

**IV B.Tech I Semester Supplementary Examinations, April/May 2005**  
**POWER PLANT ENGINEERING**  
**(Mechanical Engineering)**

**Time: 3 hours**

**Max Marks: 80**

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

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1. Draw a chart showing operations and devices used in coal handling plant.
2. (a) Describe a cyclone separator.  
(b) Explain the carry over losses in cooling towers.
3. (a) With help of a block diagram explain the main components of a open cycle gas turbine power plant.  
(b) Give the classification of gas turbine power plants.
4. What are the various factors to be considered in selecting the site for a hydro electric power plant?
5. (a) What are the main advantages of using solar flat plate collectors?  
(b) Describe the working of distributed type solar thermal power generating unit.  
(c) Write short notes on solar energy collection and utilization
6. What are the different methods used to improve the thermal efficiency of the open cycle gas turbine plant? Draw and explain with neat sketches.
7. (a) Explain the function of a moderator. What is the criterion of its effectiveness?  
(b) What are the different fuels used in nuclear power plants.  
(c) Describe a Homogeneous reactor.
8. (a) What do you understand by thermal pollution ? What are the bad effects of thermal pollution ?  
(b) Explain different methods adopted to control the nuclear pollution.

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