

# Assignment Booklet

## MSCRWEE Programme M.Sc (Renewable Energy and Environment)

| Third Semester (Compulsory) |                                      |
|-----------------------------|--------------------------------------|
| MRW-005                     | Solar Energy and Applications        |
| MRW-006                     | Bioenergy Conversion and Utilization |
| MRW-007                     | Energy Economics and Planning        |

| Third Semester (Electives) |  |
|----------------------------|--|
| MRWE-001                   | Nano Technology in Energy & Environment                  |
| MRWE-002                   | Energy Storage   |
| MEV-021                    | Introduction to Climate Change                           |
| MEVE-001                   | Environmental Impact Assessment for Environmental Health |
| MCS-224                    | Artificial Intelligence and Machine Learning             |
| MCS-226                    | Data Science and Big Data                                |
| MCS-227                    | Cloud Computing and IoT                                  |
| MCS-231                    | Mobile Computing   |



**SCHOOL OF ENGINEERING & TECHNOLOGY  
INDIRA GANDHI NATIONAL OPEN UNIVERSITY**

Maidan Garhi, New Delhi – 110 068

**JANUARY 2025**

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 would consist of one tutor-marked assignment** for this Programme. The assignment for MSCRWEE (Third 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 AND TO 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 2025**, you should submit your TMAs by **April 30, 2025**. Similarly, if you wish to appear in the **TEE, December 2025**, you should submit your TMAs by **September 30, 2025**.
- 7) Assignments will be submitted at **your respective regional centre**.

We wish you good luck!

### Assignment -3

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

Course Code: MRW-007

Course Title: Energy Economics and Planning

Assignment Code: MRW-007/TMA/2025

Maximum Marks: 100

Last Date of Submission: April 30, 2025 (For June TEE), September 30, 2025 (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.
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Q.1 The details of a solar thermal plant is given below. Calculate the life cycle cost per unit for the power plant. Assume the suitable values if required. 10

| Sr. No. | Item                   | Cost in Rs./KW | Life Period |
|---------|------------------------|----------------|-------------|
| 1.      | Heat energy collectors | 35000          | 20years     |
| 2.      | Boiler+ steam turbine  | 14900          | 10years     |
| 3.      | Electric generator     | 6500           | 10years     |
| 4.      | Accessories, tools     | 3000           | 5years      |

Q.2 Discuss the concept of elasticity demand and its usefulness for the society. 10

Q.3 What is Energy Pricing? Discuss its significance in economics. Explain in brief the Principle of Intergenerational Equity. 10

Q.4 Mr. Laxman receives a provident fund amount of Rs. 500000. He deposits in a bank which pays 10 percent interest. If he withdraws annually Rs. 50000, how long can he do so? 10

Q.5 a) Describe in detail the terms economic environment and business management. 5

b) How Infrastructure and Economic Growth are interrelated? 5

Q.6 Is the UN an effective organisation for global environmental action? Do you agree? Justify your answer with facts and evidence. 10

Q.7 a) Explain the three phases in decision making process. 5

b) Explain in detail the utility of integrated rural energy planning. 5

Q.8 Discuss the various factors which drives the energy pricing. 10

Q.9 a) Describe Herzberg's two factor theory in detail. 5

b) Why is an effective control process needed in any organisation? 5

Q.10 Write short notes on the following: 10

a) Climate Change Convention, 1992

b) Ecologic Model or Economic Man Model

c) Optimum hybrid energy system

d) Techno economic Evaluation