

**ANURAG Engineering College**

(An Autonomous Institution)

III B.Tech I Semester Regular/Supplementary Examinations, Dec-2023/Jan-2024

**RENEWABLE ENERGY SOURCES****(ELECTRICAL AND ELECTRONICS ENGINEERING)****Time: 3 Hours****Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

	<b>Course Outcome</b>	<b>B.T Level</b>	<b>Marks</b>
1. Write short notes on diffuse radiation.	CO1	L1	2M
2. What are the advantages and disadvantages of conventional & non-conventional energy source?	CO1	L1	3M
3. What is the use of the black painted surface in solar heating devices?	CO2	L1	2M
4. Write short notes on Solar distillation.	CO2	L1	3M
5. List the factors that determine the output from a wind energy convertor.	CO3	L2	2M
6. Explain Deenabandhu type gas plant.	CO3	L2	3M
7. How nature of Geothermal fields classified?	CO4	L2	2M
8. Write the advantages and disadvantages of OTEC.	CO4	L1	3M
9. What is Thermo electric effect?	CO5	L1	2M
10. What are the needs for DEC, Mention its limitations.	CO5	L1	3M

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

11. A) Briefly explain about Pyrheliometer and Pyranometer.	CO1	L3	10M
<b>OR</b>			
B) Explain the different types of Solar collectors based on the way they collect solar radiation.	CO1	L3	10M
12. A) Explain the operation of solar cell with equivalent circuit and its I-V characteristics.	CO2	L3	10M
<b>OR</b>			
B) What do you understand by solar thermal energy storage? Explain why and when it is necessary?	CO2	L2	10M
13. A) Which generator is better to use for wind turbine power generation? Justify your answer.	CO3	L2	10M
<b>OR</b>			
B) Explain briefly the bio mass conversion technologies.	CO3	L3	10M
14. A) Examine the relative advantages and limitations of tidal power plant. What are the method adopted to supply continuous power?	CO4	L3	10M
<b>OR</b>			
B) Illustrate the methods of ocean thermal electric power generation	CO4	L3	10M

15. A) What is meant by Direct energy conversion? What are the principles of Direct energy conversion? CO5 L2 10M
- OR**
- B) What is MHD - generation? Explain working principle of such a generator. CO5 L2 10M  
Also discuss about MHD - materials and production of magnetic fields.