U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

July 2023 Semester End Main Examinations

Programme: B.E. **Semester: VI**
Branch: Institutional Elective **Duration: 3 hrs.**
Course Code: 19BT6OEATE **Max Marks: 100**
Course: Alternative energy **Date: 07.07.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			UNIT - I	*CO*	*PO*	Marks
1	a)		Classify the different forms of energy.	*CO1*	*PO1*	**05**
	b)		Discuss the impact of the use of conventional energy on environment. Show, how renewable energy is considered as environment friendly.	*CO1*	*PO1*	**10**
	c)		Discuss the status of coal reserves in India. List the challenges associated with the usage of coal.	*CO1*	*PO1*	**05**
			UNIT - II			
2	a)		Describe the working of any two offshore devices used to collect wave energy with neat sketch.	*CO2*	*PO1*	**12**
	b)		Illustrate the basic principle behind energy generation from tides. List the challenges associated with it.	*CO2*	*PO1*	**08**
			UNIT - III			
3	a)		Classify biofuels with examples under each category.	*CO1*	*PO1*	**05**
	b)		With neat sketch, illustrate the construction and working of floating drum digester for bio gas production. Indicate the advantages and disadvantages of this plant.	*CO2*	*PO1*	**15**
			OR			
4	a)		Discuss the process of pyrolysis (destructive distillation) with neat sketch and write the reactions involved.	*CO1*	*PO1*	**12**
	b)		What are the various thermochemical processes? Illustrate briefly each of these processes.	*CO1*	*PO1*	**08**
			UNIT - IV			
5	a)		Discuss basic components of wind energy conversion system. Illustrate with the help of flow diagram.	*CO1*	*PO1*	**10**
	b)		Classify the wind energy conversion system. With the sketch, explain the working of horizontal axis machine.	*CO1*	*PO1*	**10**

			UNIT - V			
	6	a)	Differentiate between beam and diffuse solar radiation with a neat sketch.	*CO1*	*PO1*	**05**
		b)	What are the various instruments used for measurement of solar radiation measurement. Explain any one with sketch.	*CO1*	*PO1*	**10**
		c)	How are the flat plate solar collectors used to capture the solar energy?	*CO1*	*PO1*	**05**
			OR			
	7	a)	Classify the solar space heating system. Illustrate any one type of solar space heating system.	*CO1*	*PO1*	**10**
		b)	Classify Geothermal resources. Explain any one type of geothermal resource with the neat sketch.	*CO1*	*PO1*	**10**

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