) Explain the mechanism of conduction in Trans Poly Acetylene. **[5 + 5]**

(b) How can you calculate the % Carbon, Hydrogen and Sulphur in wet coal by ultimate analysis?

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