Seat No.	

[5668]-151

S.E. (Electrical Engineering) (I Sem.) EXAMINATION, 2019
POWER GENERATION TECHNOLOGIES
(2015 PATTERN)

Time : Two Hours　　　　　　　　　　　**Maximum Marks : 50**

N.B. :— (i) Answer Q. No. **1** or Q. No. **2**, Q. No. **3** or Q. No. **4**, Q. No. **5** or Q. No. **6**, Q. No. **7** or Q. No. **8**.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. (A) Explain Carnot cycle with PV and TS Diagram. [6]

(B) Explain coal handling system in thermal power plant with neat flow chart. [6]

Or

2. (A) Explain working of Air-preheater and economiser in thermal power plant and show its location in layout. [6]

(B) With the help of diagram explain the diesel power plant. [6]

3. (A) Explain the following terms with sketches : [6]

(i) Water hammer

(ii) Surge tank

(iii) Spillways.

(B) Derive power in a wind and environmental impacts of Wind Turbines. [6]

P.T.O.

Or

4. (A) Explain hydrograph and flow duration curve with example. [6]

(B) Explain working of vertical type wind turbine with diagram. [6]

5. (A) Explain the process Biomass energy conversion. [6]

(B) Explain the Shading impacts on I-V curves of PV cells. [7]

Or

6. (A) Explain the process of municipal solid waste to energy conversion with diagram. [6]

(B) With the help of diagram explain the main concept of solar thermal power plant. [7]

7. (A) Define the terms in solar energy system : [6]

(*i*) Solar constant

(*ii*) Cloudy index

(*iii*) Concentration ratio.

(B) Explain grid connected renewable systems and their requirements. [7]

Or

8. (A) Explain the working of PV cell and Simplest Equivalent Circuit for a Photovoltaic Cell. [6]

(B) Describe the fuel cells. How are they used for energy storage requirements ? [7]