

ASSIGNMENT BOOKLET

**Master of Science (Environmental Science)
(MSCENV)**

**Assignments
January 2021 to July 2022 Sessions**

**Tutor Marked Assignments (TMA) for
MEVE 011; MEVE 012; MEVE 13; MEVE 14; MEVE
15; MEVE 16; MEVE 17; MEVE 18; and MEVE 19**



**School of Inter-disciplinary and
Trans-disciplinary Studies
Indira Gandhi National Open University Maidan
Garhi, New Delhi-110068**

Dear Learner,

Welcome to the Programme M.Sc. (Environmental Science)!

You are required to do one assignment for each Course of the M.Sc. (Environmental Science). Each assignment is a Tutor Marked Assignment (TMA) and carries 100 marks. Each assignment covers the entire course. Answer any five questions in each assignment.

All questions carry equal marks. This TMA is concerned mainly with assessing your application and understanding of the course material. Please ensure that you read all the units of the course. It is important that you should write the answers to all the questions in your own words. You should remember that writing answers to assignment questions will improve your writing skills and prepare you for the term-end examination.

This booklet includes assignments for the following courses:

| | |
|-----------------|--|
| MEVE 011 | Global Climate Change |
| MEVE 012 | Environmental Management |
| MEVE 013 | Environmental Biotechnology |
| MEVE 014 | Biodiversity Conservation and Management |
| MEVE 015 | Disaster Management |
| MEVE 016 | Urban Environment |
| MEVE 017 | Environment and Society |
| MEVE 018 | Instrumentation Techniques for Environmental Monitoring |
| MEVE 019 | Environmental Issues |

It is compulsory to submit the assignments within the stipulated time to be eligible for appearing the term-end examination. The assignments constitute the continuous component of the evaluation process and have 30% weightage in the final grading. Before you write the assignments, first go through the course material and then prepare the assignments carefully by following the instructions pertaining to assignments. Your responses should not be a verbatim reproduction of the textual materials provided for self-learning purposes but it should be in your own words.

If you have any doubt or problem pertaining to the course material and assignments, contact the Programme Coordinator or concerned programme in-charge or Academic Counsellor at your Study Centre for clarification. Once you are able to do the assignment satisfactorily, you will be ready to take the Term-end exam with confidence.

If you still have problems, do feel free to contact us at School of Interdisciplinary and Transdisciplinary Studies.

Wishing you all the best to complete the programme successfully.

Programme Coordinators

Prof. Shachi Shah, sshah@ignou.ac.in

Dr. V. Venkat Ramanan, vvramanan@ignou.ac.in

Dr. Deeksha Dave, deekshadave@ignou.ac.in

**School of Interdisciplinary and Transdisciplinary Studies
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New Delhi-11006**

INSTRUCTIONS

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

1. Read the detailed instructions about the assignment given in the Programme Guide.
2. Write your Enrolment Number, Name, Full Address and Date on the top right corner of the first page of your response sheet(s).
3. Write the Course Title, Assignment Number and the Name of the Study Centre you are attached to, in the centre of the first page of your response sheet(s).
4. Read the instructions related to assignments given in the programme guide.
5. Please note that unless you submit the assignments contained in this booklet within the stipulated time, you would not be permitted to appear for the term-end examination.
6. The top of the first page of your response sheet should be like the following:

NAME:

ENROLLMENT NO.:

CYCLE OF ADMISSION:

PROGRAMME CODE:

ASSIGNMENT CODE:

COURSE CODE:

COURSE TITLE:

ADDRESS:

CONTACT NUMBER:

DATE OF SUBMISSION:

GUIDELINES FOR TMAs

You will find it useful to keep the following points in mind:

- **Planning:** Read the questions carefully. Go through the points on which they are based. Make some points regarding each question and then rearrange these in a logical order. And please write the answers in your own words. Do not reproduce passages from the units.
- **Organisation:** Be a little more selective and analytic before drawing up a rough outline of your answer. In an essay-type question, give adequate attention to your introduction and conclusion. The introduction must offer your brief interpretation of the question and how you propose to develop it. The conclusion must summarize your response to the question. In the course of your answer, you may like to make references to other texts or books as this will add some depth to your analysis.

Note the following points before you start writing the assignments:

1. Use only A4 paper size for your assignment and tag all the pages carefully.
2. Write the relevant question number with each answer.
3. You should write the answer in your own handwriting.

Make sure that your answer:

- (a) is logical and coherent;
- (b) has clear connections between sentences and paragraphs;
- (c) is written correctly giving adequate consideration to your expression, style and presentation;
- (d) Does not exceed the number of words indicated in the question.

Submission: The completed assignment should be sent to the Coordinator of the Study Centre allotted to you. Please read the instructions given in your Programme Guide. These assignment questions are valid for the January 2021 session and July 2021 session.

