

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, December 2022

M. Tech. (HSE), Semester III, 2022-2023

Roll No.....

Environmental Impact Assessment CE2205

Time: 2.5 hours Max. Marks: 30

Instructions to students:

1. Do not write anything other than your roll number on question paper.
 2. Mention all the assumptions for your answers clearly.
 3. Marks are indicated against each question.
 4. Answer ALL the questions.
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Q.1 Read the case study and answer the questions given below:

Sardar Sarovar Dam: Case Study:

The Sardar Sarovar Dam is located on river Narmada in State of Gujarat. It is 170 Km (106 miles) upstream from where the river flows into the Gulf of Khambhat in the Arabian Sea. The purpose of construction of the dam was to make optimum use of Narmada waters to solve the problems of irrigation in certain parts of the Country. Today the Sardar Sarovar Project is one of the largest water resources projects of India covering four major States - Maharashtra, Madhya Pradesh, Gujarat and Rajasthan. With 1133 cumecs (40000 cusecs) capacity at the head regulator, and 532 km. length, the Narmada Main Canal would be the largest irrigation canal in the World. The dam devastated human lives and biodiversity by inundating thousands of acres of forests and agricultural land. The Construction of the Narmada dam was opposed by Narmada Bachao Andolan (NBA) an anti-dam organization.

- a. Discuss the role and scope of Social Impact Assessment (SIA) in relation to the EIA process.
- b. Identify the types of social impacts that can result from development proposal.
- c. Enlist the methods that are used to assess and mitigate social impacts.
- d. Discuss the benefits of SIA briefly.

(2.5*4 Marks)
(LOs 1,4,5)

Q.02 Read the case study and answer the questions given below:

XYZ Alumina Plant Limited plans to exploit the Niyamgiri bauxite reserve located on top of Niyamgiri Hill in kalahandi District of Orissa for commercial exploitation of bauxite. This company is going to mine bauxite deposit from the Niyamgiri hills jointly with ABC Mining Corporation Limited. Both companies would set up an Alumina Complex, which includes 1.0 MTPA Alumina Refinery Plant, 3.0 MTPA of bauxite mining and 75 MW Captive Power Plant at Lanjigarh in the district of Kalahandi at an aggregate investment of approximately Rs.4000/- crore. For this purpose 723.343 ha of land is required by the XYZ Alumina Ltd. for its refinery. Another 721.323 ha. of land is required for the bauxite mining on top of the Niyamgiri Hill. Most of this land is categorized as Reserved Forest. The mining lease is to be in the name of the "ABC Mining Corporation Ltd.", however, for all purposes the mining and the use of bauxite will be done by XYZ Alumina Ltd. The area proposed for mining is composed of forest and grasslands ecosystems of extremely high value as wildlife habitat, for biodiversity and from the perspective of water availability in this drought prone area. An attempt has been made in this context to show that the environmental and social costs of the XYZ's mining and refinery project far outweigh the benefits to the State.

- a. Prepare the Environmental Impact characteristics summary table for the project .
- b. Conduct the threshold test for environmental acceptability. Fill the table below for the potential impacts threshold because of above project as per their level of acceptability.

	Level of acceptability	Potential Impact threshold
1	Unacceptable	
2	Normally unacceptable	
3	May be acceptable only with minimization, mitigation, and management	
4	Normally acceptable	

- c. Illustrate occupational health hazards because of bauxite mining.

(4+4+2) Marks
(LOs 2,4,5)

Q.3 Identify and discuss the possible consequences of not carrying out a baseline study in EIA process for a cement project and also draw EIA process flow chart.

5 Marks
(LOs 1,2)

Q.4 Introduce the typical elements of a good EIA report. What are those key aims that you should meet in a successful EIA report ?

5 Marks
(LOs 1,3)

all the best!

