

M.Sc. (Semester II)

S.S. Jain Subodh P.G. College, Jaipur

M.Sc. Environmental Science (Semester II) Assignment March 2025

**Paper Code
WASTE MANAGEMENT**

Paper –First

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

Unit 1

Q1- Write a detail note on disposal techniques for solid waste.

Q2- Write note on industrial and municipal waste.

Unit 2

Q3- Discuss about classification and characteristics of hazardous waste.

Q4- write note on

- a) Techniques for hazardous waste treatment.
- b) Disposal of hazardous waste.

Unit 3

Q5- What is nuclear waste? Write detail note on classification of nuclear waste.

Q6- Write short note on

- a) Dilution and Dispersion of residual waste.
- b) Delay for decay of short lived radio nuclides.

Unit 4

Q7- Methods for treatment and disposal of biomedical waste.

Q 8- Write short notes on the following

- a) Segregation and designated storage of biomedical waste
- b) Biomedical waste treatment and disposal method

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M.Sc. Environmental Science (Semester II) Assignment March 2025

Paper Code

ENVIRONMENTAL POLICIES, LEGISLATIONS AND ETHICS

Paper –Second

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

UNIT I

Q1. Describe the role of the Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCBs) in India.

Q2. Write a short note on National Environmental Policy and Regulatory policy framework.

UNIT II

Q3. Compare the Air and Water Pollution Acts in terms of objectives and implementation.

Q4. Write a short note on Environment (Protection) Act 1986

UNIT III

Q5. Explain the role of the Stockholm Convention in controlling hazardous chemicals.

Q6. Explain in details on the Montreal Protocol and the Kyoto Protocol.

UNIT IV

Q7. Discuss the philosophy of environmental ethics and its significance in modern society.

Q8. How does the Bishnoi Movement reflect early environmental consciousness?

M.Sc. (Semester II)

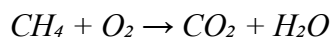
S.S. Jain Subodh P.G. College, Jaipur
M.Sc. Environmental Science (Semester II) Assignment March 2025
Paper Code
ENVIRONMENTAL CHEMISTRY
Paper-Third

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

UNIT I

Q. 1 Given the unbalanced combustion equation for methane (CH₄):



Balance this equation and explain the role of each reactant and product in the context of air pollution.

or

Q. 2 Write short notes on:

- a) Ion Bonding
- b) Chemical Kinetics

UNIT II

Q. 3 How do the chemical reactions in urban environments lead to the formation of photochemical smog? What are the key pollutants involved, and how does sunlight accelerate these reactions?

or

Q. 4 What is the role of hydrocarbons in the atmosphere, and how do they contribute to the formation of tropospheric ozone?

UNIT III

Q. 5 Water plays a critical role in the global carbon cycle. How do chemical properties of water, such as its ability to dissolve carbon dioxide (CO_2), contribute to the formation of carbonic acid and affect the pH of natural water bodies?

or

Q. 6 Water's solubility of oxygen is crucial for the survival of aquatic life. How do factors such as temperature and pressure affect the solubility of oxygen in water, and what are the environmental consequences of decreasing oxygen levels in aquatic ecosystems?

UNIT IV

Q. 7 Nitrogen fixation is the process by which atmospheric nitrogen (N_2) is converted into a form usable by plants. Describe the role of nitrogen-fixing bacteria in this process. How does this process benefit plants, and what is the significance of nitrogen fixation for agricultural practices?

or

Q. 8 What is Cation exchange capacity (CEC), and how does it influence the ability of soil to retain essential cations like potassium (K^+), calcium (Ca^{2+}), and magnesium (Mg^{2+})? How does CEC vary with soil texture and organic matter content, and what are the implications for soil management?

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M.Sc. Environmental Science (Semester II) Assignment March 2025

Paper Code

ENVIRONMENTAL DISASTERS AND MANAGEMENT

Paper –Fourth

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

UNIT I

Q1. Explain the concept, definition and the classification of Disasters with examples?

Q2. What do you understand by the Rapid Onset and Slow Onset of the Disasters?

UNIT II

Q3. What is the significance of the Climatology and Meteorological Study for the Disaster Management?

Q4. Explain the various steps of Flood Forecasting and Flood Management System?

UNIT III

Q5. What are the various types of the Geo hazards? What is the Risk Factor associated with them?

Q6. Elaborate and Explain the Risk Mitigation Measures related to hazards like, Volcanic Eruptions, Landslides and Earthquakes?

UNIT IV

Q7. What is the UN draft resolution on Strengthening of Coordination of Humanitarian Emergency Assistance?

Q8. What are the newly established Plans and Policies for Disaster Maintenance by the Govt. under the aegis of NDMA (National Disaster Management Authority)?

