

# **Environmental Impact Assessment and Life Cycle Assessment**

**(Subject Code: GR18A3008)**

**III Year B.TECH. (CIVIL ENGINEERING)**

**I Semester**

**Prepared by**

**Mr T Srikanth**

**Associate Professor**



**Department of Civil Engineering**

**Gokaraju Rangaraju Institute of Engineering and Technology**

**Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440**

**2021-2022**



**Gokaraju Rangaraju Institute of Engineering and Technology**  
**Department of Civil Engineering**  
**Environmental Impact Assessment and Life Cycle Assessment**

**Course File Check List**

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# SYLLABUS

## UNIT I

Introduction: Concepts of EIA methodologies – Sustainable development- Need for Environmental Impact Assessment (EIA) - Environmental Impact Statement (EIS) – Evolution of EIA: Screening and scoping; Rapid EIA and Comprehensive EIA

## UNIT II

Introduction to EIA, Criteria for the selection of EIA Methodology, General Framework for Environmental Impact Assessment, Characterization and site assessment. Environmental Risk Analysis, Definition of Risk, Matrix Method; Checklist method, Mathematical models

## UNIT III

Prediction and Assessment: Public participation Fault tree analysis, Consequence Analysis; Socioeconomic aspects, measures of effectiveness of pollution control activities;

## UNIT IV

Environmental Legislation; Introduction to Environmental Management Systems; Environmental Statement - procedures; Environmental Audit: Cost Benefit Analysis;

## UNIT V

Life Cycle Assessment, Resource Balance, Energy Balance & Management Review; Operational Control; Case Studies on EIA

## TEXTBOOKS

1. Environmental Impact Assessment Methodologies, by Y. Anjaneyulu, B.S. Publication, Sultan Bazar, Hyderabad.
2. Environmental Science and Engineering, by J. Glynn and Gary W. Hein Ke – Prentice Hall Publishers

## REFERENCE BOOKS

1. Environmental Impact Assessment, by Larry Canter, 2nd edition, Mc Graw Hill Publishers
2. Judith Petts, “Handbook of Environmental Impact Assessment Vol. I & II”, Blackwell Science, 1999
3. Environmental Science and Engineering, by Suresh K. Dhaneja – S.K. Katania & Sons Publication., New Delhi.
4. Environmental Pollution and Control, by Dr H.S. Bhatia – Galgotia Publication (P) Ltd, Delhi



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**DEPARTMENT OF CIVIL ENGINEERING**

**III YEAR-A SECTION**

**ROOM NO: 4204**

**W.E.F: 16-08-2021**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Day/Hour</b>	<b>9:00-9:55</b>	<b>9:55-10:50</b>	<b>10:50-11:45</b>	<b>11:45-12:25</b>	<b>12:25-1:15</b>	<b>1:15-2:05</b>	<b>2:05-2:55</b>
Monday				<b>Lunch Break</b>			
Tuesday							
Wednesday							EIALCA
Thursday				<b>Lunch Break</b>	EIALCA		
Friday						EIALCA	
Saturday							EIALCA

<b>CODE</b>	<b>Subject</b>	<b>Faculty</b>
<b>GR18A3008</b>	<b>Environmental Impact Assessment and Life Cycle Assessment</b>	<b>Mr. T.Srikanth</b>

**CLASS COORDINATOR**

**PROGRAMME COORDINATOR**

**HOD**



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**DEPARTMENT OF CIVIL ENGINEERING**

**III YEAR-B SECTION**

**ROOM NO: 4208**

**W.E.F: 16-08-2021**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Day/Hour</b>	<b>9:00-9:55</b>	<b>9:55-10:50</b>	<b>10:50-11:45</b>	<b>11:45-12:25</b>	<b>12:25-1:15</b>	<b>1:15-2:05</b>	<b>2:05-2:55</b>
Monday				<b>Lunch Break</b>			EIALCA
Tuesday							EIALCA
Wednesday		EIALCA					
Thursday				<b>Lunch Break</b>			
Friday							
Saturday			EIALCA				

<b>CODE</b>	<b>Subject</b>	<b>Faculty</b>
<b>GR18A3008</b>	<b>Environmental Impact Assessment and Life Cycle Assessment</b>	<b>Mr. T.Srikanth</b>

**CLASS COORDINATOR**

**PROGRAMME COORDINATOR**

**HOD**



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**DEPARTMENT OF CIVIL ENGINEERING**

**Vision**

To become a pioneering centre in civil engineering.

**Mission**

- To produce well qualified and talented engineers by imparting quality education.
- To enhance the skills of entrepreneurship, innovativeness, management and life-long learning in young engineers.
- To inculcate professional ethics and make socially responsible engineers.

**PEOs**

1. Graduates of the programme will be successful in technical and professional career.
2. Graduates of the programme will have proficiency in solving real time Civil Engineering projects.
3. Graduates of the programme will continue to engage in life-long learning with ethical and social responsibility.

**Programme Outcomes**

Graduates of the Civil Engineering programme will be able to

- a. Apply knowledge of mathematics, science and fundamentals of Civil Engineering.
- b. Analyse problem and interpret the data.
- c. Design a system component, or process to meet desired needs in Civil Engineering within realistic constraints.
- d. Identify, formulate, analyse and interpret data to solve Civil Engineering problems.
- e. Use modern engineering tools such as CAD and GIS for the Civil Engineering practice.
- f. Understand the impact of engineering solutions in a global, economic and societal context.
- g. Understand the effect of Civil Engineering solutions on environment and to demonstrate the need for sustainable development.

- h. Understanding of professional and ethical responsibility.
- i. Work effectively as an individual or in a team and to function on multi-disciplinary context.
- j. Communicate effectively with engineering community and society.
- k. Demonstrate the management principles in Civil Engineering projects.
- l. Recognize the need for and an ability to engage in life-long learning.

**Program Specific Outcomes (PSO's)**

**PSO1:** Recognize the need for a sustainable environment and design smart infrastructure considering the global challenges.

**PSO2:** Create and develop innovative designs with new era materials through research and development



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**DEPARTMENT OF CIVIL ENGINEERING**  
**COURSE OBJECTIVES**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech

Year: III YEAR Section: A & B

Course : EIA & LCA

Course Code: GR18A3008

Name of the faculty : T.Srikanth

Dept: Civil Engineering

Designation : Associate Professor

On completion of this Course students shall be able to

<b>S.No.</b>	<b>Objectives</b>
1	Learn the purpose and role of EIA in the decision-making process.
2	Provide knowledge on the strengths of EIA in regard to environmental management
3	Introduce the technical and social/political limitations of EIA
4	Teach the administration and procedures that apply in the student's jurisdiction
5	Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

Signature of HOD

Signature of Faculty

Date:

Date:





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**DEPARTMENT OF CIVIL ENGINEERING**  
**COURSE OUTCOMES**

Academic Year : 2021-2

Semester : I

Name of the Program: B.Tech

Year: III YEAR Section: A & B

Course EIALCA

Course Code: GR18A3008

Name of the faculty : T.Srikanth

Dept: Civil Engineering

Designation : Associate Professor

The expected Outcomes of this Course are

S.No.	Outcomes
1	Identify elements of community and environment likely to be affected by the proposed developments.
2	Identify the negative impacts and propose the provision of infrastructure or mitigation measures.
3	Develop current EIA methods, assessment methods, environmental monitoring systems and legislation.
4	Assess process of environmental impact modelling and prediction as a design tool
5	Interact with experts of other fields to assess the impact

Signature of HOD

Signature of Faculty

Date:

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**Students Roll List**

<b>Roll No</b>	<b>Name of Student -Sec-A</b>
18241A0151	SOHEB PATEL
18241A0152	SRIAM SHIVA ADITYA
19241A0101	RUHAIL AHMAD LONE
19241A0102	AITHA SAI TEJA
19241A0103	BARISSETTY SHIVA KARTHIK
19241A0104	BENDHI VARUN THEJA GOUD
19241A0105	BHUKYA VAMSHI
19241A0106	BOGE VENKAT ROHITH
19241A0107	BONTHA PRANEETHKUMAR
19241A0108	CHILUKA RAHUL
19241A0109	DANDI KIRAN
19241A0110	DAYYA RAGNESH
19241A0111	E MANISH GOUD
19241A0112	ERRAM SAI PRIYA
19241A0113	G DEEPIKA
19241A0114	GORANTALA SAI
19241A0115	GUGULOTHU SANTHOSH
19241A0116	GURIJALA SAI KUMAR
19241A0117	GURUJALA SRIDHAR
19241A0118	IRUVANTI HEMANTH KUMAR
19241A0119	JANGITI VYSHNAVI
19241A0120	JARUPLA CHERAN
19241A0122	JETTI SREEVANI
19241A0123	K SOWMYA
19241A0124	KADALI KRISHNASRI SAI
19241A0125	KAMAREDDY AKSHAY

19241A0126	KATTA SAI KUMAR
19241A0127	KOLLURI.TEJASWI
19241A0128	KONDAPURAM SRIJA
19241A0129	KOTTE VIVEK
19241A0130	KRUTHIKA VIJAY PALANGE
19241A0131	MADA AKHIL REDDY
19241A0132	MADARAM SHRAVAN KUMAR REDDY
19241A0133	MADDIGATLA AJAY SAGAR
19241A0134	CHANDANA MALPATEL
19241A0135	MANDALA CHINNI
19241A0136	MIREGILLA VIJAYAKUMAR
19241A0137	MOHD OBAID KASHIF
19241A0138	NARAPAKA MADHAV KUMAR
19241A0139	NIMMALA ARSHITHA
19241A0141	P SIDDARTHA
19241A0142	PAGIDIPALLY AJAY KUMAR
19241A0143	PALLAPU NAVEEN
19241A0144	PALLE SANATH KUMAR
19241A0145	PANTANGI PRANAY
19241A0146	PATIL SWAPNIL
19241A0147	POLISSETTY SAAHAS
19241A0148	S.SAITEJA
19241A0149	SAI NEERAJ M
19241A0150	SATYA SAI PRASANNA REDDY SOLIPETA
19241A0151	SHAIK BILAL
19241A0152	SHAIK FIRDOUS AYESHA
19241A0153	SOORA VIKAS
19241A0154	TELLAM SRI SAI PAVANA ROSHINI
19241A0155	THALLAPALLY SWARANYA
19241A0156	THUMATI VENKATA VAYUNANDHAN
19241A0157	UDUMULA NIKHIL REDDY
19241A0158	VELISHALA GAYATHRI
19241A0159	VENKATA SIDDHARTHA RAJU VEGESNA
19241A0160	YASWANTH KURUVA

