Total No of Questions: [8] *SEAT NO. :*

[Total No. of Pages : *1*]

S.E.2012 (Electrical)

Power Generation Technology (Semester - I)

Time: 2 Hours ***Max. Marks : 50***

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of Calculator is allowed.***
5) ***Assume Suitable data if necessary***

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Q1) **a)** Write short note on "jet type condenser" for thermal power plant [6]

b) Describe breeder type reactor with a neat sketch. [7]

OR

Q2) **a)** Explain working of economiser used in thermal power plant with the help of diagram. [6]

b) Explain closed cycle gas turbine power plant with neat sketch [7]

Q3) **a)** Explain grid connected wind energy conversion system with the help of neat diagram. [6]

b) Give the functions of following components [6]

(i) Spillways (ii) Pondage (iii) Dam (iv) Penstock

OR

Q4) **a)** Differentiate horizontal axis and vertical axis wind turbine. [6]

b) What are the factors used to select the site of hydro power plant? [6]

Q5) **a)** Discuss the working of central receiver tower power plant used in high temperature solar thermal power plants. [7]

b) Explain any three application of solar energy conversion. [6]

OR

Q6) **a)** Explain solar cell, module, panel and array with diagram [7]

b) Explain performance curve of PV cell with the help of I-V curves. [6]

Q7) Draw schematic diagram of following power plant indicating all parts [12]

(a) Tidal power plant **(b)** Mini hydel power plant

(c) Geothermal power plant **(d)** Fuel cell based generation

OR

Q8) **a)** Explain interconnection of renewable energy sources into grid [6]

b) Explain geothermal power plant in details. [6]