

Roll No.

24479

**B. Tech. 7th Semester (ME)
Examination – May, 2019**

POWER PLANT ENGG.

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 number *one* is *compulsory* and select at least *one* question from each Section.

- 1. (a) Name the various sources of secondary energy ?
2.5 × 8 = 20
- (b) Name the various plant installed in Haryana along with its location.
- (c) What is fuel cell ? How the electrical energy is created in fuel cell ?

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- (d) What is Economizer ? How much boiler efficiency improves by economizer ?
- (e) Where screw conveyer is used in thermal power plant ?
- (f) What is the function of surge tank hydroelectric station ?
- (g) What is the function of speed governor in hydroelectric station ?
- (h) What is the function of Photovoltaic cell ?

SECTION – A

- 2. Describe in brief the following method of energy generation : 20
- (a) Solar energy
- (b) Tidal energy
- (c) Secondary energy sources

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3. Discuss the various components of hydro-electric power plants. And discuss the role of Hydrograph in designing the hydroelectric plant ? 20

SECTION – B

4. Explain the working and operations of modern stream power plant with neat sketch. 20
5. How the exhaust gases from gas turbine of power plant can be used in a steam power plant ? Show by line diagram such arrangements. Also discuss advantages of these Arrangements. 20

SECTION – C

6. The annual peak load on a 30 MW power station is 25MW. The power station supplied loads having maximum demands of 10 MW, 8.5MW, 5MW and 4.5 MW. The annual load factor is 45%. 20

Find : <https://www.haryanapapers.com>

- (a) Average load

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

7. Write the various tariffs methods used for the calculation of electrical energy. 20

SECTION – D

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