Assignment Booklet

MSCRWEE Programme

M.Sc (Renewable Energy and Environment)

Second Semester	
MRW-003	Renewable Energy Systems
MRW-004	Energy Management
MEV-003	Environmental Law & Management

SCHOOL OF ENGINEERING & TECHNOLOGY

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

Maidan Garhi, New Delhi – 110 068

JANUARY 2026

Dear Student,

Please read the information on assignments in the Programme Guide that we have sent you after your enrolment. A weightage of 30%, as you are aware, has been earmarked for continuous evaluation, **which wouldconsist of one tutor-marked assignment** for this Programme. The assignment for MSCRWEE (second semester) has been given in this booklet.

Instructions for Formatting Your Assignments

Before attempting the assignment, please read the following instructions carefully:

1) On top of the first page of your answer sheet, please write the details exactly in the following format:

ENROLLMENT NO :……

NAME :……

ADDRESS :……

……

……

PROGRAMME CODE: ……..

COURSE CODE: ……

COURSE TITLE: ……

STUDY CENTRE: ……..…… DATE: ……..……...

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION ANDTO AVOID DELAY.

2) Use only foolscap size writing paper (but not of very thin variety) for writing your answers.

3) Leave 4 cm margin on the left, top and bottom of your answer sheet.

4) Your answers should be precise.

5) These assignments submitted should be hand written in your own hand writing.

We strongly suggest that you should retain a copy of your answer sheets.

6) You cannot fill the Exam Form without submission of the assignments. So solve it and **submit it at the earliest.** If you wish to appear in the **TEE, June 2026,** you should submit your TMAs by **April 30, 2026.** Similarly, if you wish to appear in the **TEE, December 2026,** you should submit your TMAs by **September 30, 2026.**

7) Assignments will be submitted at **your respective Regional Centre.**

We wish you good luck!

Assignment -2

(To be done **after** studying the course material)

Course Code: MRW-004
Course Title: Energy Management
Assignment Code: MRW-004/TMA/2026
Maximum Marks: 100

Last Date of Submission: April 30, 2026 (For June TEE), September 30, 2026 (For December TEE)
Note:

1. **For any question worth 5 marks the word limit is 200 words, for a 10 mark question it is 350 words.**

2. **All questions are compulsory. All questions carry equal marks.**

Q.1	How does the pattern of energy consumption indicate the level of economic development in a country? Discuss with examples from industrial and domestic sectors in India.	10
Q.2	Energy audits are often considered the foundation of conservation programs. Discuss the stages and importance of energy auditing in industrial energy management.	10
Q.3	Explain how the laws of thermodynamics form the foundation for understanding energy conversion and efficiency in industrial systems.	10
Q.4	How does exergy analysis provide a more accurate picture of system efficiency compared to traditional energy balance methods?	10
Q.5	How do fundamental electrical principles (Ohm's Law, Kirchhoff's Laws) contribute to optimizing industrial energy systems?	10
Q.6	Discuss the thermodynamic and electrical principles governing energy conversion devices such as generators and motors.	10
Q.7	Discuss the importance of proper design and maintenance of electrical installations in reducing energy loss and ensuring safety.	10
Q.8	Explain the significance of grid modernization (like smart grids and distributed generation) in enhancing reliability and energy efficiency.	10
Q.9	In what ways can steel industries reduce their energy intensity without affecting productivity? Discuss with reference to process optimization.	10
Q.10	Discuss how the adoption of energy-efficient devices (like LEDs, CFLs, and efficient motors) can significantly reduce national energy demand.	10