

TED(21) 6012A

(Revision–2021)

Reg.No.....

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**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY
/MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2025**

Renewable Energy and Environment

[MaximumMarks:75]

[Time:3 Hours]

PART-A			
I. Answer all the following questions in one word or one sentence. Each question carries ‘one’ mark. (9x1=9Marks)			
Sl No.	Questions	Module Outcome	Cognitive Level
1	Define Energy	M1.01	R
2	Write the two types of energy sources.	M1.02	R
3	Define Solar Radiation Geometry .	M2.01	U
4	Define Passive Solar Energy .	M2.03	U
5	List a type of Vertical axis turbine .	M3.02	R
6	What is a Wind Pump for irrigation ?	M3.03	U
7	Write any two examples of Liquid Biomass fuels .	M4.01	R
8	Define the Economics of Renewable energy .	M1.03	U
9	Write any two examples for Gaseous Biomass fuels .	M4.02	R
PART-B			
II. Answer any eight questions from the following. Each question carries ‘three’ marks. (8x3=24 Marks)			
1	Write the Achievements of Renewable energy .	M1.04	R
2	Explain the Environmental Aspects of Energy utilization .	M1.02	U
3	Define Solar Radiation and solar radiation at earth's surface .	M2.02	U
4	Write the six elements of Solar Radiation Geometry .	M2.01	U

5	Explain any three Limitations of Renewable energy .	M1.04	R
6	List the cost of any three Renewable Energy Technology and explain any one.	M3.04	U
7	Explain any three properties of Solid Biomass Fuel (e.g.,wood chips, rice husk).	M4.02	R
8	List the properties of Liquid Biomass Fuel (e.g., Jatropha, bio-diesel).	M4.02	R
9	What are the criteria for selecting an appropriate site for Wind mills?	M3.02	U
10	List out the components of Agro-chemical based power plants .	M4.04	U

PART-C
Answer all questions. Each question carries 'seven' marks.

III.	Explain the Reserves of energy sources .	M1.01	U
IV	OR Explain Geothermal energy and fundamentals .	M1.03	A
V	Explain the differences of Solar thermal and PV .	M2.03	U
VI	OR Explain the four PV technologies and Services of Solar thermal systems .	M2.02	A
VII	Explain Wind data and Energy Estimation .	M3.01	U
VIII	OR List the Advantages and Disadvantages of Wind Energy .	M3.03	A
IX	Draw the layout of a Bio combustion plant and explain the Thermo-chemical based power plant .	M4.03	A
X	OR Explain Agro-chemical based power plant .	M4.04	A
XI	Explain Renewable energy Scenario of India and World .	M1.01	U
XII	OR Explain the classifications of Solar energy .	M2.02	U
XIII	Describe Wave Energy .	M3.03	A
XIV	OR List out the applications of Bio energy .	M4.01	U

