

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Regular/ Backlog), April-May 2016

B. Tech. in Civil Engineering, Semester VI



Roll No.....

CE622: EIA and Environmental Auditing

Time: 3 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1A Objective type multiple choice questions (10 questions @ 1 mark)

10

- i. Environment Impact Assessment (EIA) is mandatory under which one of the following Indian legislations:
 - (a) Indian Forest Act
 - (b) Air (Prevention and Control of Pollution) Act
 - (c) Wildlife Protection Act
 - (d) Environment Protection Act
- ii. Public hearing for any project shall be conducted by:
 - (a) CPCB
 - (b) Investor
 - (c) SPCB
 - (d) Expert committee
- iii. Expert committee constituted for screening, scoping and appraisal at the state level is:
 - (a) EAC
 - (b) SEAC
 - (c) both
 - (d) none of them
- iv. A company operating a manufacturing plant has developed an Environmental Management System (EMS) in order to improve its performance. A key aspect of this EMS would include:
 - a) A focus on maximizing returns to shareholders of the company.
 - b) The development of an overall environmental policy for the company.
 - c) A consideration of the costs involved in developing an environmental policy.
 - d) A limited audit of some areas of the manufacturing plant's safety procedures.
- v. The purpose of mitigation is to
 - (a) find a way to do things in a better way
 - (b) restore social and environmental benefits
 - (c) prevent, minimize and remediate the negative impacts
 - (d) to warrantee that residual impacts are under the acceptable limits
 - (e) All of the above
- vi. ISO 14001 requires a documented procedure for:
 - a) Monitoring and measurement
 - b) Emergency preparedness and response
 - c) Control of documents
 - d) All of the above

vii.	Define 'Emission Factor'?	
viii.	What is the full form of "NEPA"?	
ix.	What is Environment impact statement (EIS)? Why it is important.	
x.	Scoping is an essential step in the EIA process – discuss the statement	
Q.2	Short answer type questions (4 questions @ 2.5 marks)	10
(i)	Discuss about the need of EIA for engineering projects.	
(ii)	Write the name of environmental impact identification techniques.	
(iii)	Discuss the importance of screening in EIA process.	
(iv)	How can a hydroelectric dam project affect the ecology of an area?	
Q.3A	What are the EIA guidelines followed in India?	05
Q.3B	Discuss the socio-economic impacts due to a highway development project in a medium sized city in India.	05
Q.4A	How will you forecast state of environment (SoE) in future based on present SoE for residential projects? In list parameters and steps considered for setting SoE.	05
Q.4B	Explain the following environmental impact identification methodology: (a) Matrix Method (b) Overlays Method	05
Q.5A	Explain the role of 'public participation' in environmental assessment.	05
Q.5B	Explain the methods of prediction of environmental impacts of engineering projects.	05
Q.6A	Why environmental risk assessment is important? Discuss the steps of environmental risk assessment by using any example.	05
Q.6B	What are the legislative measures to control air pollution? Discuss the steps for air quality impact assessment.	05
	OR	
Q.6B	Discuss the steps for water quality impact assessment.	05
Q.7A	Discuss research methodology for environmental impact assessment of a proposed cement plant.	05
Q.7B	What is environmental management system? Discuss the elements of ISO 14001 environmental management system for Construction Firm.	05
	OR	
Q.7B	What is environmental auditing? List at least FOUR reasons why a company might wish to undertake an environmental audit. Define different types of audit.	01 + 02 + 02 =05
Q.8A	Explain main stages in EIA process by taking any example.	10
Q.9A	Discuss the role of each parameter considered in environmental management plan.	10

A car washing and lubricating company has been operating for several years (more than 10 years) in a terrain with the following characteristics: porous, filterable with a phreatic level near to the surface (1.5 m depth). The company is located close to a river which is quite useful for them since they discharge all the disposals and waste generated by this activity directly into the river. These disposals contains high level of oil and greases. All the dumping from car maintenance goes directly into the soil since there are not palettes and gutters. The lubricating company operates for 20 hrs for seven days per week. The state pollution control board (SPCB) since the local people has complained has arranged the execution of an EIA and you are part of it.

- (a) What type of environmental evaluation has to be performed by the SPCB according to this case?
- (b) What type of professionals will be part of the consultancy group performing the EIA?
- (c) Mention three environmental impacts of this activity.
- (d) Mention three mitigation measures you will propose as part of your EMP to mitigate the impacts identifies.

OR

An important mining company has been operating for about 4 yrs in a coastal region. The mining activity of this company is very intense. This company has effectively implemented its EMP with great success, mitigating the environmental impacts caused by this activity. Up to date the results of the environmental auditory show up that this company completely fulfil all the legal requirements, laws and environmental standards established by the authorities. Since 1 year this company is part of a trial against the community, which argues that after the company has started its mining activity in the zone, the quality of the water has been significantly deteriorated and that this company is operating in a protected area. The Company argues that it has relevant proofs in order to demonstrate that they have not polluted the environment but the others industries located in the zone. The mining company emphasizes that when they began the activities the environment was already polluted specially the water and that the quality standards of the water were not good at all.

- a. What document the mining company must present in the trial in order to demonstrate its argument that the environmental quality was already deteriorate before their activities began in the zone. Why is this document so important?
- b. What are the key environmental permits required in relation to mining operations?
- c. Mention two environmental impacts this company might cause into the environment.
- d. Mention two ways to mitigate this impacts that should be included in its EMP.

