Total No. of Questions—8]

[Total No. of Printed Pages—2

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## 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 [6marks] working of each part.

OR

- Q2. a) Describe the control (governing) of steam tubines 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 [7 marks] and Indian level.

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.

Q6. a) What is PV system? Describe over view of recent development of [6 marks] PV technologies. b) Write short note on solar thermal power plants. [6 marks] Q7. a) Explain the working of municipal solid waste plant with [6 marks] the help of sketches. b) What is biomass? How it is useful in electric power generation? [7marks] OR [7 marks] Q8. a) Explain fuel cell energy storage technology and its requirements [6marks] b) Describe the following systems used in renewable energy systems: stand alone,

hybrid stand alone