

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025***Sixth Semester**Biomedical Engineering***OEE351 - Renewable Energy System****Regulations - 2021****Duration : 3 Hrs****Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	What is Sustainable development?	L2	1	2
2.	Compare the conventional and non-conventional energy sources.	L4	1	2
3.	List any four drawbacks of solar energy.	L3	2	2
4.	Name the types of concentrating collectors.	L1	2	2
5.	List the two important wind turbine generator installations in India.	L1	3	2
6.	Identify any four factors that influence the site selection for wind turbines.	L3	3	2
7.	Name the constituents of biogas.	L1	4	2
8.	Show that the few biomass energy resources from waste.	L2	4	2
9.	Tell the various types of OTEC power plants.	L1	5	2
10.	Summarize any four factors that are affecting the fuel cell performance.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a Discuss the role and importance of renewable sources of energy in India.	L3	1	16
	Or			
	b Discuss elaborately how do renewable storage technologies support the integration of various renewable energy sources?	L3	1	16
12.	a Draw an illustrative diagram showing all the important components of solar heating and solar cooling units and explain the working principle.	L2	2	16
	Or			
	b With a neat sketch, explain the construction and the principle operation of a solar photovoltaic system.	L2	2	16
13.	a Analyze the function of various wind turbine components.	L4	3	16

Or

	b	Describe the operation of horizontal axis windmills with a neat sketch.	L4	3	16
14.	a	Explain the working principle of anaerobic digester with neat sketch.	L2	4	16
		Or			
	b	Summarize the various points to be carried out for site selection for a biogas plant. Discuss the challenges.	L2	4	16
15.	a	Explain the working principle of fuel cell with neat diagram.	L4	5	16
		Or			
	b	Describe the world's future fuel, which is hydrogen obtained by electrolysis of water with the energy.	L4	5	16