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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER-2021

POWER PLANT ENGINEERING

[Maximum marks: 75] (Time: 2.15 Hours)

PART – A

I (Answer any ***three*** questions in one or two sentences. Each question carries 2 marks)

1. Define Cetane number.
2. Define condenser efficiency.
3. List the applications of Gas Turbine.
4. State the functions of moderator in a nuclear reactor.
5. Point out the purpose of compounding in a steam turbine. (3 x 2 = 6)

PART – B

II (Answer any ***four*** of the following questions. Each question carries 6 marks)

1. Describe the requirements of a good fuel.
2. Explain Rankine cycle with P-V and T-S diagram.
3. List the advantages and limitations of Gas turbine.
4. Compare gas turbine with steam turbine.
5. Explain the working of horizontal wind mill.
6. Compare Jet condenser and surface condenser.
7. Discuss the working of Geothermal power plant. (4 x 6= 24)

PART – C

(Answer ***any of the three units*** from the following. Each full question carries 15 marks)

UNIT –I

III. (a) Explain the principal parts of a Bomb Calorimeter. (8)

(b) State the merits and demerits of gaseous fuels. (7)

OR

IV.(a) Explain the working of Forced and Induced type boiler draught. (8)

(b) Discuss the pressure-velocity compounding used in a steam turbine. (7)

UNIT-II

V. (a) Explain the working of induced and forced draft cooling tower. (8)

(b) List the requirements of a good surface condenser. (7)

OR

VI.(a) Explain the working of a counter-flow jet condenser with a neat sketch. (8)

(b) Draw and explain the working of Edward air pump. (7)

UNIT-III

VII.(a) Explain the working of a hydro electric power plant with layout. (8)

(b) Discuss the working of a Ram-Jet Engine with a neat sketch. (7)

OR

VIII.(a) Explain the working of a Diesel Power plant with layout. (8)

(b) Describe the working of a Turbo-Prop engine with a neat sketch. (7)

UNIT-IV

IX. (a) Explain the working of a Boiling Water Reactor with the help of a schematic diagram. (8)

(b) Draw and explain the working of a Biogas Plant. (7)

OR

X. (a) Explain principle parts of a Nuclear reactor and its function with neat sketch. (8)

(b) Describe the working of a Tidal power plant with neat sketch. (7)

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