PVP 14

Code: EE3T3

II B.Tech - I Semester – Regular Examinations – December 2015

THERMAL AND HYDRO PRIME MOVERS
(ELECTRICAL AND ELECTRONICS ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11x 2 = 22 M

1. a) List the main components of a Benson boiler.
   b) List the various methods of compounding in an Impulse turbine.
   c) Write the function and applications of a Condenser.
   d) List the applications of gas turbine.
   e) Why supercharging is necessary in diesel engine.
   f) What are the components of a gas turbine plant.
   g) Define the term 'Governing of a turbine'.
   h) What is the main principle of Kaplan turbine.
   i) What is priming and why is it necessary.
   j) Differentiate between a single acting and double acting reciprocating pump.
   k) Draw a neat sketch of centrifugal pump.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks. 3 x 16 = 48 M

2. a) Explain with a neat sketch the working of La Mont boiler and state its advantages. 10 M

   b) Explain with a neat sketch the working of jet condenser. 6 M

3. a) Explain with a neat sketch the working of closed cycle gas turbine. 8 M

   b) Explain reheating process in gas turbine which increases efficiency. 8 M

4. a) Draw a neat line diagram of a diesel power plant showing all the systems. 8 M

   b) Write the advantages and disadvantages of diesel plant over thermal plant. 8 M

5. a) Explain with a neat sketch the working of Francis turbine. 8 M

   b) Explain the governing method used in impulse turbine with a neat sketch. 8 M

6. a) Explain with a neat sketch the working of reciprocating pump. 8 M

b) Explain multi stage centrifugal pump with a neat sketch. 8 M