

ANURAG Engineering College
(An Autonomous Institution)

IV B.Tech I Semester Supplementary Examinations, April – 2024

RENEWABLE ENERGY SOURCES
(COMMON TO CIVIL & MECH)

Time: 3 Hours

Max.Marks:75

Section – A (Short Answer type questions)**(25 Marks)****Answer All Questions**

	Course Outcome	B.T Level	Marks
1. What are the important performance indices of a solar collector.	CO1	L2	2M
2. Explain how renewable energy is spreading wings in India.	CO1	L2	3M
3. Write different methods of Solar energy Storage systems.	CO2	L1	2M
4. State the application of solar photovoltaic systems?	CO2	L2	3M
5. Write the merits and demerits of wind power?	CO3	L1	2M
6. Explain major benefits of using Biomass energy.	CO3	L2	3M
7. What is geothermal power?	CO4	L2	2M
8. Explain in brief the principles of OTEC energy utilization?	CO4	L1	3M
9. What are the advantages of mini/micro hydro resources?	CO5	L1	2M
10. Explain Carnot cycle?	CO5	L2	3M

Section B (Essay Questions)**Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

11. A) Explain the following terms related to solar geometry. i) Hour Angle ii) Altitude Angle iii) Zenith Angle iv) Surface azimuth angle	CO1	L2	10M
OR			
B) Enumerate the different types of concentrating type collectors.	CO1	L2	10M
12. A) Explain in detail about stratified storage and solar ponds.	CO2	L2	10M
OR			
B) Describe with a neat sketch working of a solar water heating system.	CO2	L3	10M
13. A) Differentiate between HAWT and VAWT.	CO3	L3	10M
OR			
B) Explain the function of floating biogas digester with a neat sketch and mention its merits and demerits.	CO3	L2	10M
14. A) What is Geothermal energy? Discuss the methods of harnessing the geothermal energy.	CO4	L3	10M
OR			
B) Explain i) OTEC open cycle. ii) OTEC closed (Anderson) cycle.	CO4	L2	10M
15. A) Explain limitations and principles of DEC	CO5	L2	10M
OR			
B) Explain briefly i) Seebeck effect ii) MHD Generators	CO5	L2	10M