Paper Code: IC-022	**Roll No.**									

B.Tech.

SEVENTH SEMESTER EXAMINATION, 2016-17

POWER PLANT INSTRUMENTATION

[Time: 3 Hours] [Max.Marks:100]

Note: Attempt ***ALL*** questions. Assume suitable data, if required. All question carry equal marks.

1. Attempt any four parts of the following: - **(5x4=20)**

(a) Classify boilers. What is meant by feed water treatment?
(b) What do you understand by Base Load and Peak Load Power Plants?
(c) Write a note on Power plant Instrumentation.
(d) Write a note on present energy scenario of our nation.
(e) What do you understand by 'interlocks'in power plant's safe operation? Explain.
(f) Write a note on Tidal renewable sources of energy.

2. Attempt any *two* parts of the following: - **(10x2=20)**

(a) Explain the layout of a Thermal Power Plant using block diagram to indicate various important components.
(b) What do you understand by induceddraught and Forced draught? Explain its working.
(c) Write notes on the following: i. Fuelsused for power generation. ii. Super heater.

3. Attempt any *two* parts of the following: - **(10x2=20)**

(a) Discuss important points considered for site selection of Hydro Electric power plant.
(b) Discuss various turbines used in Hydro Electric Power Plants. What are the criteria for their selection for power generation?
(c) What is water hammer phenomenon? What is the function of Penstock?

4. Attempt any *two* parts of the following:- **(10x2=20)**

(a) Write a note on power generation through wind energy. What do you understand by Betz Limit?
(b) Explain in detail application of solar thermal energy in power generation.

(c) Write notes on the following: (i) Types of Wind Turbines. (ii) Geothermal energy.

5. Attempt any *two* parts of the following: - **(10x2=20)**

(a) Explain the working of nuclear power plant giving suitable sketch. Discuss about the importance of Moderator and Reflector.

(b) Write a note on pollution generated by Thermal Power Plants and how can it be controlled.
(c) Write notes on the following: (i) Boiling Water reactor. (ii) Nuclear waste disposal.