<b>Roll No</b>	<b>Name of Student -Sec -B</b>
19241A0161	ABDUL RAHEEM

19241A0162	ANEMONI MURALI MANOHAR
19241A0163	ASKANY HARISH SAGAR
19241A0164	BODLA AKSHITH
19241A0165	BURRA VAMSHI KRISHNA
19241A0166	CHERLAKOLA AKHILA
19241A0167	CHINTAPALLI VIKRAM
19241A0168	CHIRRIBOYINA DHANYA
19241A0169	D SREE MADHURI
19241A0170	GADDAM SAHITHI
19241A0171	GAJJALA SUKENDHAR REDDY
19241A0172	YASHASWI GANGAVARAM
19241A0173	GINDHAM ADITYA KUMAR
19241A0174	GUDHETI NARENDAR REDDY
19241A0175	GUMMADI SAI PRATEEK REDDY
19241A0176	HANMAPUR DHEERAJ GOUD
19241A0177	JAVVAJI AISHWARYA
19241A0178	JULAPALLY NITHIN RAO
19241A0179	K NAVEEN
19241A0180	K RAJESHWARI
19241A0181	KACHAVA SURENDAR
19241A0182	KODATHALA INDU
19241A0183	KOTARU SRINIVASA VARAPRASAD
19241A0184	MALOTH RAHUL
19241A0185	MATURI SATHVIK
19241A0186	MD ABDUL MAAJID
19241A0187	MEDARI DAYANA
19241A0188	NARSINGA SANDEEP
19241A0189	PALANATI ROHITH
19241A0190	PURALASETTY BHAVANA
19241A0191	RODDA MALAVIKA REDDY
19241A0192	SAPRAM NAGA SRILOWKYA MUKTHA

19241A0193	SHAIK PARVEZ ANSARI
19241A0194	SIDDELA THARUN KUMAR
19241A0195	TALARI CHANDANA SREE
19241A0196	VALLEPU KALYAN
19241A0197	VRASHAB PATEL
19241A0198	YELLAVULA NARENDER
19241A0199	BADDELA SAI THARUN
20245A0101	Aamanchi Bowmi
20245A0102	Aviraboina Sai Chaithanya
20245A0103	Bairy B S Anirudh
20245A0104	Daddu Tejasree
20245A0105	Dopathi Raviteja
20245A0106	Eruventi Niharika
20245A0107	Gaddamidi Aanil
20245A0108	Gandla Rishik Raj
20245A0109	Gone Naveen Kumar
20245A0110	Kota Vishal
20245A0111	Kummari Mahesh
20245A0112	Lakavath Anil
20245A0113	Madavaram Rohith
20245A0114	Mandala Akshitha
20245A0115	M Manjunath
20245A0116	Porandla Nababhushanam
20245A0117	Pulishetty Bhavani
20245A0118	Racha Kranthi Ranadeer
20245A0119	S Manoj Kumar
20245A0120	Samudrala Manideep
20245A0121	Sangepaga Goutham
20245A0122	Sodadasi Rahul
20245A0123	Vanga Harshith

20245A0124	Choleti Vineetha
20245A0125	Gangula Grishma
20245A0126	Bollampalli Sai Poojith
20245A0127	Pamulapati Sumanth
20245A0128	T Sanghamithra
20245A0129	Abeda Akanksha
20245A0130	Doppalapudi Ramvineeth Sai
20245A0131	Pilly Uday Kiran



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**DEPARTMENT OF CIVIL ENGINEERING**

**GUIDELINES TO STUDY THE COURSE/SUBJECT**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech

Year: III YEAR Section: A & B

Course : EIA&LCA

Course Code: GR18A3008

Name of the faculty : T.Srikanth

Dept.: Civil Engineering

Designation : Associate Professor

Guidelines to study the course EIA&LCA

Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. EIA is basically a tool used to assess the positive and negative environmental, economic and social impacts of a project. This is used to predict the environmental impacts of a project in the pre-planning stage itself so that decisions can be taken to reduce the adverse impacts. In this course students will develop basic understanding of the history, need, structure, process, involved methods and challenges.

Students should have the following prerequisites

1. Fundamentals of Elements of Environment
2. Knowledge of Infrastructure projects
3. Knowledge of damages due to development projects

To become expertise in this subject, students need to be perfect with the concepts of EIA tools, Methodologies of EIA, Framework of EIA. Prediction and assessment of Impacts, Legislations prevailing in scrutinising the domain of impact. An additional unit is provided for understanding and quantifying the impacts through life cycle assessment process.

Where will this subject help?

Students will also learn criteria for selecting method for impact assessment, overview of methods, parameters for public participation ad technique for writing reports

## Books/Material

<b>S.No.</b>	<b>Text Books</b>
<b>1</b>	Environmental Impact Assessment Methodologies, by Y. Anjaneyulu, B.S. Publication, Sultan Bazar, Hyderabad.
<b>2</b>	Environmental Science and Engineering, by J. Glynn and Gary W. Hein Ke – Prentice Hall Publishers

<b>S.No.</b>	<b>Suggested / Reference Books</b>
<b>1</b>	Environmental Impact Assessment, by Larry Canter, 2nd edition, Mc Graw Hill Publishers
<b>2</b>	Judith Petts, “Handbook of Environmental Impact Assessment Vol. I & II”, Blackwell Science, 1999
<b>3</b>	Environmental Science and Engineering, by Suresh K. Dhaneja – S.K.Katania & Sons Publication., New Delhi.
<b>4</b>	Environmental Pollution and Control, by Dr H.S. Bhatia – Galgotia Publication (P) Ltd, Delhi



## Course Design and Delivery System

1. The course syllabus is written into number of learning objectives and learning outcomes.
2. These learning objectives and outcomes will be achieved through lectures, assessments, assignments, experiments in the laboratory, projects, seminars and presentations, etc.,
3. Every student will be given an assessment plan, criteria for assessment, scheme of evaluation and grading method.
4. The learning process will be carried out through assessment of knowledge, skills and attitude by various methods and the student will be given guidance to refer to the textbooks, reference books, journals etc.,

### **The faculty be able to -**

- Understand the principles of learning
- Understand the psychology of students
- Develop instructional objectives for a given topic
- Prepare course, lesson and unit plan
- Understand different methods of teaching and learning
- Use appropriate teaching and learning aids
- Plan and deliver lectures effectively
- Provide feedback system to students using various methods of assessments and tools of Evaluation
- Act as a guide, advisor, counselor, facilitator, motivator and not just as a teacher alone.

Signature of HOD

Date:

Signature of Faculty

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**

**COURSE SCHEDULE**

Academic Year : 2021-2022

Semester : I

Name of the Program: B. Tech Civil Year: III Section: A

Course/Subject: EIA & LCA Course Code: GR18A3008

Name of the faculty : T.Srikanth Dept.: Civil Engineering

Designation : Associate Professor

Schedule for the whole course is:

Unit no.	Description	Duration (Date)		Total No. of Periods
		From	To	
I	Introduction to EIA	16-08-2021	09-09-2021	10
II	Introduction to EIA Methodologies	15-09-2021	08-10-2021	11
III	Prediction and Assessment	09-10-2021	03-11-2021	10
IV	Environmental Legislations	05-11-2021	20-11-2021	10
V	Life cycle Assessment	24-11-2021	08-12-2021	9

Signature of Faculty

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**

**COURSE SCHEDULE**

Academic Year : 2021-2022

Semester : I

Name of the Program: B. Tech Civil

Year: III

Section: B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the faculty : T Srikanth

Dept.: Civil Engineering

Designation : Associate Professor

Schedule for the whole course is:

Unit no.	Description	Duration (Date)		Total No. of Periods
		From	To	
I	Introduction to EIA	18-08-2021	13-09-2021	10
II	Introduction to EIA Methodologies	14-09-2021	06-10-2021	11
III	Prediction and Assessment	09-10-2021	02-11-2021	11
IV	Environmental Legislations	03-11-2021	20-11-2021	10
V	Life cycle Assessment	22-11-2021	08-12-2021	11

Signature of Faculty

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**COURSE PLAN**

Academic Year : 2021-2022

Semester : I

Name of the Program: B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE PROFESSOR.

