

# Assignment Booklet

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

First Semester	
MRW-001	Energy Conversion
MRW-002	Heat Transfer
MST-001	Foundation of Mathematics and Statistics
MED-003	Energy and Environment



***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 (first 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 -4

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

**Course Code: MED-003**

**Course Title: Energy and Environment**

**Assignment Code: MED-003/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. Marks for the questions are shown within brackets on the right-hand side.**
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Q.1	What is solar photovoltaic technology? Discuss its underlying principle and applications.	15
Q.2	Explain how the carrying capacity of the Earth can be estimated using various parameters.	10
Q.3	Give a brief description of the future projection of world energy demand as per EIA International Energy Outlook2004.	10
Q.4	Discuss the advantages and limitations of Clean Development Mechanism to help meet the challenge of combating climate change.	10
Q.5	Discuss the factors that need to be kept in view while formulating the energy policy.	10
Q.6	What is energy economics? Explain the factors that need to be considered in energy economics.	10
Q.7	Describe the positive and negative impacts of the solar energy technology on the environment.	5
Q.8	Discuss the working of a wind energy system with the help of a suitable diagram.	5
Q.9	Discuss the advantages and limitations of small hydropower plant	5
Q.10	Write short notes on the following: a) Functions of the components of a thermal power plant b) Benefits of carbon taxation c) Working of a biogas plant d) Fuel switching	(4x5=20)