

I.D. No. 24479

B. Tech. 7th Semester F. Scheme Mechanical Engineering–VII

Examination, May–2014

POWER PLANT ENGINEERING

Paper–ME-407-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt five questions in all. Question Number 1 is compulsory and select at least one question from each section.

1. (a) What are the primary and secondary sources of energy ? 2.5×8
- (b) What is the present installed capacity in Haryana and name the various plants of Haryana ?
- (c) What is fuel cell ? How the electrical energy is created in fuel cell ?
- (d) What is Economizer ? How much boiler efficiency improves by economizer ?
- (e) Where bucket elevator is used in thermal power plant ?
- (f) What do you mean by hydrology ?
- (g) What is the function of surge and speed governor in hydroelectric station ?

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- (h) What are the various non conventional method of generating electric power.

Section-A

2. Explain the various energy resources present in India and based on the availability which resource you recommend to use how its maximum benefit can be taken suggest the suitable method. 20
3. Explain the different methods of classifying hydroelectric power plant. What is a runoff river plant ? Explain in detail. 20

Section-B

4. Explain with the help of neat sketch the mechanical dust collector and electrostatic precipitator. 20
5. Explain with the help of neat sketch the Arrangements of combined plants. 20

Section-C

6. Explain the construction and working of PWR with neat sketch with its various advantages and disadvantages. 20
7. Write the various tariffs methods used for the calculation of electrical energy. 20

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Section-D

8. With neat sketch, explain the working of OTEC, wind power plants, power plant. 20
9. Describe in brief the following method of energy generation :
- (a) Solar energy
 - (b) Magneto hydrodynamics (M.H.D.)
 - (c) Fuel cells. 20