No. of Printed Pages : 3 **MRW-004**

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

Term-End Examination

June, 2023

MRW-004 : ENERGY MANAGEMENT

Time : 3 Hours *Maximum Marks : 70*

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

(ii) All questions carry equal marks.

(iii) Use of scientific calculator is permitted.

(iv) Assume suitable data, if missing any.

1. (a) What is Energy Management ? Describe the major strategies for energy management. 5

   (b) Discuss any *five* housekeeping measures to conserve energy. 5

P. T. O.

2. Explain the significance of the following in energy management : 5×2=10

   (a) Power factor

   (b) Hygrometer

   (c) Waste heat recovery

   (d) Manometer

   (e) Electrical resistance thermometer

3. Distinguish between any *two* of the following : 5+5

   (a) Isothermal and Adiabatic process

   (b) Exergy of closed and open system

   (c) Star connection and Delta connection

4. Discuss the constructional features of DC machine. 10

5. Explain both the statements of second law of thermodynamics. 10

6. (a) Discuss the different types of wiring. 5

   (b) Discuss the present scenario of power systems. 5

7. (a) Discuss the guidelines for energy conservation in Vanaspati Industries. 5

   (b) Explain the utility of Sankey diagram. 5

8. Discuss the energy audit process of a steel industry in detail. 10

9. Write short notes on any *two* of the following : 5+5

   (a) Evaporative cooling

   (b) Thermal equilibrium

   (c) Transformer

   (d) Energy efficient motors