S.No	Unit	Title	Date
1.	1	Introduction	16-08-2021
2.		Introduction	17-08-2021
3.		Concepts of EIA methodologies	21-08-2021
4.		Sustainable development	23-08-2021
5.		Need for Environmental Impact Assessment	01-09-2021
6.		Environmental Impact Assessment (EIA)	02-09-2021
7.		Environmental Impact Statement (EIS)	03-09-2021
8.		Evolution of EIA	04-09-2021
9.		Screening and Scoping	08-09-2021
10.		Rapid EIA and Comprehensive EIA	09-09-2021
11.	2	Introduction to EIA	15-09-2021
12.		Introduction to EIA	16-09-2021
13.		Criteria for the selection of EIA Methodology	17-09-2021
14.		Criteria for the selection of EIA Methodology	18-09-2021
15.		General Framework for Environmental Impact Assessment	22-09-2021
16.		General Framework for Environmental Impact Assessment	23-09-2021
17.		Characterization and site assessment	29-09-2021

18.		Environmental Risk Analysis	30-09-2021
19.		Definition of Risk, Matrix Method;	01-10-2021
20.		Checklist method	07-10-2021
21.		Mathematical models	08-10-2021
22.	3	Prediction and Assessment	09-10-2021
23.		Prediction and Assessment	13-10-2021
24.		Public participation	14-10-2021
25.		Public participation	22-10-2021
26.		Fault tree analysis	23-10-2021
27.		Fault tree analysis	27-10-2021
28.		Consequence Analysis	28-10-2021
29.		Socioeconomic Impact Aspects	29-10-2021
30.		measures of effectiveness	30-10-2021
31.		pollution control activities	03-11-2021
32.		4	Environmental Legislation
33.	Environmental Legislation		06-11-2021
34.	Introduction to Environmental Management Systems		10-11-2021
35.	Environmental Management Systems		11-11-2021
36.	Environmental Statement Procedures		12-11-2021
37.	Environmental Statement Procedures		13-11-2021
38.	Environmental Audit		17-11-2021
39.	Environmental Audit		18-11-2021
40.	Cost Benefit Analysis		19-11-2021
41.	Cost Benefit Analysis		20-11-2021
42.	5	Life Cycle Assessment	24-11-2021
43.		Life Cycle Assessment	25-11-2021
44.		Resource Balance	26-11-2021
45.		Energy Balance	27-11-2021
46.		Management Review	01-12-2021
47.		Operational Control	02-12-2021
48.		Case Studies on EIA	03-12-2021
49.		Case Studies on EIA	04-12-2021
50.		Case Studies on EIA	08-12-2021



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**DEPARTMENT OF CIVIL ENGINEERING**

**COURSE PLAN**

Academic Year : 2021-2022

Semester : I

Name of the Program: B. Tech Civil

Year: III

Section: B

Course/Subject: EIA & LCA

Course Code: GR18A3008

Name of the Faculty: T Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE PROFESSOR.

S.No	Unit	Title	Date
1.	1	Introduction	18-08-2021
2.		Introduction	19-08-2021
3.		Concepts of EIA methodologies	25-08-2021
4.		Sustainable development	26-08-2021
5.		Need for Environmental Impact Assessment	01-09-2021
6.		Environmental Impact Assessment (EIA)	04-09-2021
7.		Environmental Impact Statement (EIS)	06-09-2021
8.		Evolution of EIA	07-09-2021
9.		Screening and Scoping	08-09-2021
10.		Rapid EIA and Comprehensive EIA	13-09-2021
11.	2	Introduction to EIA	14-09-2021
12.		Introduction to EIA	15-09-2021
13.		Criteria for the selection of EIA Methodology	18-09-2021
14.		Criteria for the selection of EIA Methodology	20-09-2021
15.		General Framework for Environmental Impact Assessment	21-09-2021
16.		General Framework for Environmental Impact Assessment	22-09-2021
17.		Characterization and site assessment	25-09-2021
18.		Environmental Risk Analysis	29-09-2021

19.		Definition of Risk, Matrix Method;	04-10-2021
20.		Checklist method	05-10-2021
21.		Mathematical models	06-10-2021
22.	3	Prediction and Assessment	09-10-2021
23.		Prediction and Assessment	11-10-2021
24.		Public participation	12-10-2021
25.		Public participation	13-10-2021
26.		Fault tree analysis	23-10-2021
27.		Fault tree analysis	25-10-2021
28.		Consequence Analysis	26-10-2021
29.		Socioeconomic Impact Aspects	27-10-2021
30.		measures of effectiveness	30-10-2021
31.		pollution control activities	01-11-2021
32.		pollution control activities	02-11-2021
33.		4	Environmental Legislation
34.	Environmental Legislation		06-11-2021
35.	Introduction to Environmental Management Systems		08-11-2021
36.	Environmental Management Systems		09-11-2021
37.	Environmental Statement Procedures		10-11-2021
38.	Environmental Statement Procedures		13-11-2021
39.	Environmental Audit		15-11-2021
40.	Environmental Audit		16-11-2021
41.	Cost Benefit Analysis		17-11-2021
42.	Cost Benefit Analysis		20-11-2021
43.	5	Life Cycle Assessment	22-11-2021
44.		Life Cycle Assessment	23-11-2021
45.		Resource Balance	24-11-2021
46.		Energy Balance	27-11-2021
47.		Management Review	29-11-2021
48.		Operational Control	30-11-2021
49.		Operational Control	01-12-2021
50.		Case Studies on EIA	04-12-2021
51.		Case Studies on EIA	06-12-2021
52.		Case Studies on EIA	07-12-2021
53.		Case Studies on EIA	08-12-2021



**Gokaraju Rangaraju Institute of Engineering and Technology**  
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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT – I

Name of the Program: B. Tech Civil

Year: III

Section: A

Course/Subject: EIA & LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT I	Introduction	16-08-2021	1	COB-1 & COt-1	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Introduction	17-08-2021	1	COB-1 & COt-1		K1
	Concepts of EIA methodologies	21-08-2021	1	COB-1 & COt-1,2		K1
	Sustainable development	23-08-2021	1	COB-1 & COt-1		K2
	Need for Environmental	01-09-2021	1	COB-1 & COt-1	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K2
	Impact Assessment (EIA)	02-09-2021	1	COB-1 & COt-1		K2
	Environmental Impact Statement (EIS)	03-09-2021	1	COB-1 & COt-1		K1
	Evolution of EIA	04-09-2021	1	COB-1 & COt-1		K1
	Screening and Scoping	08-09-2021	1	COB-1 & COt-1		K1
	Rapid EIA and Comprehensive EIA	09-09-2021	1	COB-1 & COt-1		K1



Signature of HOD

Date:

Signature of faculty

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT – II

Name of the Program: B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT II	Introduction to EIA	15-09-2021	1	COb-2 & COt-2	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Introduction to EIA	16-09-2021	1	COb-2 & COt-2		K2
	Criteria for the selection of EIA Methodology	17-09-2021	1	COb-2 & COt- 2	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K1
	Criteria for the selection of EIA Methodology	18-09-2021	1	COb-2 & COt-2		K2
	General Framework for Environmental Impact Assessment	22-09-2021	1	Cob2- & COt-2		K3
	General Framework for Environmental Impact Assessment	23-09-2021	1	Cob2- & COt-2		K3

	Characterization and site assessment	29-09-2021	1	COB-2 & COt-2		K3
	Environmental Risk Analysis	30-09-2021	1	COB-2 & COt-2		K3
	Definition of Risk, Matrix Method;	01-10-2021	1	COB-2 & COt-2		K3
	Checklist method	07-10-2021	1	COB-2 & COt-2		K3
	Mathematical models	08-10-2021	1	COB-2 & COt-2		K3

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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT – III

Name of the Program: B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT III	Prediction and Assessment	09-10-2021	1	COb-3 & COt-3	Environmental Impact Assessment Methodologies, Y.Anjaneyulu  Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K1
	Prediction and Assessment	13-10-2021	1	COb-3 & COt-3		K2
	Public participation	14-10-2021	1	COb-3 & COt-3		K2
	Public participation	22-10-2021	1	COb-3 & COt-3		K4
	Fault tree analysis	23-10-2021	1	COb-3 & COt-3		K4
	Fault tree analysis	27-10-2021	1	COb-4 & COt-3		K4
	Consequence Analysis	28-10-2021	1	COb-3 & COt-3		K4
	Socioeconomic Impact Aspects	29-10-2021	1	COb-3 & COt-3		K4
	measures of effectiveness	30-10-2021	1	COb-3 & COt-3		K1
	pollution control activities	03-11-2021	1	COb-3 & COt-3		K1

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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT – IV

Name of the Program: B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT IV	Environmental Legislation	05-11-2021	1	COB-4 & COt-4	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Environmental Legislation	06-11-2021	1	COB-4 & COt-4		K1
	Introduction to Environmental Management Systems	10-11-2021	1	COB-4 & COt-4		K1
	Environmental Management Systems	11-11-2021	1	COB-4 & COt-4	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K1
	Environmental Statement Procedures	12-11-2021	1	COB-4 & COt-4		K1
	Environmental Statement Procedures	13-11-2021	1	COB-4 & COt-4		K1
	Environmental Audit	17-11-2021	1	COB-4 & COt-4		K1
	Environmental Audit	18-11-2021	1	COB-4 & COt-4		K2
	Cost Benefit Analysis	19-11-2021	1	COB-4 & COt-4		K1

	Cost Benefit Analysis	20-11-2021	1	COb-4 & COt-4		K1
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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT - V

Name of the Program: B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT V	Life Cycle Assessment	24-11-2021	1	COb-5 & COt-5	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Life Cycle Assessment	25-11-2021	1	COb-5 & COt-5		K2
	Resource Balance	26-11-2021	1	COb-5 & COt-5		K2
	Energy Balance	27-11-2021	1	COb-5 & COt-5		K2
	Management Review	01-12-2021	1	COb-5 & COt-5	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K2
	Operational Control	02-12-2021	1	COb-5 & COt-5		K3
	Case Studies on EIA	03-12-2021	1	COb-5 & COt-5		K3
	Case Studies on EIA	04-12-2021	1	COb-5 & COt-5		K2
	Case Studies on EIA	08-12-2021	1	COb-5 & COt-5		K1

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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT -

Name of the Program : B. Tech Civil

Year: III

Section: B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT I	Introduction	18-08-2021	1	COB-1 & COt-1	Environmental Impact Assessment Methodologies, Y.Anjaneyulu  Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K1
	Introduction	19-08-2021	1	COB-1 & COt-1		K1
	Concepts of EIA methodologies	25-08-2021	1	COB-1 & COt-1		K1
	Sustainable development	26-08-2021	1	COB-1 & COt-1		K2
	Need for Environmental	01-09-2021	1	COB-1 & COt-1		K2
	Impact Assessment (EIA)	04-09-2021	1	COB-1 & COt-1		K2
	Environmental Impact Statement (EIS)	06-09-2021	1	COB-1 & COt-1		K1
	Evolution of EIA	07-09-2021	1	COB-1 & COt-1		K1
	Screening and Scoping	08-09-2021	1	COB-1 & COt-1	K1	
	Rapid EIA and Comprehensive EIA	13-09-2021	1	COB-1 & COt-1	K1	

