

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]

Dec.-23-0577

EE-703 (Non-Conventional Electrical Power Generation)

B.Tech. 7th (CBCS)

Time : 3 Hours

Max. 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 : Section E is compulsory. Attempt one question each from section A, B, C and D.

SECTION - A

1. (a) How do you classify the energy sources and brief them? (5)
(b) Justify the statement "Energy consumption is a measure of prosperity". (5)
2. (a) Discriminate between conventional and non-conventional sources of energy with suitable examples. (5)
(b) Explain the dependency of non-conventional sources of energy on environmental conditions. (5)

SECTION - B

3. (a) Describe the functions of components of wind energy systems. (5)
(b) List the merits and demerits of wind energy. (5)
4. (a) Briefly outline the challenges and remedies associated in the use of solar energy. (5)
(b) Explain the different types of solar energy collector with schematic diagram. (5)

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SECTION - C

5. (a) What are the biomass energy resources and what are the energy yield from each of them? (5)
(b) What are the factors affecting the generation of biogas? (5)
6. (a) What are the limitations of harnessing Geo-thermal energy? What are the advantages and disadvantages of Geo-thermal energy? (10)

SECTION - D

7. (a) What is tide? Explain the basic components of a tidal power plant and state their merits and demerits. (5)
(b) Distinguish between wave and tidal energy. (5)
8. (a) Explain the factors affecting the site selection for mini hydro power plant and also brief about the limitations of constructing dams across rivers. (10)

SECTION - E (Compulsory)

9. (i) Write differences between renewable and nonrenewable sources.
(ii) Name the percentages of various energy resources in world energy consumption.
(iii) Outline the merits and demerits of Conventional energy sources.
(iv) List out various types of solar energy collectors.
(v) List out major benefits of using Biomass energy.

[P.T.O.]

- (vi) What is commercial energy?
- (vii) Define wave energy conversion process.
- (viii) What is the status of non-conventional energy sources in India?
- (ix) What is the present status of wind energy in India?
- (x) What are limitations of solar energy? (10×2=20)