

Code No: R164101H

**R16**

**Set No. 1**

**IV B.Tech I Semester Regular/Supplementary Examinations, March – 2021**  
**ENVIRONMENTAL IMPACT ASSESSMENT AND MANAGEMENT**  
**(Civil Engineering)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*  
*Answer ALL sub questions from Part-A*  
*Answer any FOUR questions from Part-B*  
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**PART–A(14 Marks)**

1. a) What is Initial Environmental Examination and State why it is necessary before final EIA? [3]
- b) List the various EIA methods. [3]
- c) Explain Aquifer. [2]
- d) Explain biodiversity. [2]
- e) Define Risk Assessment. [2]
- f) Explain ISO 14000. [2]

**PART–B(4x14 = 56 Marks)**

2. a) Discuss in detail the direct and indirect impacts that are likely to occur for Land Clearing and Road Construction Activity. [7]
- b) Discuss the main features of Impact Evaluation and Analysis? What should be the important objectives of an effective EIA? [7]
3. a) What are different types of scales used in scaling check list methods? [7]
- b) What is Battelle Environmental Evaluation System? [7]
4. a) If the soil is contaminated, what are the remediation methods that can be adopted during and after the execution of any development Project. [7]
- b) Discuss the external and internal approaches in the application of GIS for EIA. [7]
5. a) Discuss the general methodology for the assessment of Impacts of development activities on Surface water environment. [7]
- b) Discuss the methodology used for assessment of air pollution impact. [7]
6. Explain what is meant by Social Assessment? Why Socioeconomic impacts are important in EIA of a major development Project. [14]
7. Describe the environmental impact assessment of a Cement Plant. [14]

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**Set No. 2**

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**(Civil Engineering)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*  
*Answer ALL sub questions from Part-A*  
*Answer any FOUR questions from Part-B*

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**PART–A(14 Marks)**

1. a) What is Environmental Impact Assessment (EIA)? [2]
- b) State the importance of predictive methods in EIA? [3]
- c) State appropriate techniques for slope protection. [3]
- d) Discuss the effects of Noise on People. [2]
- e) How is uncertainty taken into account in Risk assessment? [2]
- f) State the significance of Audit Report. [2]

**PART–B(4x14 = 56 Marks)**

2. Describe in detail the analytical functions associated with EIA. [14]
3. Explain Overlay Methods and discuss how GIS is useful in overlay methods. [14]
4. a) What is the water balance method for calculating leachate flow through a site? [7]
- b) What is darcy's law for describing ground water through a saturated porous medium? [7]
5. a) What key information is required of any proposed project for identification of water quantity and quality impacts? [7]
- b) Discuss the sources of air pollutants and their effects on environment. [7]
6. List the main features of Ecological Risk Assessment. How it is different from Human Health Risk Assessment. [14]
7. Describe the environmental impact assessment of a greenfield expressway project. [14]

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**Set No. 3**

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**ENVIRONMENTAL IMPACT ASSESSMENT AND MANAGEMENT**  
(Civil Engineering)

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*  
*Answer ALL sub questions from Part-A*  
*Answer any FOUR questions from Part-B*  
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**PART–A(14 Marks)**

1. a) Write the stages of EIA. [3]
- b) Explain adhoc methods and state its advantages. [2]
- c) Describe Leachate and its effect on ground water. [3]
- d) Define Noise and how it is measured. [2]
- e) List the effects of deforestation in detail. [2]
- f) List the Post Audit activities of a project. [2]

**PART–B(4x14 = 56 Marks)**

2. Explain the factors that should be considered while taking decisions based on assessment of significance of an Impact. [14]
3. a) Describe Stepped up Matrix and Network methods. [9]
- b) Explain the factors to be considered in selection of EIA methodology. [5]
4. a) Discuss the qualitative, simple and specific quantitative methods for impact prediction on soil and groundwater? [7]
- b) What is GIS? Discuss the basic concepts and techniques used in GIS. [7]
5. What is meant by impact prediction with reference to surface water environment? Discuss the application of Various mathematical models for impact prediction. [14]
6. a) Explain the various steps in performing an Environmental Risk Assessment. [9]
- b) Discuss about Hazard Analysis. [5]
7. Describe the environmental impact assessment of an inland waterways project. [14]

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Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B*  
*Answer ALL sub questions from Part-A*  
*Answer any FOUR questions from Part-B*  
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**PART–A(14 Marks)**

1. a) Write short notes on (i) Direct impacts, (ii) Indirect Impacts [3]
- b) Explain adhoc methods and list their draw backs? [2]
- c) Discuss various guidelines for mitigating soil erosion. [2]
- d) List different types of Pollutants. [3]
- e) What is deforestation? [2]
- f) List the Provisions in the EIA notification. [2]

**PART–B(4x14 = 56 Marks)**

2. Explain the different steps involved in adopting EIA as a Planning tool for any major project activity. [14]
3. State the salient features of Matrix Methods? What are interaction matrix methods with reference to leopard matrix method. [14]
4. a) Discuss the cause-and-effect network for assessing the impacts on soil and ground water. [7]
- b) Discuss the basic Principles of remote sensing. How it is useful for Environmental monitoring. [7]
5. Discuss the physical and mathematical models approach for impact prediction. [14]
6. a) Explain Environmental Risk Assessment in detail. Explain how it is different from EIA. [7]
- b) Explain Hazard, Probability and Risk management in detail. [7]
7. Describe the environmental impact assessment of a new thermal power plant and list its socio-economic impacts as well. [14]