

Duration:- Three Hours

Total Marks : 80

NOTE

1. Question No 1 is Compulsory.
2. Solve any three out of the remaining.
3. Figure to the right side indicates marks.
4. Assume the suitable data and mention the same if required

- Q.1 a) Explain conventional and non-conventional energy sources [5]
- b) Explain load curve and load duration curve. [5]
- c) Draw layout of Gas power plant. [5]
- d) Explain in brief, principle of solar PV system [5]
- Q.2 a) Explain the operation of fluidized bed combustion process. [10]
- b) Explain site selection of thermal power plant. [10]
- Q.3 a) Describe operation of hydro power plant with layout. [10]
- b) The run off data of a river at a particular site is given as below: [10]

Month	Mean Discharge in m ³ /s	Month	Mean Discharge in m ³ /s
Jan	200	July	1600
Feb	400	August	1200
March	600	Sept	2000
April	2400	Oct	1200
May	1200	Nov	800
June	1800	Dec	400

Draw Hydrograph, flow duration curve and power that can be developed.

- Q.4 a) Explain PWR nuclear reactor. [10]
- b) Explain operation of Diesel power plant with layout. [10]
- Q.5 a) Explain operation of pumped storage plant. [10]
- b) Explain operation of Vertical axis and Horizontal axis wind turbine [10]
- Q.6 a) Explain principle of fuel cell. State classification of fuel cells. [10]
- b) Describe operation of Solar pond with layout. [10]