O.P.Code: 20ME0322	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year II Semester Regular Examinations August-2023

NON-CONVENTIONAL ENERGY RESOURCES
(Mechanical Engineering)

Time: 3 Hours **Max. Marks: 60**

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

		UNIT-I			
1		How do you classify the energy sources and brief them	**CO1**	**L1**	**12M**
		OR			
2	**a**	Define direct radiation and diffused radiation with a neat sketch	**CO1**	**L1**	**6M**
	b	Explain the working of the Pyranometer with a neat sketch	**CO1**	**L2**	**6M**
		UNIT-II			
3	**a**	List out the major functions of solar thermal conversion systems	**CO2**	**L1**	**6M**
	b	Classify the solar collectors and explain them.	**CO2**	**L4**	**6M**
		OR			
4		Enumerate the different types of concentrating type collectors.	**CO2**	**L1**	**12M**
		UNIT-III			
5		Describe the functions of wind energy system components.	**CO3**	**L2**	**12M**
		OR			
6	**a**	Differentiate between HAWT and VAWT.	**CO3**	**L4**	**6M**
	b	Discuss about Savonius wind turbine with neat sketch.	**CO3**	**L2**	**6M**
		UNIT-IV			
7	**a**	Define biomass and why is it called renewable energy?	**CO4**	**L1**	**6M**
	b	What are the different forms of bio-energy?	**CO4**	**L1**	**6M**
		OR			
8	**a**	Tell about biomass gasifier? Write its gasification reactions.	**CO4**	**L1**	**6M**
	b	How do you classify the gasifiers? Explain anyone in detail.	**CO4**	**L2**	**6M**
		UNIT-V			
9		What is tide? Explain the basic components of a tidal power plant and state their merits and demerits.	**CO5**	**L2**	**12M**
		OR			
10		Explain in detail the wave energy conversion by floats.	**CO5**	**L2**	**12M**

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