Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year II Semester Regular Examinations July-2021
NON-CONVENTIONAL ENERGY RESOURCES
(Open Elective-I)

Time: 3 hours   Max. Marks: 60

PART-A
(Answer all the Questions **5 x 2 = 10** Marks)

1	a	Write differences between renewable and nonrenewable sources.	L1	2M
	b	List out various photovoltaic solar energy applications.	L1	2M
	c	What are the causes for the wind formation?	L1	2M
	d	Name the reactions in the biomass gasification process.	L1	2M
	e	Why hydrogen is called clean fuel?	L1	2M

PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2		What are energy resources available in India? Explain.	L1	10M

OR

3	a	Write short notes on hydro Electric Energy.	L2	5M
	b	Explain briefly any three renewable energies.	L2	5M

UNIT-II

4	a	Describe with a neat sketch working of a solar water heating system.	L1	5M
	b	Explain the working principle of evacuated tube collectors.	L2	5M

OR

5		Explain the process of generation of power in solar pond with a neat sketch and mention its merits and demerits.	L5	10M

UNIT-III

6		Describe the functions of components of wind energy systems with neat figures	L1	10M

OR

7	a	List the merits and demerits of wind energy.	L1	4M
	b	Describe the working of VAWT with a neat sketch.	L1	6M

UNIT-IV

8	a	What is biomass direct combustion? Explain in detail with neat figure.	L1	6M
	b	What is biomass gasifier? Write its gasification reactions.	L1	4M

OR

9	a	What are the factors affecting the generation of biogas?	L1	5M
	b	Describe the working of Spreader stroker with a neat sketch.	L1	5M

UNIT-V

10		Explain the working of fuel cell with a neat sketch and their applications.	L2	10M

OR

11	a	What are the different methods of hydrogen storage?	L1	5M
	b	What are the applications of hydrogen?	L1	5M

END