

06CE6043

Reg. No _____

Name _____

A P J ABDUL KALAM TECHNOLOGICAL UNIVERSITY

M.TECH DEGREE EXAMINATION, DECEMBER 2015

FIRST SEMESTER

Branch: Civil Engineering

Specialization: Environmental Engineering

Environmental Impact Assessment

Time: 3 Hours

Max. Marks: 60

PART A

Answer ALL questions

1. (a) What is IEE? Explain its significance. (2 marks)
(b) Explain EIS? What are the contents of a typical EIS? (3 marks)
2. a) A 30 MW river valley project with a culturable command area of 7000 Ha is proposed. The project site is 12 km from the boundary of a notified eco sensitive area. Construct a flowchart to show the environmental clearance procedure in India for this particular project. Explain each step by giving proper justification.

Project	Category A	Category B	Conditions
River Valley projects	(i) ≥ 50 MW hydroelectric power generation; (ii) $\geq 10,000$ ha. of culturable command area	(i) < 50 MW ≥ 25 MW hydroelectric power generation; (ii) $< 10,000$ ha. Of culturable command area	General Condition shall apply

(3 Marks)

- (b) Explain in detail the appraisal stage of EIA clearance procedure in India. (2 marks)
3. Explain Environmental Monitoring Plan. (5 marks)
4. Explain triple bottom line concept. (5 marks)

Handwritten signature and date: 14/3/16

PART B

5. (a) What are the different types of impacts? Explain them with relevant examples
(4 marks)

(b) Briefly explain the steps involved in Environmental Impact Assessment.
Construct a flow chart of the same. (6 marks)

OR

6. (a) Give details on the constitution of Central Board in Air (Prevention and Control of Pollution) Act 1981. What are its functions? (5 marks)

(b) Give details on Subsection 2 and 3 of section 20; Clause c, sub section 1, of section 32; Subsection 2 of section 33 and Section 33a of Water (Prevention and Control of Pollution) Act 1974 and the penalties for violating the provisions of these sections. (5 marks)

7. (a) For a hydroelectric power project alternatives Alternative 1 (A1) and Alternative 2 (A2) are proposed. A1 has a capacity of 400 MW whereas A2 has a capacity of 1000 MW. It is also planned to provide water supply to 6000 and 9,000 people respectively in A1 and A2 respectively. A1 and A2 will also provide irrigation for 40,000 Ha and 80,000 Ha respectively. It is found that A1 and A2 can cause land submergence of 600 Ha and 1200 Ha respectively and displaces 20,000 and 40,000 people respectively. Using scaling weighting checklist determine the better alternative among Alternative 1 (A1), Alternative 2 (A2) and rejection of project proposal for the following cases.

CASE	WEIGHTAGE
Case I	Equal Weightage
Case II	People Displaced-0.4, Land submerged-0.2, Power Generated- 0.2, Water Supply-0.1, Irrigated Land-0.1
Case III	People Displaced-0.3, Land submerged-0.1, Power Generated- 0.4, Water Supply-0.1, Irrigated Land-0.1

(6 marks)

(b) Explain the types of matrix methods used for impact identification. Give suitable examples (4 marks)

OR

8. (a) What is the role of public participation in EIA. (4 marks)

(b) Discuss the various techniques for conflict management and dispute resolution. (6 marks)

9. (a) Explain the qualities of an Environmental auditor. (4marks)

(b) Explain the various methodologies used for environmental auditing. (6 marks)

Or

10. Explain the concept of ISO 14000 using a case study (10 marks)

11. What is LCA. Explain in detail the procedure for LCA (10 marks)

Or

12. (a) Explain carbon footprint? How does it help developing countries economically? Justify (6 marks)

(b) Explain water footprint. (4 marks)

06CE6043

Reg. No _____

Name _____

A P J ABDUL KALAM TECHNOLOGICAL UNIVERSITY**M.TECH DEGREE EXAMINATION, DECEMBER 2016****FIRST SEMESTER****Branch: Civil Engineering****Environmental Impact Assessment****Time: 3 Hours****Max. Marks: 60****PART A***Answer ALL questions*

1. Differentiate between Rapid EIA and Comprehensive EIA?
2. Explain Terms of Reference?
3. Explain ISO 14000 series?
4. Explain Triple bottom line concept?

(4 x 5 marks =20 marks)**PART B**

5. Explain the procedure of EIA in India?
OR
6. Explain EIA notification?
7. Explain checklist and network method for impact identification?
OR
8. Explain public participation in EIA?
9. Explain different types of Environmental audit?
OR
10. Explain the basic framework of Environmental management system?

