SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. III Year II Semester Regular & Supplementary Examinations June-2025
NON-CONVENTIONAL ENERGY RESOURCES
(Mechanical Engineering)

Time: 3 Hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Define Conventional and Non-Conventional energy with examples.	CO1	L1	6M
	b	Outline the merits and demerits of Conventional energy sources.	CO1	L2	6M

OR

2	a	Assess the need of renewable energy resources.	CO1	L2	6M
	b	Describe the impact of Energy Utilization on environment.	CO1	L2	6M

UNIT-II

3	a	List out the major functions of solar thermal conversion systems.	CO2	L2	6M
	b	Classify the solar collectors and explaint hem.	CO2	L4	6M

OR

4	a	Illustrate the process of solar photovoltaic conversion.	CO2	L2	6M
	b	How do you convert saline water into potable water? Explain.	CO2	L2	6M

UNIT-III

5	a	Describe the working of VAWT with a neat sketch.	CO3	L2	6M
	b	Outline the advantages and disadvantages of VAWT.	CO3	L2	6M

OR

6	a	Elucidate the functioning of Cup Anemometer with a neat sketch.	CO3	L1	6M
	b	What is the impact of wind energy on environment?	CO3	L2	6M

UNIT-IV

7	a	Describe the working of Spreader stroker with a neat sketch.	CO4	L2	6M
	b	Evaluate the need of Fluidized Bed Combustion and explain it with a neat diagram.	CO4	L5	6M

OR

8	a	What are the factors affecting the generation of biogas?	CO4	L1	6M
	b	Explicate various steps involved in the production of Ethanol.	CO4	L2	6M

UNIT-V

9	a	List out the merits and demerits of hydrogen energy.	CO5	L2	6M
	b	Explain the hydrogen production through Electrolysis process.	CO5	L2	6M

OR

10	a	How do you classify hydrogen production methods? Explain any one in detail.	CO6	L2	6M
	b	List all the applications of hydrogen.	CO6	L1	6M

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