- Keep a copy of the assignment answer sheets with you before submission for future reference.
- Answer each assignment on separate sheet.
- It is preferred to write all assignments neatly in your own handwriting. Write your name, course code, enrolment No. and cycle of admission on all the assignments in bold letters.

- Express your response in your own words. You are advised to restrict your response based on the marks assigned to it. This will also help you to distribute your time in writing or completing your assignments on time.

Remember that you must submit your assignments before you can appear for the Term End Exams. Please remember to keep a copy of your completed assignment, just in case the one you submitted is lost in transit.

Good luck with your work!

**MEVE- 011: GLOBAL CLIMATE CHANGE
TUTOR MARKED ASSIGNMENT**

| | |
|-----------------|-----------------------------|
| Course Code | : MEVE-011 |
| Course Title | : Global Climate Change |
| Assignment Code | : MEVE-011/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks. The marks for each question are indicated against it within brackets on the right-hand side.

Please write all answers in your own words.

1. Write short notes on the following: (20 marks)
 - a. Structure of the atmosphere
 - b. Radiative forcing
2. Write short notes on the following: (20 marks)
 - a. Anthropogenic drivers of climate change
 - b. “Cloud feedback” and “Lapse-rate feedback”
3. Explain the sources of palaeoclimatic data. (20 marks)
4. Explain the direct and indirect effects of climate change on agriculture. (20 marks)
5. Explain the impacts of climate change on human health. (20 marks)
6. Write short notes on the following: (20 marks)
 - a. Glacier Lake Outburst floods
 - b. Paris Agreement
7. Explain the National Action Plan on Climate change. (20 marks)
8. Write short notes on the following: (20 marks)
 - a. Concept of mitigation and adaptation
 - b. UNFCCC

MEVE-012: ENVIRONMENTAL MANAGEMENT

TUTOR MARKED ASSIGNMENT

| | |
|-----------------|-----------------------------|
| Course Code | : MEVE-012 |
| Course Title | : Environmental Management |
| Assignment Code | : MEVE-012/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks (5X20=100)

Please write all answers in your own words.

1. Why does an organization have an Environmental Management System? In what way will it be useful in improving the Environmental performance of the organization?
2. Describe the various steps involved in the Environmental Planning Process. Where does Environmental Assessment fit in the Environmental Planning?
3. List different components of environmental management. Giving suitable examples, discuss how cultural and social subsystems affect it.
4. Write short notes on
 - i) Green marketing
 - ii) ISO 140001
5. How is extended product responsibility different from product stewardship? Describe different types of product responsibilities.
6. Explain the concepts of sustainable production and sustainable consumption giving suitable examples.
7. What do you mean by Sustainable Business? What are its components? Discuss the challenges of sustainable business.
8. Define management. Explain the concept of Environmental Management.

MEVE-013: ENVIRONMENTAL BIOTECHNOLOGY

TUTOR MARKED ASSIGNMENT

| | |
|-----------------|-------------------------------|
| Course Code | : MEVE-013 |
| Course Title | : Environmental Biotechnology |
| Assignment Code | : MEVE-013/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks (5X20=100)

Please write all answers in your own words.

1. What is environmental Biotechnology? Explain its scope in environmental protection.
2. Explain bioremediation? Write detailed note on Insitu and exsitu bioremediation with suitable examples.
3. Describe the role of biosensors in environmental Monitoring?
4. What is phytoremediation? Explain it types with suitable examples.
5. Describe the role of environmental biotechnology in waste water treatment.
6. What is bioleaching? Describe the scope and mechanism of bioleaching?
7. Explain the degradation of lignocellulosic compound?
8. Write a note on composting and vermicomposting?

MEVE-014: BIODIVERSITY CONSERVATION AND MANAGEMENT
TUTOR MARKED ASSIGNMENT

| | |
|-----------------|--|
| Course Code | : MEVE-014 |
| Course Title | : Biodiversity Conservation and Management |
| Assignment Code | : MEVE-014/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100
5x20=100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks.

Please write all answers in your own words.

1. What is biodiversity? Describe in detail the type of biodiversity and its value.
2. Explain the Human population growth and its impact on biodiversity.
3. Discuss In-situ and Ex-situ Methods of biodiversity conservation.
4. Describe the role of people's movements and social approaches to biodiversity conservation.
5. Describe various National Laws and Legislation for conservation and management of biodiversity?
6. How loss of biodiversity will affect the ecosystem services? Explain in detail
7. Discuss the role of biodiversity prospecting and Indigenous Knowledge Systems for conservation and management of biodiversity?
8. What is ecosystem approach? Explain characteristics and principles of biodiversity Management through Ecosystem Approach.

