

**MASTER OF SCIENCE
(RENEWABLE ENERGY AND ENVIRONMENT)
(MSCRWEE)**

Term-End Examination

December, 2022

MRW-003 : RENEWABLE ENERGY SYSTEM

Time : 3 hours

Maximum Marks : 70

Note : *All questions carry equal marks. Attempt any
seven questions.*

1. What are Energy Resources ? Classify them and discuss each classification in detail. 10
2. Describe in detail the Liquefaction process of coal. 10
3. Discuss in detail the Petroleum Refining process, with a neat sketch. 10

4. What is the current scenario of India's Greenhouse Gas Emissions ? Discuss the Kyoto Protocol in detail. 10
5. Define the following : 5×2=10
- (a) Reflectivity
 - (b) Absorptivity
 - (c) Transmissivity
 - (d) Emissivity
 - (e) Solar Constant
6. Enlist the components of a natural circulation type of solar water heater. Also, describe its working. 10
7. Describe in detail the elements of hydroelectric power plant, with a neat sketch. 10
8. Explain the effect of (i) moisture content, and (ii) ash content on the gasification. 10
9. Discuss in detail the various aspects of hydrogen use in internal combustion engines. 10

10. Write short notes on any ***two*** of the following : *2×5=10*

- (a) Geothermal Energy
 - (b) Aerogenerators
 - (c) Piezoelectric Energy Harvesting
 - (d) Wind-Solar Hybrid Systems
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