Course Code: 23EE5E01

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(AUTONOMOUS)

III-B.TechI-Semester Regular Examinations (BR23), November -2025

RENEWABLE ENERGY SOURCES (CIVIL)

Time: 3 hours Max. Marks: 70

Question Paper consists of Part-A and Part-B
*Answer **ALL** the question in **Part-AandPart-B***

PART–A (10X2 = 20M)

		Marks	CO	BL
1. a)	Write the advantages of renewable energy systems	(2M)	CO1	BL1
b)	State applications of solar energy storage systems.	(2M)	CO1	BL2
c)	Classify the wind energy conversion system	(2M)	CO2	BL2
d)	How we select the site for establish wind energy system	(2M)	CO2	BL3
e)	How do you classify the hydro systems	(2M)	CO3	BL2
f)	Write the applications of geothermal energy systems	(2M)	CO3	BL3
g)	Mention methods of ocean thermal electric conversion systems	(2M)	CO4	BL1
h)	Mention some wave energy conversion devices	(2M)	CO4	BL1
i)	Write the applications of fuel cells	(2M)	CO5	BL1
j)	Write the principle of MHD power generation	(2M)	CO5	BL1

PART–B (5X10 = 50M)

2a.	Mention different types of collectors and describe each	5(M)	CO1	BL1
b.	Explain about solar pond and solar still	5(M)	CO1	BL2
	(OR)			
3a.	Draw equivalent circuit of PV cell and explain about I-V and P-V characterstics	5(M)	CO1	BL2
b.	Briefly explain about solar energy storage system	5(M)	CO1	BL2

4a.	Derive expression for power in wind	5(M)	CO2	BL3
b.	Write the applications of wind energy conversion systems	5(M)	CO2	BL3
	(OR)			
5a.	With neat diagram explain the wind energy conversion system and also explain working of each part in it.	10(M)	CO2	BL2

6a.	Write the various technologies involved in biomass conversion	5(M)	CO3	BL2
b.	Explain operational and environmental problems involved in geo thermal energy generattion	5(M)	CO3	BL2

	(OR)			
7a.	With neat diagram explain operation and working of hydel power plant	10(M)	CO3	BL2

8a.	Explain the prospects of ocean thermal energy conversion india	5(M)	CO4	BL2
b.	List the various components involved in generating electrical energy by using tides	5(M)	CO4	BL2
	(OR)			
9a.	Briefly explain procedure to generate electrical energy from waves	10(M)	CO4	BL2

10a	Briefly explain about operation of fuel cell with equivalent circuits and also write its applications	10(M)	CO5	BL2
	(OR)			
11a	Give different methods to produce hydrogen energy	5(M)	CO5	BL2
b.	Briefly explain the types of magneto hydro dynamic power generation	5(M)	CO5	BL2

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HEAD OF THE DEPARTMENT
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