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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT-II

Name of the Program : B. Tech Civil

Year: III

Section: B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT II	Introduction to EIA	14-09-2021	1	COb-2 & COt-2	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Introduction to EIA	15-09-2021	1	COb-2 & COt-2		K2
	Criteria for the selection of EIA Methodology	18-09-2021	1	COb-2 & COt-2		K1
	Criteria for the selection of EIA Methodology	20-09-2021	1	COb-2 & COt-2		K2
	General Framework for Environmental Impact Assessment	21-09-2021	1	Cob2- & COt-2		K3
	General Framework for Environmental Impact Assessment	22-09-2021	1	Cob2- & COt-2		K3

	Characterization and site assessment	25-09-2021	1	COb-2 & COt-2	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K3
	Environmental Risk Analysis	29-09-2021	1	COb-2 & COt-2		K3
	Definition of Risk, Matrix Method;	04-10-2021	1	COb-2 & COt-2		K3
	Checklist method	05-10-2021	1	COb-2 & COt-2		K3
	Mathematical models	06-10-2021	1	COb-2 & COt-2		K3

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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT-III

Name of the Program : B. Tech Civil

Year: III

Section: B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT III	Prediction and Assessment	09-10-2021	1	COB-3 & COt-3	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Prediction and Assessment	11-10-2021	1	COB-3 & COt-3		K2
	Public participation	12-10-2021	1	COB-3 & COt-3		K2
	Public participation	13-10-2021	1	COB-3 & COt-3		K4
	Fault tree analysis	23-10-2021	1	COB-3 & COt-3	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K4
	Fault tree analysis	25-10-2021	1	COB-3 & COt-3		K4
	Consequence Analysis	26-10-2021	1	COB-3 & COt-3		K4
	Socioeconomic Impact Aspects	27-10-2021	1	COB-3 & COt-3		K4
	measures of effectiveness	30-10-2021	1	COB-3 & COt-3		K1
	pollution control activities	01-11-2021	1	COB-3 & COt-3		K1
	pollution control activities	02-11-2021	1	COB-3 & COt-3		K1

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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT-IV

Name of the Program : B. Tech Civil

Year: III

Section: B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No. of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT IV	Environmental Legislation	03-11-2021	1	COB-4 & COt-4	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Environmental Legislation	06-11-2021	1	COB-4 & COt-4		K1
	Introduction to Environmental Management Systems	08-11-2021	1	COB-4 & COt-4		K1
	Environmental Management Systems	09-11-2021	1	COB-4 & COt-4	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K1
	Environmental Statement Procedures	10-11-2021	1	COB-4 & COt-4		K1
	Environmental Statement Procedures	13-11-2021	1	COB-4 & COt-4		K1
	Environmental Audit	15-11-2021	1	COB-4 & COt-4		K1
	Environmental Audit	16-11-2021	1	COB-4 & COt-4		K2

	Cost Benefit Analysis	17-11-2021	1	COb-4 & COt-4		K1
	Cost Benefit Analysis	20-11-2021	1	COb-4 & COt-4		K1
	Environmental Legislation	03-11-2021	1	COb-4 & COt-4		K1

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Signature of faculty

Date:

Date:





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**DEPARTMENT OF CIVIL ENGINEERING**  
**SCHEDULE OF INSTRUCTIONS**  
**UNIT PLAN**

Academic Year : 2021-2022

Semester : I

UNIT -V

Name of the Program : B. Tech Civil

Year: III

Section: B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

Unit No.	Topics/Sub Topics	Date	No of Periods	Objectives & Outcomes No.	References (Text book, Journal...)	Blooms Taxonomy level
UNIT V	Life Cycle Assessment	22-11-2021	1	COb-5 & COt-5	Environmental Impact Assessment Methodologies, Y.Anjaneyulu	K1
	Life Cycle Assessment	23-11-2021	1	COb-5 & COt-5		K2
	Resource Balance	24-11-2021	1	COb-5 & COt-5		K2
	Energy Balance	27-11-2021	1	COb-5 & COt-5	Environmental Science and Engineering, J.Glynn and Gary W.Hein Ke	K2
	Management Review	29-11-2021	1	COb-5 & COt-5		K2
	Operational Control	30-11-2021	1	COb-5 & COt-5		K3
	Operational Control	01-12-2021	1	COb-5 & COt-5		K3
	Case Studies on EIA	04-12-2021	1	COb-5 & COt-5		K2
	Case Studies on EIA	06-12-2021	1	COb-5 & COt-5		K1
	Case Studies on EIA	07-12-2021	1	COb-5 & COt-5		K2
	Case Studies on EIA	08-12-2021	1	COb-5 & COt-5	K3	

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Date:

Signature of faculty

Date:



**Gokaraju Rangaraju Institute of Engineering and  
Technology (Autonomous)**

**Bachupally, Kukatpally, Hyderabad – 500 090.**

**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 1 Duration of Lesson: 1hr

Lesson Title: Introduction

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

**TEACHING POINTS :**

Environmental Impact Assessment and its role in a project
---

**Assignment / Questions:**

1. Explain the Following – Need for Environmental Impact Assessment – Sustainable Development
2. Discuss briefly about Environmental Impact Statement (EIS) and its significance.

Signature of faculty



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Technology (Autonomous)**

**Bachupally, Kukatpally, Hyderabad – 500 090.**

**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 2 Duration of Lesson: 1hr

Lesson Title: Introduction

INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Impact Assessment and its role in a project
---

Assignment / Questions:

1. Explain the Following – Need for Environmental Impact Assessment – Sustainable Development
2. Discuss briefly about Environmental Impact Statement (EIS) and its significance.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 3 Duration of Lesson: 1hr

Lesson Title: Concepts of EIA methodologies

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Different EIA methodologies for Assessment

Assignment / Questions:

1. Explain the Following – Need for Environmental Impact Assessment – Sustainable Development
2. Discuss briefly about Environmental Impact Statement (EIS) and its significance.

Signature of faculty



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Technology (Autonomous)**

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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 4 Duration of Lesson: 1hr

Lesson Title: Sustainable development

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Concept of Sustainable development in the context of Projects
---

Assignment / Questions:

1. Explain the Following – Need for Environmental Impact Assessment – Sustainable Development
2. Discuss briefly about Environmental Impact Statement (EIS) and its significance.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 5 Duration of Lesson: 1hr

Lesson Title: Need for Environmental Impact Assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Need for Environmental Impact Assessment in the context of sustainable development
--

Assignment / Questions:

1. Explain the Following – Need for Environmental Impact Assessment – Sustainable Development
2. Discuss briefly about Environmental Impact Statement (EIS) and its significance.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 6 Duration of Lesson: 1hr

Lesson Title: Environmental Impact Assessment (EIA)

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Impact Assessment (EIA) and its importance
--

Assignment / Questions:

1. Explain the difference between Screening and Scoping in EIA process
2. Explain the Following –Rapid EIA process – Comprehensive EIA process.

Signature of faculty





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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 7 Duration of Lesson: 1hr

Lesson Title: Environmental Impact Statement (EIS)

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Impact Statement (EIS) and its significance
---

Assignment / Questions:

1. Explain the difference between Screening and Scoping in EIA process
2. Explain the Following –Rapid EIA process – Comprehensive EIA process.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 8 Duration of Lesson: 1hr

Lesson Title: Evolution of EIA

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

The scenario of evolution of EIA

Assignment / Questions:

1. Explain the difference between Screening and Scoping in EIA process
2. Explain the Following –Rapid EIA process – Comprehensive EIA process.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 9 Duration of Lesson: 1hr

Lesson Title: Screening and Scoping

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Screening and Scoping of EIA and its relevance to projects
--

Assignment / Questions:

1. Explain the difference between Screening and Scoping in EIA process
2. Explain the Following –Rapid EIA process – Comprehensive EIA process.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 10 Duration of Lesson: 1hr

Lesson Title: Rapid EIA and Comprehensive EIA

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Learn the purpose and role of EIA in the decision-making process.

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Rapid EIA and Comprehensive EIA based on the project potential

Assignment / Questions:

1. Explain the difference between Screening and Scoping in EIA process
2. Explain the Following –Rapid EIA process – Comprehensive EIA process.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 11 Duration of Lesson: 1hr

Lesson Title: Introduction to EIA

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Introduction to EIA

Assignment / Questions:

1. Explain the criteria to be considered for the selection of EIA methodology
2. Differentiate between Checklist method and Matrix method

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 12 Duration of Lesson: 1hr

Lesson Title: Introduction to EIA

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Introduction to EIA

Assignment / Questions:

1. Explain the criteria to be considered for the selection of EIA methodology
2. Differentiate between Checklist method and Matrix method

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 13 Duration of Lesson: 1hr

Lesson Title: Criteria for the selection of EIA Methodology

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Criteria for the selection of EIA Methodology

Assignment / Questions:

1. Explain the criteria to be considered for the selection of EIA methodology
2. Differentiate between Checklist method and Matrix method

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 14 Duration of Lesson: 1hr

Lesson Title: Criteria for the selection of EIA Methodology

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Criteria for the selection of EIA Methodology

Assignment / Questions:

1. Explain the criteria to be considered for the selection of EIA methodology
2. Differentiate between Checklist method and Matrix method

Signature of faculty





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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 15 Duration of Lesson: 1hr

Lesson Title: General Framework for Environmental Impact Assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

General Framework for Environmental Impact Assessment
---

Assignment / Questions:

1. Explain the criteria to be considered for the selection of EIA methodology
2. Differentiate between Checklist method and Matrix method

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 16 Duration of Lesson: 1hr

Lesson Title: General Framework for Environmental Impact Assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

General Framework for Environmental Impact Assessment
---

Assignment / Questions:

1. With the help of a diagram explain the general framework of EIA process
2. Define Risk and explain about Environmental Risk Analysis

