

Roll No.....

**ME - 602**  
**B.E. VI Semester**  
Examination, June 2014  
**Power Plant Engineering**

**Time : Three Hours**

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**Maximum Marks : 70**

**Note:** Attempt any five questions. All questions carry equal marks.  
Draw a neat sketch where it is required.

1. a) Enumerate the major sources of energy. Differentiate between renewable and non-renewable sources of energy.  
b) Describe an open cycle and closed cycle MHD power generation?
2. a) Explain in brief the different methods of firing the coal.  
b) With the help of neat diagrams, discuss a condensing and non-condensing steam power plants.
3. a) What are function of instrument in a power plant?  
Enumerate some electrical and mechanical instruments used in a power station.  
b) State the various principal routes of "biomass energy" conversion to use full energy?
4. a) What are methods employed to control the chain reaction in a nuclear power plant?

- b) Describe with neat diagram, breeder reactor used in nuclear power plant. Write its advantages and disadvantages.

5. a) What are the different factors to be considered while selecting the site for hydro-power plant?  
b) A Hydro power plant has catchment area of 50 sq. miles and run off is 70%. The average rainfall is 60 inches and head of 400 meters. Find the power available if overall efficiendy of plant is 80%.
6. a) Compare Hydro, Steam, and Nuclear power plants, from plant economics and generation point of view.  
b) Explain following:
  - i) Demand factor
  - ii) Use factor
  - iii) Capacity factor
7. a) What is meant by tariff(energy rate)? What are the various types of tariff used in common use?  
b) Explain in briefly, micro and pico Hydro machines.
8. Write short notes on the following :
  - a) Solar energy
  - b) Spill was
  - c) Fuel handling
  - d) Nuclear fuel