

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2025***Seventh Semester**Electrical and Electronics Engineering***CME365 – Renewable Energy Technologies****(Common to Information Technology & Computer Science and Engineering)***Regulations - 2021***Duration : 3 Hrs****Maximum: 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	Name four renewable energy sources currently used in India with their locations.	L1	1	2
2.	What percentage of energy is consumed by different sectors (industrial, domestic, agriculture) in India?	L2	1	2
3.	Define azimuth angle and zenith angle.	L1	2	2
4.	Compare Flat plate and concentrating collectors.	L2	2	2
5.	State Betz limit.	L1	3	2
6.	Compare HAWT and VAWT.	L2	3	2
7.	Distinguish between biomass and biogas.	L2	4	2
8.	Define pyrolysis.	L1	4	2
9.	What are the various factors considered in designing a micro hydel scheme?	L1	5	2
10.	What are the limitations of tidal power generation.	L1	5	2

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

Q.No	Questions	BTL	CO	Marks
11.	a Examine the evolution and current state of India's domestic energy sector.	L3	1	16
	Or			
	b Evaluate India's future energy plans.	L3	1	16
12.	a Explain in detail about the solar radiation phenomena.	L2	2	16
	Or			
	b Explain any two applications of solar PV systems.	L2	2	16
13.	a Compare the Horizontal axis wind turbine (HAWT) and Vertical Axis Wind Turbine (VAWT).	L2	3	16
	Or			
	b Summarize the environmental impact due to installation of Wind	L2	3	16

power plant.

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| 14. | a | Explain the constructional detail and working of KVIC digester. | L2 | 4 | 16 |
| | | Or | | | |
| | b | With a schematic diagram explain the operation of biomass gasifier system. | L2 | 4 | 16 |
| 15. | a | Discuss the theory and working principle of ocean thermal energy conversion systems. | L2 | 5 | 16 |
| | | Or | | | |
| | b | What is geothermal energy? Explain the working principle of a geothermal power plant with the help of a neat sketch. | L2 | 5 | 16 |