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 17 Duration of Lesson: 1hr

Lesson Title: Characterization and site assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Characterization and site assessment

Assignment / Questions:

1. With the help of a diagram explain the general framework of EIA process
2. Define Risk and explain about Environmental Risk Analysis

Signature of faculty



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## LESSON PLAN

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 18 Duration of Lesson: 1hr

Lesson Title: Environmental Risk Analysis

### INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Risk Analysis concept and importance
--

Assignment / Questions:

1. With the help of a diagram explain the general framework of EIA process
2. Define Risk and explain about Environmental Risk Analysis

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 19 Duration of Lesson: 1hr

Lesson Title: Definition of Risk, Matrix Method;

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Definition of Risk, Matrix Method of EIA process
--

Assignment / Questions:

1. With the help of a diagram explain the general framework of EIA process
2. Define Risk and explain about Environmental Risk Analysis

Signature of faculty



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**LESSON PLAN**

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Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 20 Duration of Lesson: 1hr

Lesson Title: Checklist method

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Checklist method of EIA process

Assignment / Questions:

1. With the help of a diagram explain the general framework of EIA process
2. Define Risk and explain about Environmental Risk Analysis

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

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Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 21 Duration of Lesson: 1hr

Lesson Title: Mathematical models

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Provide knowledge on the strengths of EIA in regard to environmental management

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Mathematical models of EIA process

Assignment / Questions:

1. With the help of a diagram explain the general framework of EIA process
2. Define Risk and explain about Environmental Risk Analysis

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 22 Duration of Lesson: 1hr

Lesson Title: Prediction and Assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

**TEACHING POINTS :**

Prediction and Assessment of Impacts

**Assignment / Questions:**

1. Discuss briefly about Public Participation in EIA.
2. With the help of a flow chart discuss about Fault Tree Analysis in EIA

Signature of faculty





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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 23 Duration of Lesson: 1hr

Lesson Title: Prediction and Assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Prediction and Assessment of Impacts

Assignment / Questions:

1. Discuss briefly about Public Participation in EIA.
2. With the help of a flow chart discuss about Fault Tree Analysis in EIA

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 24 Duration of Lesson: 1hr

Lesson Title: Public participation

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Public participation and its relevance in EIA process
---

Assignment / Questions:

1. Discuss briefly about Public Participation in EIA.
2. With the help of a flow chart discuss about Fault Tree Analysis in EIA

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 25 Duration of Lesson: 1hr

Lesson Title: Public participation

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Public participation and its relevance in EIA process
---

Assignment / Questions:

1. Discuss briefly about Public Participation in EIA.
2. With the help of a flow chart discuss about Fault Tree Analysis in EIA

Signature of faculty



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**LESSON PLAN**

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Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 26 Duration of Lesson: 1hr

Lesson Title: Fault tree analysis

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Fault tree analysis and its implications on EIA

Assignment / Questions:

1. Discuss briefly on Consequence Analysis.
2. Discuss the measures of effectiveness of pollution control activities.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 27 Duration of Lesson: 1hr

Lesson Title: Fault tree analysis

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Fault tree analysis and its implications on EIA
---

Assignment / Questions:

1. Discuss briefly on Consequence Analysis.
2. Discuss the measures of effectiveness of pollution control activities.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 28 Duration of Lesson: 1hr

Lesson Title: Consequence Analysis

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Consequence Analysis and its considerations
---

Assignment / Questions:

1. Discuss briefly on Consequence Analysis.
2. Discuss the measures of effectiveness of pollution control activities.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 29 Duration of Lesson: 1hr

Lesson Title: Socioeconomic Impact Aspects

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Socioeconomic Impact Aspects of EIA and considerations
--

Assignment / Questions:

1. Discuss briefly on Consequence Analysis.
2. Discuss the measures of effectiveness of pollution control activities.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 30 Duration of Lesson: 1hr

Lesson Title: measures of effectiveness of Pollution control activities

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

measures of effectiveness of Pollution control activities
---

Assignment / Questions:

1. Discuss briefly on Consequence Analysis.
2. Discuss the measures of effectiveness of pollution control activities.

Signature of faculty





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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 31 Duration of Lesson: 1hr

Lesson Title: measures of effectiveness of Pollution control activities

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Introduce the technical and social/political limitations of EIA

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

measures of effectiveness of Pollution control activities
---

Assignment / Questions:

1. Discuss briefly on Consequence Analysis.
2. Discuss the measures of effectiveness of pollution control activities.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 32 Duration of Lesson: 1hr

Lesson Title: Environmental Legislation

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Legislations for EIA Implementation
---

Assignment / Questions:

1. Discuss briefly about Environmental Legislations in India.
2. Write about Environmental Management System with a suitable example.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 33 Duration of Lesson: 1hr

Lesson Title: Environmental Legislation

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Legislation for EIA Implementation
--

Assignment / Questions:

1. Discuss briefly about Environmental Legislations in India.
2. Write about Environmental Management System with a suitable example.

Signature of faculty



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## LESSON PLAN

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 34 Duration of Lesson: 1hr

Lesson Title: Introduction to Environmental Management Systems

### INSTRUCTIONAL/LESSON OBJECTIVES:

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Introduction to Environmental Management Systems
--

Assignment / Questions:

1. Discuss briefly about Environmental Legislations in India.
2. Write about Environmental Management System with a suitable example.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 35 Duration of Lesson: 1hr

Lesson Title: Environmental Management Systems

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Management Systems
----------------------------------

Assignment / Questions:

1. Discuss briefly about Environmental Legislations in India.
2. Write about Environmental Management System with a suitable example.

Signature of faculty



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Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 36 Duration of Lesson: 1hr

Lesson Title: Environmental Statement Procedures

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Statement Procedures
------------------------------------

Assignment / Questions:

1. Discuss briefly on Environmental Statement procedure.
2. Write short notes on Environmental Audit and Cost Benefit Analysis.

Signature of faculty



**Gokaraju Rangaraju Institute of Engineering and  
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**Bachupally, Kukatpally, Hyderabad – 500 090.**

**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 37 Duration of Lesson: 1hr

Lesson Title: Environmental Statement Procedures

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Statement Procedures
------------------------------------

Assignment / Questions:

1. Discuss briefly on Environmental Statement procedure.
2. Write short notes on Environmental Audit and Cost Benefit Analysis.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 38 Duration of Lesson: 1hr

Lesson Title: Environmental Audit

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Audit concept and its importance to the EIA of a project
--

Assignment / Questions:

1. Discuss briefly on Environmental Statement procedure.
2. Write short notes on Environmental Audit and Cost Benefit Analysis.

Signature of faculty





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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 39 Duration of Lesson: 1hr

Lesson Title: Environmental Audit

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Environmental Audit concept and its importance to the EIA of a project
--

Assignment / Questions:

1. Discuss briefly on Environmental Statement procedure.
2. Write short notes on Environmental Audit and Cost Benefit Analysis.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 40 Duration of Lesson: 1hr

Lesson Title: Cost Benefit Analysis

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Cost Benefit Analysis concept and its importance to the EIA of a project
--

Assignment / Questions:

1. Discuss briefly on Environmental Statement procedure.
2. Write short notes on Environmental Audit and Cost Benefit Analysis.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 41 Duration of Lesson: 1hr

Lesson Title: Cost Benefit Analysis

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Teach the administration and procedures that apply in the student's jurisdiction

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Cost Benefit Analysis concept and its importance to the EIA of a project
--

Assignment / Questions:

1. Discuss briefly on Environmental Statement procedure.
2. Write short notes on Environmental Audit and Cost Benefit Analysis.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 42 Duration of Lesson: 1hr

Lesson Title: Life Cycle Assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Life Cycle Assessment and its significance in Project EIA

Assignment / Questions:

1. Discuss briefly about Life Cycle Assessment in EIA.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 43 Duration of Lesson: 1hr

Lesson Title: Life Cycle Assessment

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Life Cycle Assessment and its significance in Project EIA

Assignment / Questions:

1. Discuss briefly about Life Cycle Assessment in EIA.

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 44 Duration of Lesson: 1hr

Lesson Title: Resource Balance

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Resource Balance in EIA perspective

Assignment / Questions:

1. Write short notes on Resource Balance, Energy Balance and Operational Control

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 45 Duration of Lesson: 1hr

Lesson Title: Energy Balance

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Energy Balance in EIA perspective

Assignment / Questions:

1. Write short notes on Resource Balance, Energy Balance and Operational Control

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 46 Duration of Lesson: 1hr

Lesson Title: Management Review

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

**TEACHING POINTS :**

Management Review in EIA perspective

**Assignment / Questions:**

1. Write short notes on Resource Balance, Energy Balance and Operational Control

Signature of faculty





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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 47 Duration of Lesson: 1hr

Lesson Title: Operational Control

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Operational Control in EIA perspective

Assignment / Questions:

1. Write short notes on Resource Balance, Energy Balance and Operational Control

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 48 Duration of Lesson: 1hr

Lesson Title: Case Studies on EIA

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Case Studies on EIA

Assignment / Questions:

1. Discuss about One case study on EIA

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 49 Duration of Lesson: 1hr

Lesson Title: Case Studies on EIA

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Case Studies on EIA

Assignment / Questions:

1. Discuss about One case study on EIA

Signature of faculty



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**LESSON PLAN**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LC Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Lesson No: 50 Duration of Lesson: 1hr

Lesson Title: Case Studies on EIA

**INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Demonstrate the format of an EIA Report (Environmental Impact Statement, or Environmental Statement)

TEACHING AIDS: White board, Marker pens and Code book

TEACHING POINTS :

Case Studies on EIA

Assignment / Questions:

1. Discuss about One case study on EIA

Signature of faculty



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**TUTORIAL SHEET - 1**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This Tutorial corresponds to Unit No. / Lesson: One

Q1. Discuss – Need for Environmental Impact Assessment – Sustainable Development

Q2. Discuss about Environmental Impact Statement (EIS).

.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the Objectives/Outcomes to which these Questions / Problems / Exercises are related.

