

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 ² /s	Month	Mean Discharge in m ² /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]