Q.P. Code: 16ME313

R16

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Supplementary Examinations December-2021

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	Explain in brief about solar radiation.	L1	6M
	b	Describe the working of hot wire anemometer with a neat sketch.	L2	6M
		OR		
2		What is conventional and non-conventional Energy? Write the merits and demerits of Conventional energy sources?	L1	12M

UNIT-II

3	a	Explain the working principle of concentrating collector	L1	6M
	b	Describe with a neat sketch working of a solar water heating system and state its advantages and disadvantages	L2	6M
		OR		
4		Explain the process of generation of power in solar pond with a neat sketch and also mention its merits and demerits.	L1	12 M

UNIT-III

5		Classify the wind turbines and explain their working in detail	L1	12 M
		OR		
6	a	Describe the working of VAWT with its merits and demerits	L2	6M
	b	What are the safety and environmental impact of wind energy	L1	6M

UNIT-IV

7	a	Mention the need of Fluidized Bed Combustion and explain it with a neat diagram	L1	6M
	b	What is meant by fermentation, aerobic, anaerobic digestion? Explain	L1	6M
		OR		
8		Explain the working of biomass Cogeneration system with a neat sketch and also mention its applications	L1	12M

UNIT-V

9	a	What is the geothermal energy and explain its extraction process.	L1	6M
	b	Differentiate wave and tidal energy.	L1	6M
		OR		
10		Describe and Explain in detail about the hybrid systems	L2	12M

*** END ***