

M.Sc. (Semester II)

## M.Sc. Environmental Science (Semester II) Examination,

Paper –First

### WASTE MANAGEMENT

Marks: 30

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit.

#### Unit 1

- Q-1 a) Define solid waste and classify it into different categories.  
b) What is the source of municipal solid waste?

- Q-2. a) Explain the process of sanitary landfilling.  
b) What are the benefits of recycling process?

#### Unit -2

- Q-3 Define hazardous waste and explain the different types of hazardous waste generation sources.
- Q-4. Explain the methods of hazardous waste treatment and disposal.

#### Unit -3

- Q-5 Write short notes
- a) Classification of nuclear waste.  
b) Delay and Decay of short-lived radio nuclides.
- Q-6 Describe the storage and transportation requirements for nuclear waste.

#### Unit -4

- Q-7. Discuss the methods of biomedical waste treatment and disposal.
- Q- 8 write notes on
- a). Role of incineration in biomedical waste management.  
b) impact of improper biomedical waste disposal.

M.Sc. (Semester II)

**M.Sc. Environmental Science (Semester II) Examination,**

**Paper –Second**

**ENVIRONMENTAL POLICIES, LEGISLATIONS AND ETHICS**

**Marks: 30**

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit.

**UNIT I**

- Q1. Give a detailed account on Constitutional Provisions Article 21, 48A, 51A.
- Q2. Write a short note on National Environmental Policy and Regulatory policy framework.

**UNIT II**

- Q3. Give a detailed account on Air (prevention and control of pollution) Act 1981.
- Q4. Write a short note on Bio-Medical Waste (Management & Handling) Rules.

**UNIT III**

- Q5. Define the UNCCD, Rio +10 and Ramsar Convention.
- Q6. Explain in details on Kyoto Protocol, Montreal Protocol 1987 and Copenhagen Summit 2009.
- Q7. How does the Bishnoi Movement reflect early environmental consciousness?
- Q8. Write a Short note any four
- Bishnoi tradition,
  - Role of NGOs
  - Value education,
  - Silent Valley.

M.Sc. (Semester II)

## M.Sc. Environmental Science (Semester II) Examination

Paper–Third

### ENVIRONMENTAL CHEMISTRY

**Marks: 30**

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit. .

#### UNIT I

Q.1. What do you understand by Gibbs' energy? Write a detailed note on their role in Environmental Chemistry.

Q. 2. Explain the chemical potential and chemical equilibria with their advantages, limiting factors and significance in environment chemistry.

#### UNIT-II

Q. 3. What are photochemical reactions in the atmosphere. Give an explanatory note on both type of reaction in the atmosphere.

Q. 4. Describe the Chemical speciation and thermo-chemical in the atmosphere.

#### UNIT-III

Q. 5. Define the concept and significance of Chemical speciation in aquatic environment.

Q. 6. Write a note on physico-chemical properties of water and their environmental significance.

#### UNIT-IV

Q. 7. Define the soil and describe its Physico-chemical characteristics in a descriptive way.

Q.8. Write short note on C/N ratio and NPK in soil.

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**M.Sc. Environmental Science (Semester II) Examination,**

**Paper –Fourth**

**ENVIRONMENTAL DISASTERS AND MANAGEMENT**

**Marks: 30**

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit.

**UNIT I**

**Q1.** What is Coastal Erosion? Explain the various factors causing erosion with its Impact on the Environment?

Q2. Give the Detailed Account on classification of disasters.

**UNIT II**

**Q3.** Explain Integrated Flood Management and Information System (IFMIS) in detail?

Q4. What are the consequences of cyclone with its Mitigation Measures?

**UNIT III**

Q5. Describe in detail account on the earthquake, hazards and risks?

Q6. Give a detailed account on Volcanic Eruptions?

**UNIT IV**

Q7. What are the various Policies of Disaster Management in association with Natural Hazard Management System?

