

Roll No. ....

Total Pages : 2

**BT-8/D-17**

**38051**

**POWER PLANT ENGINEERING**

Paper : ME-404-E

Opt. (ii)

Time : Three Hours]

[Maximum Marks : 100

**Note :** Attempt five questions in all, selecting at least one question from each unit. All questions carry equal marks.

**UNIT-I**

1. (a) What are the renewable and non-renewable sources of energy? Also explain the recent development in power sector. 08  
(b) Explain the various methods by which energy can be obtained from waste. 12
2. Define hydrograph and explain its importance in the design of storage type hydroelectric power project. Explain the effect of time unit on the storage capacity of the catchment area required. 20

**UNIT-II**

3. (a) What are the major impurities of make-up water? What are its effect on boiler? 5  
(b) Draw a line diagram of FBC system where steam turbine is used as a prime mover and explain its working. 15
4. What are the different methods of fuel injection used in diesel plants? Which method is commonly used in big diesel plant and why? 20

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**UNIT-III**

5. Sketch a line diagram of semi-closed cycle gas turbine power plant. Under what circumstances, these plants are more economical and superior in operation to close cycle and open cycle plants? 20
6. What do you understand by positive power coefficient and negative temperature coefficient? How these factors affect the performance of PWR and BWR? 20

**UNIT-IV**

7. Define the diversity factor? Prove that the load factor of a power system is improved by an increase in diversity of load. 20
8. Define load duration curves. Explain the method of its construction and state its advantages in the design of power plant. 20

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