Objective Nos.: 1

Outcome Nos.: 1

Signature of HOD

Signature of faculty

Date:

Date:



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**TUTORIAL SHEET - 2**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This Tutorial corresponds to Unit No. / Lesson: Two

Q1. What is the difference between Checklist method and Matrix method

Q2. Define Risk and explain Environmental Risk Analysis

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the Objectives/Outcomes to which these Questions / Problems / Exercises are related.

Objective Nos.: 2

Outcome Nos.: 2

Signature of HOD

Date:

Signature of faculty

Date:



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**TUTORIAL SHEET - 3**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This Tutorial corresponds to Unit No. / Lesson: Three

Q1. Discuss the importance of Public Participation in EIA

Q2. What are the measures of effectiveness of pollution control activities

.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the Objectives/Outcomes to which these Questions / Problems / Exercises are related.

Objective Nos.: 3

Outcome Nos.: 3

Signature of HOD

Signature of faculty

Date:

Date:



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**TUTORIAL SHEET - 4**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This Tutorial corresponds to Unit No. / Lesson: Four

Q1. What are the Environmental Legislations in India

Q2. Discuss on Environmental Audit and Cost Benefit Analysis

.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the Objectives/Outcomes to which these Questions / Problems / Exercises are related.

Objective Nos.: 4

Outcome Nos.: 4

Signature of HOD

Date:

Signature of faculty

Date:





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**TUTORIAL SHEET - 5**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This Tutorial corresponds to Unit No. / Lesson: Five

Q1. What is Life Cycle Assessment in EIA

Q2. Discuss any one case study on EIA

.

Please write the Questions / Problems / Exercises which you would like to give to the students and also mention the Objectives/Outcomes to which these Questions / Problems / Exercises are related.

Objective Nos.: 5

Outcome Nos.: 5

Signature of HOD

Signature of faculty

Date:

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**ASSIGNMENT -1**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This assignment corresponds to Unit No. I

1. Explain the Following – Need for Environmental Impact Assessment – Sustainable Development
2. Discuss briefly about Environmental Impact Statement (EIS) and its significance.
3. Explain the difference between Screening and Scoping in EIA process
4. Explain the Following –Rapid EIA process – Comprehensive EIA process.

Objective Nos.: 1

Outcome Nos.: 1

Signature of HOD

Signature of faculty

Date:

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**ASSIGNMENT 2**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This assignment corresponds to Unit No. II

1. Explain the criteria to be considered for the selection of EIA methodology
2. Differentiate between Checklist method and Matrix method
3. With the help of a diagram explain the general framework of EIA process
4. Define Risk and explain about Environmental Risk Analysis

Objective Nos.: 2

Outcome Nos.: 2

Signature of HOD

Signature of faculty

Date:

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**ASSIGNMENT 3**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This assignment corresponds to Unit No. III

1. Discuss briefly about Public Participation in EIA.
2. With the help of a flow chart discuss about Fault Tree Analysis in EIA
3. Discuss briefly on Consequence Analysis.
4. Discuss the measures of effectiveness of pollution control activities.

Objective Nos.: 3

Outcome Nos.: 3

Signature of HOD

Signature of faculty

Date:

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**ASSIGNMENT 4**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This assignment corresponds to Unit No. IV

1. Discuss briefly about Environmental Legislations in India.
2. Write about Environmental Management System with a suitable example.
3. Discuss briefly on Environmental Statement procedure.
4. Write short notes on Environmental Audit and Cost Benefit Analysis.

Objective Nos.: 4

Outcome Nos.: 4

Signature of HOD

Signature of faculty

Date:

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**ASSIGNMENT 5**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: T.Srikanth

Dept.: Civil Engineering

Designation: ASSOCIATE.PROFESSOR.

This assignment corresponds to Unit No. V

1. Discuss briefly about Life Cycle Assessment in EIA.
2. Write short notes on Resource Balance, Energy Balance and Operational Control
3. Discuss about One case study on EIA.

Objective Nos.: 5

Outcome Nos.: 5

Signature of HOD

Signature of faculty

Date:

Date:



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**DEPARTMENT OF CIVIL ENGINEERING**  
**EVALUATION STRATEGY**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the faculty : T.Srikanth

Dept: Civil Engineering

Designation : Associate Professor

1. Target:

A. Percentage for pass : 90%

B. Percentage of the class : 70%

Total Strength of the class: 130

<b>S.No.</b>	<b>Class / Division</b>	<b>No. of students</b>
1	First class with distinction	54
2	First class	52
3	Pass class	8

## 2. COURSE PLAN & CONTENT DELIVERY

S.No.	Plan	Brief Description
1	Practice classes	54 classes for A section and 54classes for B section
2	Design of Lecture classes	Theoretical classes are entirely descriptive and some of the images can be shown in power point presentation. Design problems are solved in classes
3	Design of Practice classes	New scenarios will be given to the students and they are able to apply the design methods to solve the problems
4	Assignments	Presentations on topics like 1) Environmental Impact Assessment (EIA) - Environmental Impact Statement (EIS) 2) Application topics like Environmental Risk Analysis 3) Understanding topics like Environmental Legislations, prediction and impact. 4) Analyzing topics like Life cycle assessment, Environmental Audit
5	Demonstration	Demonstration can be directly done on white board and power point presentation

## 3. METHOD OF EVALUATION

### 3.1. Continuous Assessment examinations (CAE-I, CAE-II)

- 1. Assignments:** Assignments are mainly regarding Environmental Impact Assessment (EIA) - Environmental Impact Statement (EIS), Risk Assessment, Environmental Management Plan and Life cycle analysis
- 2. Practical projects:** Assessing the skills of the students in Environmental Impact Assessment (EIA) - Environmental Impact Statement (EIS)
- 3. Viva:** Assessing the overall knowledge of the student in Environmental Impact Assessment and Life Cycle Assessment
- 4. Internal Examination:** Internal Examination to assess their overall knowledge on Environmental Impact and Assessment

### 3.2. Semester / End Examination: To test their abilities in applying the principles and design methodologies that were taught during theory classes

Signature of HOD

Date:

Signature of Faculty

Date:



## Assessments in Relation to CO's and COB's

Assessments: 1. ASSIGNMENT

2. INTERNAL EXAMINATION

3. EXTERNAL EXAMINATION

4. PRACTICAL PROJECTS

5. VIVA

Course outcomes Assessments	1	2	3	4	5
1	X				
2		X			
3			X		
4				X	
5					X

### Mappings of COBs, COs vs POs, POBs

#### Course Objectives – Course Outcomes Relationship Matrix

Course - outcomes Course Objectives	1	2	3	4	5
1	X				
2		X			
3			X		
4				X	
5					X

Course Code	Course Title	Course Outcomes	Programme Outcomes											P S O 1	P S O 2				
			a	b	c	d	e	f	g	h	i	j	k			l			
GR18 A3008	Environmental Impact Assessment and Life Cycle Analysis	1. Identify elements of community and environment likely to be affected by the proposed developments.		M		M				L				H			M		
		2. Identify the negative impacts and propose the provision of infrastructure or mitigation measures	L							M	M				H			M	M
		3. Develop current EIA methods, assessment methods, environmental monitoring systems and legislation.								M	M				H			M	
		4. Assess process of environmental impact modelling and prediction as a design tool		M		L				M					H			H	M
		5. Interact with experts of other fields to assess the impact.								H	M				H			M	

### Course Objectives – Program Outcomes (POs) Relationship Matrix

Program -Outcomes	a	b	c	d	e	f	g	h	i	j	k	l	PSO1	PSO2
Course Objectives														
1				X					X				X	
2		X	X								X		X	X
3						X		X					X	
4	X									X		X	X	X
5					X		X						X	

### Course Outcomes – Program Outcomes (POs) Relationship Matrix

Program -Outcomes \ Course-Outcomes	a	b	c	d	e	f	g	h	i	J	k	L
1		X				X				X		
2				X				X				
3						X						X
4		X						X			X	
5									X	X		

**Courses (with title & code) – Program Outcomes (POs) Relationship Matrix**

**Course: Environmental Impact Assessment and Life Cycle Analysis**

Program -Outcomes \ Courses	a	b	c	d	e	f	g	h	i	J	k	L
1	X				X		X		X			X

**Program Educational Objectives (PEOs) – Program Outcomes Relationship Matrix**

PEOs \ Course Outcomes	1	2	3
1	X		
2	X		X
3		X	
4	X		
5			X



**Gokaraju Rangaraju Institute of Engineering and Technology**  
(Autonomous)  
Bachupally, Hyderabad-500090

**DEPARTMENT OF CIVIL ENGINEERING**  
**Rubrics**

Academic Year : 2021-2022

Semester : I

Name of the Program : B. Tech Civil

Year: III

Section: A&B

Course/Subject: EIA and LCA

Course Code: GR18A3008

Name of the Faculty: Mr. T.Srikanth

Dept.: Civil Engineering

DESIGNATION: ASSOCIATE PROFESSOR

Name of the Student	Performance Criteria	Beginning (1)	Developing (2)	Reflecting (3)	Development Accomplished (4)	Exemplary (5)	Score
19241A01 58	Level of knowledge on Sustainable development	Basic knowledge on the Environmental Impact Assessment	Able to understand the definition of Environmental Impact Statement	Able to remember the Screening and scoping of EIA	Able to understand the Rapid EIA and Comprehensive EIA	Able to apply EIA methodologies	5
	Level of knowledge on Criteria for the selection of EIA Methodology	Identifying the General Framework for Environmental Impact Assessment	Notice the Environmental Risk Analysis	Able to remember the Matrix Method	Able to understand the Checklist method, Mathematical models	Analyzing the Characterization and site assessment	4
	Level of knowledge on Environmental Legislation	Able to Identify the Life Cycle Assessment benefits	Able to apply the Environmental Management Systems	Able to understand the Consequence Analysis	Able to do Environmental Audit: Cost Benefit Analysis;	To analyze the measures of effectiveness of pollution control activities	5



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**COURSE COMPLETION STATUS**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: A

Course/Subject: EIA & LCA Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Actual Date of Completion & Remarks, if any

<b>Units</b>	<b>Remarks</b>	<b>Objectives Achieved</b>	<b>Outcomes Achieved</b>
Unit I	09-09-2021 Unit covered on time	1	1
Unit II	08-10-2021 Unit covered on time	2	2
Unit III	03-11-2021 Unit covered on time	3	3
Unit IV	20-11-2021 Unit covered on time	4	4
Unit V	08-12-2021 Unit covered on time	5	5

Signature of HOD

Signature of faculty

Date:

Date:

Note: After the completion of each unit mention the number of Objectives & Outcomes Achieved.



