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[5559]-151

S.E. (Electrical) (First Semester) EXAMINATION, 2019

POWER GENERATION TECHNOLOGIES

(2015 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Neat diagrams must be drawn wherever necessary.

(ii) Figures to the right indicate full marks.

Q1. a) What is meant by feed water in thermal power plant ? [6 marks]

What harms are caused if the feed water quality is poor with impurities?

b) Describe with neat diagram a nuclear power plant layout and explain the working of each part . [6marks]

OR

Q2. a) Describe the control (governing) of steam turbines in thermal power plant [6 marks]

b) What is heat balance in diesel power plant ? What is its significance. [6 marks]

Q3. a) Describe the factors to be considered for the selection of hydro power plant [6 marks]

b) Describe the historical development of wind energy system at global and Indian level . [7 marks]

OR

Q4. a) Why surge tanks are used in hydro power plants? Write their functions. [7 marks]

b) What are the types wind turbine electrical generators? [6 marks]

Q5. a) What are the principles of solar radiations and how they are harnessed? [6 marks]

b) Write an introductory note on major PV System. [6 marks]

P.T.O.

OR

Q6. a) What is PV system? Describe over view of recent development of PV technologies. [6 marks]

b) Write short note on solar thermal power plants. [6 marks]

Q7. a) Explain the working of municipal solid waste plant with the help of sketches. [6 marks]

b) What is biomass ? How it is useful in electric power generation? [7marks]

OR

Q8. a) Explain fuel cell energy storage technology and its requirements . [7 marks]

b) Describe the following systems used in renewable energy systems : [6marks]

- i. stand alone,
- ii. hybrid stand alone