

Code No: 09A1BS03

**R09**

**Set No. 2**

**I B.Tech Regular Examinations, JUNE 2010**

**ENGINEERING CHEMISTRY**

**Common to CE, ME, CHEM, BME, IT, MECT, MEP, AE, BT, AME, ICE,  
E.COMP.E, MMT, ETM, EIE, CSE, ECE, EEE**

**Time: 3 hours**

**Max Marks: 75**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. (a) What is Gibbs phase rule, its significance and limitations?  
(b) Explain with suitable examples the terms involved in Gibb's phase rule. [8+7]
2. Write an account on the refining of petroleum by explaining the composition, boiling range and uses of different fractions obtained during refining. [15]
3. (a) What are concentration cells? How can the EMF of a concentration cell be evaluated?  
(b) Write short notes on single electrode potential and its significance. [9+6]
4. Explain the following statements with proper illustrations.  
(a) Tyndal cone is observed when a beam of light is concentrated on colloidal systems.  
(b) Alums are used for the treatment of water supplied by municipalities. [8+7]
5. Write a brief account on the following:  
(a) Heat capacity of a refractory material.  
(b) Porosity of a refractory material.  
(c) Thermal expansion and contraction.  
(d) Refractoriness. [15]
6. (a) How are synthetic high polymers classified?  
(b) Discuss the preparation, properties and uses of various grades of polythenes. [8+7]
7. (a) What are the factors that lead to caustic embrittlement in boilers? How can this be prevented?  
(b) Distinguish between Zeolite process and Ion-Exchange process. [8+7]
8. (a) Explain the process of galvanizing and tinning.  
(b) What are organic paints? Describe their constituents. [8+7]

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