Total No. of Pages : 2

Register Number : **7787**

Name of the Candidate :

DIPLOMA EXAMINATION DECEMBER 2013.

(ENERGY ENGINEERING)

120 — ENERGY GENERATION

Time : Three hours Maximum : 100 marks

Answer any FIVE questions. (5 × 20 = 100)
All questions carry equal marks.

1. (a) Explain the various types of conventional energy sources with suitable example. (10)

   (b) What are the factors to be considered in selection of water turbine (10)

2. (a) Explain the working principle of hydroelectric power plant with neat sketch. (12)

   (b) What is a surge tank? Why is it important in a hydroelectric power plant? (8)

3. (a) Write short note on the following (12)

   (i) Superheater

   (ii) Air preheater

   (iii) Economizer

   (iv) Feed pump

   (b) List out the advantages of pulverized coal-firing system (8)

4. (a) Explain the essential features and their function of a gas turbine power plant with a neat diagram. (15)

   (b) What is meant by open and closed cycles of a gas turbine? (5)

5. (a) What are high-pressure boilers? Explain any high pressure boiler with suitable sketch. (15)

   (b) Write the advantages of velocity pressure compounding of impulse turbine. (5)

6. (a) Briefly discuss the merits of thermoelectric power generators. (8)

   (b) Explain the functioning of fuel cell with suitable sketch. (12)

7. (a) What are the main constituents of fuel oil? (8)

   (b) What are cyclone separators? Explain the working principle of any one with suitable diagram. (12)

8. (a) Explain the heating and cooling applications of thermoelectric system.

   (b) What are the major advantages and limitations of MHD generating system?

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