

Roll No.

24479

B. Tech. 7th Sem. (ME)

Examination – May, 2015

POWER PLANT ENGINEERING

Paper : ME-407-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions in all. Question No. 1 is *compulsory* and select at least *one* question from each Section.

1. (a) Name the various types of power plant. 2.5 × 8
- (b) What is the present installed capacity in Haryana and name the various newly constructed plants of Haryana ?
- (c) What is fuel cell ? How the electrical energy is created in fuel cell ?

- (d) What is super heater ? How much boiler efficiency improves by super heater ?
- (e) Where screw conveyer is used in thermal power plant ?
- (f) What do you mean by run off ?
- (g) What is the Water hammer and cavitation in hydropower plant ?
- (h) What are the various conventional method of generating electric power.

SECTION – A

2. Discuss the basic thermodynamic cycles used in power plants with mathematical derivation. 20
3. Discuss about the site selection of hydropower plant and compare this with other types of power plants such as thermal. <http://www.HaryanaPapers.com>

SECTION – B

4. Give the layout of modern stream power plant. Also explain the salient feature of the same. 20

5. Explain with the help of neat sketch the Arrangements of combined plants.also discuss the re-powering systems with gas production from coal. 20

SECTION – C

6. Explain the construction and working of CANDU with neat sketch with its various advantages and disadvantages. 20
7. The annual peak load on a 30 MW power station is 25 MW. The power station supplied loads having maximum demands of 10 MW, 8.5MW, 5MW and 4.5 MW. The annual load factor is 45%.

Find : 20

- (a) Average load
(b) Energy supplied by year
(c) Diversity factor
(d) Demand factor

SECTION – D

8. With neat sketch, explain the working of OTEC, wind power plants, tidal power plants. 20

9. Describe in brief the following method of energy generation : 20

- (a) Thermoelectric power generation
(b) Thermionic power generation.

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