M.Sc. (Semester IV)

S.S. Jain Subodh P.G. College, Jaipur

M.Sc. Environmental Science (Semester IV) Assignment March 2025

Paper Code

Environmental Impact Assessment

Paper –First

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

UNIT-I

- Q1. Write a note on Rapid and comprehensive EIA perspectives
- Q2. Explain the generic structure of an EIA document with its main sections.

UNIT-II

- Q 3 Discuss Cost-Benefit Analysis (CBA) in EIA. How does it help in evaluating the economic feasibility of a project?
- Q4. Explain the role of Public Hearing in the EIA process. Why is public participation important in environmental decision-making?

UNIT-III

- Q5. Compare EMS and traditional environmental regulations. How does EMS provide a proactive approach to environmental management?
- Q. 6 How does Life Cycle Analysis (LCA) contribute to sustainable product design? Give examples of industries using LCA for environmental improvements.

UNIT-IV

- Q7. What is Corporate Social Responsibility (CSR)? Discuss its role in promoting sustainable development and environmental protection.
- Q. 8 Discuss the concept of Strategic Environmental Assessment (SEA). How is it different from Environmental Impact Assessment (EIA)?

M.Sc. (Semester IV)

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M.Sc. Environmental Science (Semester IV) Assignment March 2025

Paper Code

Environmental Clearance and Environmental Audit

Paper –Second

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

UNIT-I

Q1. Explain the significance of the EIA Notification 2006. What were the major changes introduced compared to the 1994 notification?

Q.2 Define Environmental Impact Assessment (EIA) and Discuss the role of public participation in EIA in India.

UNIT-II

Q. 3 Describe the environmental and social impacts of river valley projects. Suggest ways to mitigate these impacts.

Q4. Discuss the challenges faced in implementing environmental regulations for thermal power projects.

UNIT-III

Q5. Describe the importance of the Project Description and Project Benefits sections in an EIA report.

Q6. Discuss the key steps taken in an Environmental Management Plan (EMP) to minimize environmental damage.

UNIT-IV

Q. 7 What are the different types of Environmental Audits? Explain their significance.

Q. 8 Explain the key principles of Global Reporting Initiative (GRI) G-3 and how they contribute to sustainability.

M.Sc. (Semester IV)

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M.Sc. Environmental Science (Semester IV) Assignment March 2025

Paper Code

REMOTE SENSING AND GIS FOR ENVIRONMENTAL SCIENCE

Paper –Third

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

UNIT I

Q. 1 How do passive sensors differ from active sensors, and what are some common passive remote sensing systems? Discuss the role of sunlight in passive remote sensing.

or

Q. 2 The electromagnetic spectrum is crucial to remote sensing. Describe the electromagnetic spectrum and explain the significance of the visible, infrared, and microwave regions in remote sensing. Why do different wavelengths provide distinct information about Earth's surface features?

UNIT II

Q. 3 What are the primary elements of visual image interpretation used in interpreting remote sensing images? Provide examples of how each element can be used to identify different land cover types.

or

Q. 4 What is histogram equalization, and how does it improve the contrast of an image? Explain the process of histogram equalization, and discuss its advantages and disadvantages, particularly in remote sensing applications.

UNIT II

Q. 5 Remote sensing offers various types of data (e.g., optical, infrared, radar). What types of remote sensing data are most commonly used for land cover mapping, and why are these types of data particularly useful for distinguishing between different land cover types?

or

Q. 6 What is the role of remote sensing in flood mapping? How does remote sensing help in detecting, monitoring, and assessing flood events, and why is it considered an effective tool for flood management?

UNIT IV

Q. 7 Describe how vector data is represented in GIS. What are the basic elements of vector data and how are they used to represent geographic features?

or

Q. 8 What is a thematic map, and how is it different from a general-purpose map? Discuss the role of symbols, colors, and patterns in thematic maps. How do cartographers choose symbols and colors to represent different types of data?

M.Sc. (Semester IV)

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M.Sc. Environmental Science (Semester IV) Assignment March 2025

Paper Code

Energy and Environment

Paper –Fourth

Marks: 30

Instructions to Students: Assignment consists of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation.

Unit I

Q1. Explain Gross Calorific Value and Net Calorific Value?

Or

Q2. Describe in detail about the process of Mineral Extraction?

Unit II

Q3. Elaborately explain about:

- a) Uses of Hydropower
- b) Magneto- Hydrodynamic Power

Or

Q4. Explain the concept of Geothermal Energy production with its applications in context of India?

Unit III

Q5. Describe in detail the process of Fission and Fusion process in the Nuclear Reactor along with description of Uranium as the core fuel material?

Or

Q6. Explain with the help of examples:

- a) Biofuels.
- b) Hydrogen as a Fuel.

Unit IV

Q7. How will we explain the Renewable Energy Potential in our Country and the world in Different sectors by providing examples?

Or

Q8. What is the Impact of large-scale exploitation of Solar, Wind, and Hydro Energy? Suggest the Mitigative action plans for combating the same?