

ANURAG Engineering College

(An Autonomous Institution)

IV B.Tech I Semester Regular/Supplementary Examinations, Dec-2024

RENEWABLE ENERGY SOURCES

(COMMON TO CIVIL AND 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. Point out the importance of solar energy in the present-day energy crisis	CO1	L2	2M
2. What are the types of solar radiation measuring instruments	CO1	L1	3M
3. Write the limitations of photo voltaic systems.	CO2	L1	2M
4. Write a short note on solar pond.	CO2	L1	3M
5. Compare biomass and biogas	CO3	L2	2M
6. Compare the advantages of vertical axis wind turbine over horizontal axis one.	CO3	L2	3M
7. What is Geothermal energy? Where is it found?	CO4	L2	2M
8. Differentiate tide and wave	CO4	L2	3M
9. What is the principles of Direct energy Conversion	CO5	L1	2M
10. List the advantages of MHD generators	CO5	L2	3M

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

11. A) What is Solar constant and explain terrestrial and extra-terrestrial solar radiation?	CO1	L3	10M
OR			
B) How are solar collectors classified? What are the important features of a solar collector?	CO1	L3	10M
12. A) Explain the working of solar distillation process with a neat sketch.	CO2	L2	10M
OR			
B) Discuss in detail about the principal of Solar Photo Voltaic (SPV) conversion	CO2	L3	10M
13. A) Describe the types of windmills with sketches	CO3	L3	10M
OR			
B) Explain the impacts of biomass construction, production and operation.	CO3	L3	10M
14. A) What is tide? Explain the basic components of a tidal power plant and state their merits and demerits.	CO4	L3	10M
OR			
B) Define Geothermal Energy Explain the merits and demerits of Geothermal Energy? Draw the diagram of geothermal Field	CO4	L2	10M
15. A) With the help of a diagram explain the operation of closed cycle MHD generating system	CO5	L3	10M
OR			
B) Explain the Seebeck effect and Carnot Cycle in detail	CO5	L3	10M