

END SEMESTER EXAMINATION SEMESTER- VI

COURSE CODE: CEOE 304 A
COURSE TITLE: RENEWABLE ENERGY
TECHNOLOGY
SESSION: JULY-DEC.'2025

DURATION :2 ½ HRS
MAXIMUM MARKS: 60
PASS MARKS: 40 %

NOTE: 1. Attempt any 6 (SIX) questions of 10 Marks each.
 2. Mark for each question is shown against it.
 3. Assume suitable logical data wherever necessary.

1.	(a)	What is renewable energy? Explain the environmental aspects of energy utilization.	(2+4)
	(b)	Write short note on renewable energy scenario in India.	(4)
2.	(a)	Define solar cell? Describe the principle of solar photovoltaic conversion.	(2+5)
	(b)	Differentiate between flat plate and concentrating solar radiation collectors.	(3)
3.	(a)	What is horizontal axis wind turbine? Explain the working of horizontal axis two blade windmill with diagram.	(2+5)
	(b)	What is the importance of site selection in wind power generation?	(3)
4.	(a)	What is biomass? Discuss the availability of biomass.	(2+4)
	(b)	State the factors which affect the generation of biogas.	(4)
5.	(a)	What is ocean thermal energy conversion (OTEC)? State the limitations of OTEC system.	(2+4)
	(b)	What are the advantages and limitations of tidal power generation?	(2+2)
6.	(a)	Distinguish between global radiation and diffuse radiation. What are the limitations of solar thermal energy.	(3+3)
	(b)	What methods are used to overcome the fluctuating power generation of a windmill?	(4)
7.	(a)	Write short notes on the following: i. Biomass direct combustion ii. Biomass gasifiers	(2×3)
	(b)	What is small hydro-geothermal energy? State its effects on the environment.	(2+2)
8.	(a)	Discuss economics of renewable energy system.	(4)
	(b)	What do you understand by solar direct thermal energy?	(2)
	(c)	Define wind data and wind energy estimation.	(4)
9.	(a)	What are the potentials and achievements of renewable energy resources?	(4)
	(b)	What do you understand by biodiesel?	(2)
	(c)	What is a fuel cell? State the possible uses of fuel cells.	(1+3)

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