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**COURSE COMPLETION STATUS**

Academic Year : 2021-22

Semester : I

Name of the Program: B.Tech Civil Engineering Year: III Section: B

Course/Subject: EIA & LCA Course Code: GR18A3008

Name of the Faculty: Mr.T.Srikanth Dept.: Civil Engineering

Designation: Associate Professor

Actual Date of Completion & Remarks, if any

<b>Units</b>	<b>Remarks</b>	<b>Objectives Achieved</b>	<b>Outcomes Achieved</b>
Unit I	13-09-2021 Unit covered on time	1	1
Unit II	06-10-2021 Unit covered on time	2	2
Unit III	02-11-2021 Unit covered on time	3	3
Unit IV	20-11-2021 Unit covered on time	4	4
Unit V	08-12-2021 Unit covered on time	5	5

Signature of HOD

Signature of faculty

Date:

Date:

Note: After the completion of each unit mention the number of Objectives & Outcomes Achieved.

**III B.Tech I Semester Regular Examinations, December 2021**

**MODEL PAPER**

**Environmental Impact Assessment and Life Cycle Analysis  
(Civil Engineering)**

**Time: 3 hours**

**Max Marks: 70**

<b>Instructions:</b>				
<p>1. Question paper comprises of <b>Part-A</b> and <b>Part-B</b></p> <p>2. <b>Part-A</b> (for 20 marks) must be answered at one place in the answer book.</p> <p>3. <b>Part-B</b> (for 50 marks) consists of <b>five questions with internal choice</b>, answer all questions.</p>				
<b>PART – A</b>				
(Answer ALL questions. All questions carry equal marks)				
<b>10 * 2 = 20</b>				
<b>Marks</b>				
<b>1. a.</b>	Briefly discuss on Environmental Impact Assessment	[2]	CO1	K2
<b>b.</b>	Define Environmental Impact Statement (EIS)	[2]	CO1	K1
<b>c.</b>	List out the various methodologies in EIA	[2]	CO2	K2
<b>d.</b>	Define Environmental Risk	[2]	CO2	K1
<b>e.</b>	What are the tools of prediction and assessment of EIA	[2]	CO4	K4
<b>f.</b>	Discuss the impact of socioeconomics on a project	[2]	CO3	K3
<b>g.</b>	Define Environmental Legislations	[2]	CO3	K5
<b>h.</b>	Write about the significance of ISO 14001.	[2]	CO4	K3
<b>i.</b>	Define Energy Balance	[2]	CO5	K1
<b>j.</b>	Define Life cycle assessment	[2]	CO5	K1
<b>PART – B</b>				
(Answer ALL questions. All questions carry equal marks)				
<b>5 * 10 = 50</b>				
<b>Marks</b>				
<b>2.</b>	(a) Explain about the significance Sustainable development in connection with EIA	[10]	CO1	K1,K2
	(b) Elaborate the need for Environmental Impact Assessment			
<b>OR</b>				
<b>3.</b>	(a) Write a short note on Screening and Scoping in the EIA process?	[10]	CO1	K1,K3
	(b) Differentiate between Rapid EIA and Comprehensive EIA			

<b>4.</b>	(a) What are the Criteria to be considered for the selection of EIA Methodology (b) Explain briefly about Checklist method and Mathematical models in EIA	<b>[10]</b>	<b>CO2</b>	<b>K5</b>
<b>OR</b>				
<b>5.</b>	(a) With the help of a flow chart discuss about the General Framework for Environmental Impact Assessment (b) Explain briefly about Matrix Method in EIA	<b>[10]</b>	<b>CO3</b>	<b>K6</b>
<b>6.</b>	(a) Discuss briefly about Public Participation in EIA (b) With the help of a flow chart discuss about Fault Tree Analysis	<b>[10]</b>	<b>CO4</b>	<b>K4</b>
<b>OR</b>				
<b>7.</b>	(a) Discuss briefly on Consequence Analysis (b) Discuss on the measures of effectiveness of pollution control activities	<b>[10]</b>	<b>CO3</b>	<b>K4</b>
<b>8.</b>	(a) Write briefly about various Environmental Legislations in India (b) Explain the significance of a Environmental Management System (EMS)	<b>[10]</b>	<b>CO3</b>	<b>K1,K6</b>
<b>OR</b>				
<b>9.</b>	(a) Explain the concept of Cost Benefit Analysis related to a project (b) Discuss briefly on the benefits of an Environmental Audit	<b>[10]</b>	<b>CO4</b>	<b>K4,K3</b>
<b>10.</b>	(a) Briefly discuss on the concept of Life Cycle Assessment (b) Explain one case study on EIA in Industries	<b>[10]</b>	<b>CO5</b>	<b>K2,K4</b>
<b>OR</b>				
<b>11.</b>	(a) What is the importance of Resource Balance and Energy Balance (b) Discuss briefly on Management Review and Operational Control	<b>[10]</b>	<b>CO5</b>	<b>K1,K2</b>

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**GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**III Year II Semester I- Mid Examination (20<sup>th</sup> October 2021)**  
**Subject: Environmental Impact Assessment and Life Cycle Analysis (GR18A3008)**

**Time: 90 Minutes**

**Date of Exam:20/10/2021 FN**

**Max.Marks:15**

**Answer any three from the following**

- |   |   |      |
|---|---|------|
| 1 | a) Explain the Need for Environmental Impact Assessment       | (2M) |
|   | b) Discuss briefly about Screening and Scoping in EIA process | (3M) |
| 2 | a) Briefly discuss on Checklist method and Matrix method      | (3M) |
|   | b) Draw the sketch of the general framework of EIA process    | (2M) |
| 3 | a) Explain on Rapid EIA and Comprehensive EIA process         | (3M) |
|   | b) Discuss briefly on Sustainable Development                 | (2M) |
| 4 | a) Define Risk and Hazard                                     | (2M) |
|   | b) Explain Public Participation                               | (3M) |



**OKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**III Year I Semester I- Mid Examination (20<sup>th</sup> October 2021)**  
**Subject: Environmental Impact Assessment and Life Cycle Analysis (GR18A3008)**

**Time: 10 Minutes**  
**Answer All Questions**

**Date of Exam:20/10/2021**

**Max.Marks:5**  
**All Questions Carry Equal Marks**

**I Choose the correct Answer**

- 1 Which one of the following does not belong to EIA methods used for assessing the impacts of developmental activities on the environment? [ ]  
a) Adhoc      b) Network      c) Flexible      d) Checklist
- 2 EIA is \_\_\_\_\_ and \_\_\_\_\_ environmental impacts. [ ]  
a) beneficial and adverse      b) social and benefit      c) adverse and economical      d) None of above
- 3 Prediction of impact is \_\_\_\_\_ [ ]  
a) qualitative      b) quantitative      c) economic      d) beneficial
- 4 EIA is a \_\_\_\_\_ which helps to evaluate environmental impact of proposed developmental projects or programs. . [ ]  
a) quantitative      b) tool      c) subjective      d) clearance
- 5 Screening criteria based on . . [ ]  
a) type and location of development      b) difficult and control attribute  
c) type and difficult to development      d) partial development
- 6 Scoping is procedure of environmental issues. . [ ]  
a) identifying      b) impact      c) physical impact      d) attributes
- 7 Scale and severity of impact is determined by whether it is . [ ]  
a) development      b) reversible      c) adverse      d) reversible or irreversible
- 8 . what is EIAS? [ ]  
a) environmental impact assessment statement      b) environmental Indian association statement  
c) environmental international assess state      d) none of the above
- 9 Fault Tree analysis is [ ]  
a) Evaluate failures in engineering systems      b) Analysis provides a graphical representation of the relationships between specific events and the ultimate undesired event  
c) Allows systematic examination of various materials      d) All the above
- 10 Reason Public should involve in EIA? [ ]  
a) regarded as proper, fair conduct of democratic government in public decision-making activities  
b) way to ensure that projects meet citizens' needs and are suitable to the affected public  
c) All the Above



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**DEPARTMENT OF CIVIL ENGINEERING**  
**I- Mid Examination (October 20<sup>th</sup> 2021)**

