TED (15) -5024
(Revision- 2015)

A21-00312

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL -2021.

ALTERNATIVE ENERGY SOURCES AND MANAGEMENT

(Maximum Marks : 75) [Time : 2.15 hours]

PART–A

Marks

I. Answer **any three** questions in one or two sentences. Each question carries 2 marks.

1. What is meant by renewable energy?
2. What is solar Azimuh angle?
3. Define power co-efficient of wind turbines.
4. What is biomass gasification process?
5. What is wet rock system of geothermal energy? (3x2=6)

PART - B

II Answer **any four** of the following questions . Each question carries 6 marks.

1. Justify the need for alternate energy sources.
2. Explain the classification of energy audit.
3. Describe the principle conversion of solar energy into heat.
4. Explain the construction and working of a flat plate collector.
5. List advantages of wind energy.
6. Discuss the methods of obtaining energy from biomass.
7. Explain the working of H_2-O_2 fuel cell.

[4x6 =24]

PART - C

(Answer **any of the three units** from the following. Each full question carries 15 marks)

UNIT I

III (a) Illustrate cogeneration process for energy conservation. (9)

(b) Explain primary and secondary energy sources. (6)

OR

IV (a) Explain various energy management techniques. (8)

(b) Describe combined cycle system for energy conservation. (7)

UNIT- II

V (a) Illustrate the working of solar power stations. (9)

(b) Explain the application of solar energy in space heating and cooling. (6)

OR

VI (a) Describe the conversion of solar energy using photovoltaic cell. (9)

(b) List the limitations of solar energy applications. (6)

UNIT- III

VII (a) Describe the applications of wind energy. (10)

(b) List the common species recommended for biomass. (5)

OR

VIII (a) Illustrate the process of bio diesel production. (10)

(b) Compare biomass with conventional fuels. (5)

UNIT – IV

IX (a) Explain the working of MHD power plant and its components. (10)

(b) What are the important applications of MHD? (5)

OR

X (a) What is the difference between dry rock system and wet rock system? (8)

(b) Explain the major advantages of hydrogen fuel cells. (7)

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