

[Time: Three Hours]

[Marks:80]

- 1) Question No.1 is compulsory.
- 2) Attempt any 3 questions from remaining four questions.
- 3) Figure to the right indicate full marks.
- 4) Make suitable assumptions wherever necessary.
- 5) Draw suitable diagram wherever necessary

Q 1

20

- a) Compare the nuclear fission and fusion
- b) State advantages and disadvantages of gas turbine power plant
- c) Explain hydraulic cycle
- d) Explain the working of PV cells with the neat diagram

Q 2

20

- a. Explain typical layout of thermal power plant
- b. Explain various factors and effect of fluctuating load on operation of power plant and also explain method to meet fluctuating load.

Q 3

20

- a) Draw and explain the general layout of diesel power plant.
- b) The maximum demand of power station is 96000kW. It has to supply the load as follow:

Time(hrs)	0-6	6-8	8-12	12-14	14-18	18-22	22-24
Load(MW)	48	60	72	60	84	96	48

- i. Draw load curve and load duration curve
- ii. Calculate load factor

Q 4

20

- a. Explain horizontal axis and vertical axis wind turbine
- b. Draw a neat layout of hydroelectric power plant and explain in brief.
 - i. Reservoir
 - ii. Dam
 - iii. Penstock
 - iv. Surge tank

Q 5 Write shot notes on any two:

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- a. Boiling water reactor(BWR)
- b. Fuel Cell
- c. power generation by using biomass
- d.Solar Collector
