

D-180293

B. Tech. EXAMINATION, 2018

Semester V (CBS)

**NON-CONVENTIONAL ELECTRICAL POWER
GENERATION**

EE-507

www.epaper.tk

Time : 3 Hours

Maximum Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt *Five* questions in all, selecting *one* question from each Sections A, B, C and D. Q. No. 9 in Section E is compulsory.

Section A

1. Discuss about Estimated Potential and Installed Capacity of Renewable energy as on March 31, 2017, in India. Also discuss about its growth, in India. 12

2. (a) Discuss the quotation Energy is one of major inputs for economic development of any country.
- (b) How is generated energy classified ? Distinguish between :
- (i) Commercial and non-commercial energy
 - (ii) Renewable and non-renewable energy.
- 6,6

Section B

3. (a) What is origin of wind and how is wind energy generated ? Discuss.
- (b) Describe with a neat sketch the working of a Wind Energy Conversion System (WECS) with mention of main components employed. Also give *three* advantages and *three* disadvantages of WECS.
- 6,6
4. What are solar collectors and their types ? Enumerate various types of concentrating solar collectors. Discuss about a solve collector used in a power plant for electricity generation in India.
- 12

Section C

5. Explain the process, Photosynthesis. What are conditions necessary for this process ? Discuss. 12
6. (a) What is meant by Biogas Generator ? How is biogas produced ? Discuss.
(b) Discuss Anaerobic Digestion. What are factors which affect biodigestion ? Explain. 12

Section D

7. Give a detail description of advantages and disadvantages of Geo-thermal energy over other forms of energy. Mention any *three* main applications of Geo-thermal energy, in India. 12
8. Enumerate various Geo-thermal sources of energy conversion. Describe vapour dominated power plant, with a neat sketch of the plant. 12

Section E

9. Answer the following short questions :
(a) What are prospects of Renewable Energy in India ? Also mention status of harnessing it till March, 2017.

- (b) Discuss, in brief the main applications of Biogas.
- (c) Write a brief note on prospects of Geo-thermal energy in context to India.
- (d) Enumerate and briefly highlight different main applications of Solar Energy. How can solar energy generation be most economical ?
- (e) Write a short note on factor for consideration in site selection of a wind generator.
- (f) Describe main applications of wind energy.

6×2=12