Q.P. Code: 16ME313 **R16**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech IV Year I Semester Supplementary Examinations November-2020

NON-CONVENTIONAL ENERGY RESOURCES

(Common to All)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	**a**	What is conventional and non-conventional Energy? Write the merits and demerits of Conventional energy sources?	**7M**
	b	Name the renewable energy sources and explain them in brief.	**5M**

OR

2	**a**	Explain the working of Pyrheliometer with a neat sketch.	**6M**
	b	Discuss about the environmental aspects of Energy Utilization.	**6M**

UNIT-II

3	**a**	Explain the construction and uses of evacuated tube collectors.	**6M**
	b	What are the factors effected on performance of solar flat plate collector.	**6M**

OR

4	**a**	Explain the working of water heating system and desalination system with a neat sketch.	**6M**
	b	Mention the functioning of various components in solar power generation.	**6M**

UNIT-III

5	**a**	Describe with a neat sketch the working of wind energy system with main components.	**6M**
	b	How the electricity will be generated from wind turbine generator.	**6M**

OR

6	**a**	Classify the wind turbines and explain their working in detail.	**4M**
	b	Illustrate the power generation process in HAWT with its merits and demerits.	**8M**

UNIT-IV

7	**a**	With a neat sketch explain biomass gasification.	**8M**
	b	What is meant by fermentation, aerobic, anaerobic digestion? Explain.	**4M**

OR

8	**a**	Compare fixed dome and float drum type bio digesters.	**6M**
	b	Explain the function of Deenbandhu biogas digester with a neat sketch.	**6M**

UNIT-V

9	**a**	What is tide? Explain tidal energy and its conversion with neat diagram.	**6M**
	b	Explain the working of fuel cell and their applications.	**6M**

OR

10	**a**	Explain the basic components of a tidal power plant and state their merits and demerits	**6M**
	b	What is the nature of tidal power extracted from single basin arrangement and double basin arrangement	**6M**

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