

No. of Printed Pages : 2

**MRW-003**

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

**(MSCRWEE)**

**Term-End Examination**

**June, 2023**

**MRW-003 : RENEWABLE ENERGY SYSTEM**

*Time : 3 Hours*

*Maximum Marks : 70*

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**Note :** (i) Attempt any **seven** questions.

(ii) All questions carry equal marks.

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1. Give a detailed description about the constituents, characteristics and applications of natural gas. 10
2. Describe, in detail the process of sampling of coal along with its types. 10
3. Discuss, in detail the various characteristics and applications of biodiesel. 10
4. (a) Enumerate some ways for direct use of solar energy. 5

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- (b) What are the advantages and disadvantages of solar energy ? 5
5. Describe the working and construction of a 'Built-in-storage solar water heater'. 10
6. Explain any *two* of the classifications of hydroelectric power based on the capacity for water flow regulation. 10
7. Enlist the various types of biogas plant. Discuss about 'Batch plants'. 10
8. How can hydrogen storage be achieved using carbon nanotubes ? Explain. 10
9. Discuss :
- (i) Flash steam open system 5
- (ii) Binary cycle system based on geothermal energy system 5
10. Write short notes on any *two* of the following :  
2×5=10
- (a) Direct piezoelectric effect
- (b) Biomass gasification
- (c) Pelton turbine
- (d) Waterpumping windmill

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