

Total No. of Questions : 8]

SEAT No. :

P3855

[Total No. of Pages : 2

[5057] - 2032

S.E. (Electrical)

POWER GENERATION TECHNOLOGIES

(2015 Pattern)

Time : 2 Hours]

[Max. Marks : 50

Instructions to the candidates :-

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*

- Q1)** a) With the help of diagram explain the main parts and working of thermal power plant. [6]
- b) Compare thermal, hydro and nuclear power plants. [6]

OR

- Q2)** a) Explain coal handling system in coal thermal power plant with neat block diagram. [6]
- b) With the help of diagram explain the combine cycle gas power plant.[6]

- Q3)** a) Differentiate between the working of Francis turbine and Kaplan turbine used in hydropower plants. [6]
- b) Derive the relation for power in wind and Explain Impact of Tower Height on power generation in wind energy systems. [7]

OR

- Q4)** a) Explain the following terms : [6]
- i) Hydrograph
 - ii) Flow duration curve
 - iii) Mass curve
- b) Explain how the wind pattern affects power generation in wind energy systems. [7]

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- Q5)** a) Explain the impacts of temperature and insulation on I - V curves of PV cells. [7]
- b) Explain stand-alone, hybrid stand-alone and grid connected renewable energy systems. [6]

OR

- Q6)** a) Explain the process of municipal solid waste to energy conversion [6]
- b) With the help of diagram explain the main concept of solar thermal power plant. [7]

- Q7)** a) Explain the methods of measurement of solar radiation. [6]
- b) Explain the process of biomass energy conversion. [6]

OR

- Q8)** a) Define and explain the terms in solar energy system : [6]
- i) Solar constant
- ii) Concentration ratio
- b) Describe the fuel cells. How are they used for energy storage requirements. [6]