MEVE-015: DISASTER MANAGEMENT

TUTOR MARKED ASSIGNMENT

| | |
|-----------------|-----------------------------|
| Course Code | : MEVE-015 |
| Course Title | : Disaster Management |
| Assignment Code | : MEVE-015/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks. (5x20=100)

Please write all answers in your own words.

1. Describe the basic concepts in disaster management. Explain the challenges posed by disasters and the impacts of disasters.
2. Explain the public health response and relief measures in disaster medical management.
3. Write short notes on the following:
 - (a) Disaster Preparedness.
 - (b) Disaster Mitigation.
4. Explain the roles and responsibilities of different agencies in disaster preparedness.
5. Describe the fundamentals of risk and vulnerability.
6. Write short notes on the following:
 - (a) Technologies used in disaster management.
 - (b) International Cooperation for disaster medical management.
7. Give a detailed account on the types and categories of disasters.

MEVE-016: URBAN ENVIRONMENT

TUTOR MARKED ASSIGNMENT

| | |
|-----------------|-----------------------------|
| Course Code | : MEVE-016 |
| Course Title | : Urban Environment |
| Assignment Code | : MEVE-016/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks. (5x20=100)

Please write all answers in your own words.

- 1 Define urbanization. What are the adverse consequences of urbanization on healthy living and survival of human beings?
- 2 What are the types of urban forests? Suggest methods to conserve them.
- 3 Elucidate the importance and process of urban land use planning.
- 4 What is an agglomeration economy? How does it affect the growth of a city?
- 5 Write short notes :
 - i) Eco cities
 - ii) Urban Wetlands
- 6 Why there is lack of urban resource management in developing countries?
- 7 Explain the specific programmes run by the Government to improve the condition of urban infrastructure.
- 8 What is the Urban Climatology? How urban climatology contributes towards designing urban settlements?

MEVE-017: ENVIRONMENT AND SOCIETY

TUTOR MARKED ASSIGNMENT

| | |
|-----------------|-----------------------------|
| Course Code | : MEVE-017 |
| Course Title | : Environment and Society |
| Assignment Code | : MEVE-017/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks. (5x20=100)

Please write all answers in your own words.

1. Explain the importance of culture and environment with suitable examples.
2. Discuss some important Eco social movements.
3. Write short notes on the following:
 - a) Origin of species.
 - b) Eco spiritualism.
4. Explain the impacts of population explosion on the environment.
5. Discuss the role of Environment in Ancient and Modern Societies.
6. Write short notes on the following:
 - a) Water Conflicts.
 - b) Women and Society.
7. Explain the role of Environmental Ethics in Resource management.

MEVE-018: INSTRUMENTATION TECHNIQUES FOR ENVIRONMENTAL MONITORING

TUTOR MARKED ASSIGNMENT

| | |
|-----------------|---|
| Course Code | : MEVE-018 |
| Course Title | : Instrumentation Techniques for Environmental Monitoring |
| Assignment Code | : MEVE-018/TMA-01/2021-2022 |
| Coverage | : All Blocks |

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks. (5x20=100)

Please write all answers in your own words.

1. What are different methods employed in air sampling? Explain.
2. What are the different components of HPLC? Explain its applications.
3. How does the TLC work? Explain its applications.
4. Explain the following with suitable examples
 - a. Polymerase Chain Reaction
 - b. Flow Cytometry
 - c. Cytophotometry
 - d. Biosensors
5. What are immunoassay techniques? Explain the working of enzyme immunoassays.
6. What are microarrays? Explain their applications. What are the main technologies used in microarrays?
7. What is hybrid nanopores? What advantages they have over other nanopore sequencing methods?
8. Describe the applications of capillary electrophoresis in analysis of environmental pollutants?

MEVE-019: ENVIRONMENTAL ISSUES

TUTOR MARKED ASSIGNMENT

Course Code : MEVE-019
Course Title : Environmental Issues
Assignment Code : MEVE-019/TMA-01/2021-2022
Coverage : All Blocks

Maximum Marks 100

Note: This assignment is based on the entire course.

Answer any five questions. All question carries equal marks. The marks for each question are indicated against it within brackets on the right-hand side.

Please write all answers in your own words.

1. Discuss the drivers of biodiversity loss. (20 marks)
2. Discuss the natural causes of climate change. (20 marks)
3. Explain the causes of biomass burning in India. (20 marks)
4. Explain the causes and management of arsenic pollution in India. (20 marks)
5. Explain the causes and management of eutrophication. (20 marks)
6. Write short notes on the following: (20 marks)
 - a) Biomagnification
 - b) Soil pollution
7. Explain the causes of marine pollution. (20 marks)
8. Write short notes on the following: (20 marks)
 - a) Sustainable Development
 - b) SDG-13: Climate Action
