

**II B.Tech II Semester Supplementary Examinations, Apr/May 2006**  
**ENERGY ENGINEERING**  
**(Chemical Engineering)**

**Time: 3 hours**

**Max Marks: 80**

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

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1. (a) Compare and contrast dry process and wet process for coal washing.  
(b) Differentiate in-situ theory and drift theory supporting origin of coal. [8+8]
2. (a) What is vis-breaking? Describe the process of vis breaking?  
(b) Write about the various catalyst systems practiced in catalytic cracking?[8+8]
3. Explain the significance of following properties of petroleum products  
(a) Vapour pressure  
(b) Viscosity  
(c) Cloud point-pour point  
(d) Freezing point [4x4=16]
4. What is a photovoltaic cell? Discuss about its important features. Explain about the types and functioning of any one type in detail. [16]
5. (a) Explain the difference between fixed dome type and floating dome type biogas plant.  
(b) Illustrate the dome type biogas plant with a neat sketch. [8+8]
6. How hydrogen can be produced and mention its uses. [8+8]
7. Name the components of a biogas plant and describe its working. [16]
8. Write short notes on the following:  
(a) Fly ash management.  
(b) Hazardous wastes. [8+8]

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