Q8. What is International Decade for Natural Disaster Reduction (IDNDR)

M.Sc. (Semester IV)

**M.Sc. Environmental Science (Semester IV) Examination,**

**Paper –First**

**ENVIRONMENTAL IMPACT ASSESSMENT**

**Marks: 30**

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit.

**UNIT-I**

Q1. Objectives and Benefits of EIA.

Q. 2 Write a short note on sources and collection of data for EIA.

**UNIT-II**

Q 3 Describe the basic outline of the EIA process.

Q. 4 What are the various EIA methodologies?

**UNIT-III**

Q5. Describe the Components of Environmental Management System

Q. 6 Write a short note on:

- a. ISO 14000 (EMS).
- b. Life Cycle Analysis –LCA

**UNIT-IV**

Q7. Explain Strategic Environmental Assessment (SEA).

Q. 8 Write in detail about the restoration and rehabilitation methodologies

M.Sc. (Semester IV)

**M.Sc. Environmental Science (Semester IV) Examination,**

**Paper –Second**

**Environmental Clearance and Environmental Audit**

**Marks: 30**

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit.

**UNIT-I**

Q1. Explain the concept of categorization of projects, list of projects, activity, financial overlays, conditions and specifications of various projects.

Q.2. what are the methodologies of EIA in Indian context and EIA Notification 2006.

**UNIT-II**

Q. 3 What are the categorization criteria important considerations/features developmental projects – river valley projects.

Q. 4 Explain the EIA process for a mining project.

**UNIT-III**

Q5. Give a detailed account on Environmental impact statement (EIS).

Q.6 Detailed account on EIA in Indian context with Executive summary of Project, Introduction, Project description, Project benefits, and Policy legal framework

**UNIT-IV**

Q. 7 Write an essay on environmental audit.

Q. 8 Write short note on Environmental guidelines for sitting of industry

M.Sc. (Semester IV)

**M.Sc. Environmental Science (Semester IV) Examination**

**Paper –Third**

**REMOTE SENSING AND GIS FOR ENVIRONMENTAL SCIENCE**

**Marks: 30**

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit.

**UNIT-I**

- Q. 1 What are the basic components of an ideal remote sensing system? Explain.
- Q. 2 Explain in detail basic geometric characteristics of aerial photographs.

**UNIT-II**

- Q. 3 What do you understand by Digital photogrammetry? Explain.
- Q. 4 Give a detail note on image classification techniques.

**UNIT-III**

- Q. 5 Describe the role of remote sensing in the study of biodiversity.
- Q. 6 Discuss the application of remote sensing in the flood mapping.

**UNIT-IV**

- Q. 7 . What are the Basic Concepts of GIS and Cartography?
- Q.8 Write in Detail about
- A. Vector and Raster Data
  - B. Data Storage and Data Editing.

M.Sc. (Semester IV)

**M.Sc. Environmental Science (Semester IV) Examination,**

**Paper –Fourth**

**Energy and Environment**

**Marks: 30**

**Instructions to the candidates:** Students are given eight questions. Students are required to answer any four questions from each unit.

**UNIT-I**

Q 1. Explain in details about the classification, characteristics and Energy Content of Coal.

Q2. Write in detail about:

- (a) Gross Calorific Value and Net Calorific Value.
- (b) Environmental Impact of Extraction and Processing of Minerals.

**UNIT-II**

Q3. Explain about the concept of Solar Energy with its Harnessing Procedure and Solar Budget of the Earth.

Q4. Explain about:

- (a) Bio energy- Energy from the Biomass
- (b) Wind Energy

**UNIT-III**

Q5. Give a Detailed account on the various types of Nuclear Fuels with the process of their Mining and Extraction.

Q6. What do you understand by Bioaccumulation and its Impact on the Environment?

**UNIT-IV**

Q7. Write in detail about the Energy use Pattern of India and the World with a view of India's Renewable Energy Potential.

Q8. Elucidate the current pattern of Carbon dioxide emission of India and the world.