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**MMTP - 201**  
**M.E./M.Tech., II Semester**  
Examination, December 2013  
**Thermal Power Plant Engineering**  
*Time : Three Hours*

*Maximum Marks : 70*

**Note :** Attempt any five questions. All questions carry equal marks.

1. a) What are the main considerations in selecting a boiler for a steam power station?  
b) What are supercritical power plants? What do you understand by the term supercritical? What are the benefits of advanced supercritical power plants? Explain the various cycle components involved in a supercritical plant.
2. a) Classify different types of pulverized burner and explain them briefly.  
b) Explain different ash handling and dust collection system.
3. a) Discuss the advantage and disadvantage of surface condenser over jet condenser.  
b) What are the need and importance of feed water heater? Explain its various types.
4. Explain the functions which various types of instruments in a power plant have to perform and how these instruments are classified.

5. a) What is the importance of heat balance computation in a steam station?  
b) Explain methods of controlling emission of fossil fuel.
6. a) Explain the safety and seismic analysis issues of power plant.  
b) Discuss the training requirements of thermal power plant personnel's.
7. a) What do you mean by fluidization. Explain in brief fluidized bed combustion.  
b) Discuss the insulation requirement of thermal power plant.
8. Write the short note on (any three):
  - a) Temperature measurement in a power plant
  - b) Performance curves
  - c) Installation and commissioning of thermal power plant
  - d) Combustion and furnace design.

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