

DEPARTMENT OF CIVIL ENGG., ANNA UNIVERSITY, CHENNAI -600 025  
B.E. Degree Examinations, November/December 2013

Register No.

Degree: B.E (Part Time) Branch : Civil Engineering Semester: VII (Arrears)

Subject Code: PTCE 526/ PTCE9046

Subject Title: Environmental Impact Assessment

Max. Time : 3 hours

Max. Marks : 100

Regulation: 2005/2009

**Instructions**

- Answer all Questions in Part A
- Answer Question 11 and (a) OR (b) of Questions 12 to 15 in Part B
- Assume suitable data wherever necessary.
- Each Question in Part A carry 2 marks and that in Part B carry 16 marks

**Part A ( 10 x 2 = 20 marks)**

- 1 List four examples of development on environment?
- 2 What are the objectives of Environmental Impact Assessment (EIA)?
- 3 What is the purpose of scoping in EIA?
- 4 Distinguish between "Rapid EIA" and "Comprehensive EIA".
- 5 List any four characteristics to be considered while determining the significance of species and ecosystems?.
- 6 What are the impacts of construction activities on air environment?
- 7 What are the benefits of Post Environmental Audit?
- 8 Suggest two options for mitigating adverse impacts on water environment due to development of a housing complex.
- 9 What are the essential components of an Environmental Monitoring Plan
- 10 Explain four adverse impacts associated with operational phase of Railway projects.

**Part B ( 5 x 16 = 80 mark)**

- 11 (i) Explain the legal provisions in India regarding EIA of developmental projects? [8]  
(ii) Explain the criteria for selection and registration of EIA Consultants in India. [8]
- 12 (a) (i) Compare different EIA methods to clearly bring out the applicability of for each element of EIA [8]  
(ii) List the different elements of EIA and explain the purpose of each element. [8]

(OR)

- 12 (b) (i) Compare the strengths, weakness and applicability of four methodologies commonly used in EIA [8]  
(ii) Explain the purpose and the process of screening in EIA [8]

- 13 (a) (i) Explain a mathematical model to predict the impact of noise and detail the data requirements and data source for the application of the model. [8]  
(ii) A power plant burns 10000 tonnes of coal containing 3% sulphur per day. The flue gases are emitted into the atmosphere through a stack whose height is 200 m with 5m diameter. What is the SO<sub>2</sub> emission rate expected from the stack if no pollution control measures are adopted by the plant? Recommend two measures to reduce the SO<sub>2</sub> emission rate? [8]

(OR)

- 13 (b) (i) Mention one example each for a "positive", "negative", "direct" and "Secondary" impacts of developing a Highway? [8]  
(ii) Describe the procedure of Public Consultation in India. [8]

- 14 (a) (i) Explain the meaning of by "Biodiversity impacts" of a developmental project and list the activities which cause such impacts [8]  
(ii) Discuss the considerations associated with rehabilitation of Project Affected People. [8]

(OR)

- 14 (b) (i) Explain the difference between "Environmental indicator" and "Environmental Index" by citing an example for each and the method of their determination [8]  
(ii) Present typical structure of an EIA Report and discuss a framework for the review of EIA Reports. [8]

- 15 (a) (i) Compare potential Environmental impacts of different alternatives for Energy generation. [8]  
(ii) What are the different aspects to be considered to make a building "Green"? [8]

(OR)

- 15 (b) (i) You are leading an expert team to review environmental impacts assessment reports of Dam and Irrigation projects. Propose a review plan in terms of a checklist that can be used by the team [8]  
(ii) What are the significant environmental issues to be considered while planning to develop a wastewater treatment plant? [8]