11. Explain the stages of LCA of a product?

OR

12. Explain the concept of sustainable development?

(4 x 10 marks =40 marks)

06CE6043**Reg. No** _____**Name** _____**A P J ABDUL KALAM TECHNOLOGICAL UNIVERSITY****M.TECH DEGREE EXAMINATION, DECEMBER 2017****FIRST SEMESTER****Branch: CIVIL ENGINEERING****Specialization: ENVIRONMENTAL ENGINEERING****ENVIRONMENTAL IMPACT ASSESSMENT****Time: 3 Hours****Max. Marks: 60****PART A**

1. Define EIA and describe the objectives of EIA (5 Marks)
2. Explain clearly the different methodologies adopted for EIA process? (5 Marks)
3. What are the qualities required for an environment auditor? (5 Marks)
4. How do you correlate Multilateral Environmental Agreements with CDM? State the advantages and disadvantages of CDM projects. (5 Marks)

PART B

5. According to the Organization of the Petroleum Exporting Countries (OPEC), the demand for oil across the world will grow by 1.26 million barrels per day. Moreover, majority of the oil demand across the globe is expected to originate from India. In order to meet the demand, the government is agreeable to set up new petroleum project. As an EIA expert, explain the procedural framework for environmental impact assessment followed in India. Which EIA do you prefer for this project - Rapid or Comprehensive, Justify your answer (10 Marks)
Or
6. (a) State the evolution of EIA in India. (b) Explain the role of EIA in relation to the planning and decision-making process. (10 Marks)
7. (a) Explain the direct, indirect and cumulative impacts of illegally disposed waste electrical and electronic equipment recycling techniques. (5 Marks)
(b) List out the various impact prediction approaches for air pollution and suggest ideal remedial measures to mitigate the issues. (5 Marks)
Or
8. (a) Construct a flow charts to show the environmental clearance procedures in India for a particular project. (6 Marks)
(b) Prepare Terms of Reference of the project associated with construction activities. (4 Marks)

9. Explain the need for environmental auditing for an organization. What are the various methodologies used for environmental auditing. (10 Marks)

Or

10. Elucidate the concept of ISO 14000 with the help of a case study. (10 Marks)

11. There has always been a dichotomy between environment and development. From the sustainability point of view, what is the role of Environment Impact Assessment for a development? How can we bridge the gap between environment and development using EIA? Explain with the help of a case study. (10 Marks)

Or

12. Explain Life Cycle assessment of any Product. While conducting Life Cycle Analysis, identify the various stages that cause environmental impacts. State the remedial measures to mitigate the possible impacts? (10 Marks)

Exam Slot: D

06CE6043

Reg Number.....

Name.....

**A P J ABDUL KALAM TECHNOLOGICAL UNIVERSITY
M.TECH DEGREE EXAMINATION, DECEMBER 2018
FIRST SEMESTER**

**ENVIRONMENTAL ENGINEERING
Environmental Impact Assessment**

Time: 3 Hrs

Maximum Marks:60

PART A

Answer ALL Questions

1. Explain clearly the role of screening and scoping in the EIA process.
2. What are the different categories of checklists? Discuss the various environmental factors to be considered in checklist methods.
3. What are the different types of Environmental Audit?
4. Differentiate between carbon and water foot print with examples.

4 x 5 marks = 20 marks

PART B

5. a. What is Initial Environmental Examination(IEE)? Why is it necessary before going for final EIA?

(5 marks)

- b. Two municipalities in Kerala plan to set up a Common Municipal Solid Waste Management Facility (CMSWMF). Explain the procedure required for the Environmental Clearance (EC) for the project as per the EIA Notification of 2006. (All CMSWMFs are category B projects)

(5 marks)

OR

6. Explain in detail the salient features of Environmental Protection Act, 1986.

(10 marks)

7. a. Explain the basic steps required to assess the impacts on the water environment due to a project.

(7 marks)

- b. Prepare a simple checklist for assessment of socio economic impact due to the development of a highway

(3 marks)

OR

8. a. Explain overlay mapping as an EIA method

(5 marks)

- b. Explain the procedure to calculate the cancer risk due a contaminant in air.

(5 marks)

9. a. Explain the need for environmental auditing for an organization.

(5 marks)

- b. Explain in detail the salient features of an Environment management plan.

(5 marks)

OR

10. Elucidate the concept of ISO 14000 with the help of a case study.

(10 marks)

11. a. Explain Life Cycle assessment of any Product. While conducting Life Cycle Analysis, identify the various stages that cause environmental impacts.

(5 marks)

- b. What is Sustainable Development? How is EIA relevant to Sustainable Development?

(5 marks)

OR

12. a. There has always been a dichotomy between environment and development. From the sustainability point of view, what is the role of Environment Impact Assessment for a development?

b. Elucidate the concept of triple bottom line.

(5 marks)

(5 marks)

4 x 10 marks = 40 marks