**Mid-I Marks – A&B**

S.No	Roll No	Name	Objective (5M)	Subjective (15M)	Total (20M)
1	18241A0151	SOHEB PATEL	3	8.5	12
2	18241A0152	SRIAM SHIVA ADITYA	AB	AB	AB
3	19241A0101	RUHAIL AHMAD LONE	3	8.5	12
4	19241A0102	AITHA SAI TEJA	5	15.0	20
5	19241A0103	BARSETTY SHIVA KARTHIK	4.5	14.5	19
6	19241A0104	BENDHI VARUN THEJA GOUD	4	12.5	17
7	19241A0105	BHUKYA VAMSHI	4	13.5	18
8	19241A0106	BOGE VENKAT ROHITH	3.5	6.0	10
9	19241A0107	BONTHA PRANEETHKUMAR	3.5	14.5	18
10	19241A0108	CHILUKA RAHUL	5	9.0	14
11	19241A0109	DANDI KIRAN	2.5	12.5	15
12	19241A0110	DAYYA RAGNESH	1.5	9.5	11
13	19241A0111	E MANISH GOUD	5	8.0	13
14	19241A0112	ERRAM SAI PRIYA	5	14.0	19
15	19241A0113	G DEEPIKA	5	14.5	20
16	19241A0114	GORANTALA SAI	5	14.5	20
17	19241A0115	GUGULOTHU SANTHOSH	3.5	12.0	16
18	19241A0116	GURIJALA SAI KUMAR	1.5	2.0	4
19	19241A0117	GURUJALA SRIDHAR	3	7.5	11
20	19241A0118	IRUVANTI HEMANTH KUMAR	4	12.0	16
21	19241A0119	JANGITI VYSHNAVI	4.5	14.0	19
22	19241A0120	JARUPLA CHERAN	5	15.0	20
23	19241A0122	JETTI SREEVANI	4.5	15.0	20
24	19241A0123	K SOWMYA	5	15.0	20
25	19241A0124	KADALI KRISHNASRI SAI	4	9.5	14
26	19241A0125	KAMAREDDY AKSHAY	1.5	1.5	3
27	19241A0126	KATTA SAI KUMAR	5	14.0	19
28	19241A0127	KOLLURI.TEJASWI	5	15.0	20
29	19241A0128	KONDAPURAM SRIJA	4.5	12.0	17
30	19241A0129	KOTTE VIVEK	4.5	8.0	13

S.No	Roll No	Name	Objective (5M)	Subjective (15M)	Total (20M)
31	19241A0130	KRUTHIKA VIJAY PALANGE	5	12.0	17
32	19241A0131	MADA AKHIL REDDY	4	15.0	19
33	19241A0132	MADARAM SHRAVAN KUMAR REDDY	5	14.0	19
34	19241A0133	MADDIGATLA AJAY SAGAR	5	8.5	14
35	19241A0134	CHANDANA MALPATEL	5	9.5	15
36	19241A0135	MANDALA CHINNI	4.5	3.0	8
37	19241A0136	MIREGILLA VIJAYAKUMAR	3.5	10.5	14
38	19241A0137	MOHD OBAID KASHIF	3.5	14.0	18
39	19241A0138	NARAPAKA MADHAV KUMAR	3	5.0	8
40	19241A0139	NIMMALA ARSHITHA	5	15.0	20
41	19241A0141	P SIDDARTHA	AB	0.0	AB
42	19241A0142	PAGIDIPALLY AJAY KUMAR	3	13.5	17
43	19241A0143	PALLAPU NAVEEN	4	10.0	14
44	19241A0144	PALLE SANATH KUMAR	4	14.0	18
45	19241A0145	PANTANGI PRANAY	3.5	12.5	16
46	19241A0146	PATIL SWAPNIL	2.5	4.0	7
47	19241A0147	POLISETTY SAAHAS	4.5	11.5	16
48	19241A0148	S.SAITEJA	4	12.5	17
49	19241A0149	SAI NEERAJ M	4.5	13.0	18
50	19241A0150	SATYA SAI PRASANNA REDDY SOLIPETA	AB	AB	AB
51	19241A0151	SHAIK BILAL	5	8.0	13
52	19241A0152	SHAIK FIRDOUS AYESHA	5	15.0	20
53	19241A0153	SOORA VIKAS	4.5	7.5	12
54	19241A0154	TELLAM SRI SAI PAVANA ROSHINI	5	14.0	19
55	19241A0155	THALLAPALLY SWARANYA	4.5	13.5	18
56	19241A0156	THUMATI VENKATA VAYUNANDHAN	4.5	11.0	16
57	19241A0157	UDUMULA NIKHIL REDDY	4	10.5	15
58	19241A0158	VELISHALA GAYATHRI	5	14.5	20
59	19241A0159	VENKATA SIDDHARTHA RAJU VEGESNA	4	8.0	12
60	19241A0160	YASWANTH KURUVA	5	12.0	17
61	19241A0161	ABDUL RAHEEM	5	15.0	20
62	19241A0162	ANEMONI MURALI MANOHAR	3.5	11.0	15
63	19241A0163	ASKANY HARISH SAGAR	4	7.0	11
64	19241A0164	BODLA AKSHITH	3	14.5	18
65	19241A0165	BURRA VAMSHI KRISHNA	5	13.5	19
66	19241A0166	CHERLAKOLA AKHILA	5	15.0	20
67	19241A0167	CHINTAPALLI VIKRAM	4.5	12.5	17
68	19241A0168	CHIRRIBOYINA DHANYA	5	14.0	19
69	19241A0169	D SREE MADHURI	3	11.0	14
70	19241A0170	GADDAM SAHITHI	3.5	13.0	17

S.No	Roll No	Name	Objective (5M)	Subjective (15M)	Total (20M)
71	19241A0171	GAJJALA SUKENDHAR REDDY	5	10.5	16
72	19241A0172	YASHASWI GANGAVARAM	5	10.5	16
73	19241A0173	GINDHAM ADITYA KUMAR	5	12.0	17
74	19241A0174	GUDHETI NARENDAR REDDY	5	10.5	16
75	19241A0175	GUMMADI SAI PRATEEK REDDY	AB	AB	AB
76	19241A0176	HANMAPUR DHEERAJ GOUD	5	5.0	10
77	19241A0177	JAVVAJI AISHWARYA	5	14.5	20
78	19241A0178	JULAPALLY NITHIN RAO	4.5	9.0	14
79	19241A0179	K NAVEEN	4.5	7.0	12
80	19241A0180	K RAJESHWARI	5	13.5	19
81	19241A0181	KACHAVA SURENDAR	3	10.5	14
82	19241A0182	KODATHALA INDU	5	12.0	17
83	19241A0183	KOTARU SRINIVASA VARAPRASAD	5	13.0	18
84	19241A0184	MALOTH RAHUL	4.5	10.5	15
85	19241A0185	MATURI SATHVIK	4.5	13.0	18
86	19241A0186	MD ABDUL MAAJID	2	8.0	10
87	19241A0187	MEDARI DAYANA	4.5	13.5	18
88	19241A0188	NARSINGA SANDEEP	4	6.0	10
89	19241A0189	PALANATI ROHITH	3.5	6.5	10
90	19241A0190	PURALASETTY BHAVANA	3.5	13.5	17
91	19241A0191	RODDA MALAVIKA REDDY	5	13.0	18
92	19241A0192	SAPRAM NAGA SRILOWKYA MUKTHA	AB	AB	AB
93	19241A0193	SHAIK PARVEZ ANSARI	AB	AB	AB
94	19241A0194	SIDDELA THARUN KUMAR	4	6.0	10
95	19241A0195	TALARI CHANDANA SREE	5	11.0	16
96	19241A0196	VALLEPU KALYAN	5	9.5	15
97	19241A0197	VRASHAB PATEL	4	10.0	14
98	19241A0198	YELLAVULA NARENDER	4.5	11.5	16
99	19241A0199	BADDELA SAI THARUN	4	10.0	14
100	20245A0101	Aamanchi Bowmi	5	13.5	19
101	20245A0102	Aviraboina Sai Chaithanya	5	11.0	16
102	20245A0103	Bairy B S Anirudh	5	12.0	17
103	20245A0104	Daddu Tejasree	4.5	14.0	19
104	20245A0105	Dopathi Raviteja	5	12.5	18
105	20245A0106	Eruventi Niharika	5	13.5	19
106	20245A0107	Gaddamidi Anil	5	12.0	17
107	20245A0108	Gandla Rishik Raj	5	12.5	18
108	20245A0109	Gone Naveen Kumar	5	9.0	14
109	20245A0110	Kota Vishal	5	13.0	18
110	20245A0111	Kummari Mahesh	4.5	11.0	16
111	20245A0112	Lakavath Anil	4.5	9.0	14
112	20245A0113	Madavaram Rohith	5	11.0	16
113	20245A0114	Mandala Akshitha	5	15.0	20
114	20245A0115	M Manjunath	4	13.5	18

<b>S.No</b>	<b>Roll No</b>	<b>Name</b>	<b>Objective (5M)</b>	<b>Subjective (15M)</b>	<b>Total (20M)</b>
115	20245A0116	Porandla Nababhushanam	5	11.0	16
116	20245A0117	Pulishetty Bhavani	5	12.0	17
117	20245A0118	Racha Kranthi Ranadeer	4	11.0	15
118	20245A0119	S Manoj Kumar	4.5	13.0	18
119	20245A0120	Samudrala Manideep	4.5	13.0	18
120	20245A0121	Sangepaga Goutham	4.5	12.0	17
121	20245A0122	Sodadasi Rahul	5	12.5	18
122	20245A0123	Vanga Harshith	5	11.0	16
123	20245A0124	Choleti Vineetha	5	11.5	17
124	20245A0125	Gangula Grishma	5	12.0	17
125	20245A0126	Bollampalli Sai Poojith	5	12.0	17
126	20245A0127	Pamulapati Sumanth	4.5	7.5	12
127	20245A0128	T Sanghamithra	5	11.0	16
128	20245A0129	Abeda Akanksha	4	12.5	17
129	20245A0130	Doppalapudi Ramvineeth Sai	5	7.5	13
130	20245A0131	Pilly Uday Kiran	4.5	12.0	17



**GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF CIVIL ENGINEERING**

**III Year II Semester II- Mid**

**Subject: Environmental Impact Assessment and Life Cycle Analysis (GR18A3008)**

**Time: 30 Minutes**

**Date of Exam:13/12/2021**

**Max.Marks:15**

**Answer any two from the following**

- 1 a) Write briefly about Consequence analysis pertaining to prediction and assessment in EIA **(2M)**
- 1 b) Discuss the importance of Environmental Audit **(3M)**
- 2 Explain in detail about life cycle Assessment **(5M)**
- 3 Discuss in detail the significance of Cost -Benefit Analysis in EIA **(5M)**
- 4 Explain in brief about the various Environmental legislations in India **(5M)**



**GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**III Year I Semester II- Mid Examination**  
**Subject: Environmental Impact Assessment and Life Cycle Analysis (GR18A3008)**  
**Objective Exam**

**Time: 10 Minutes**  
**Answer All Questions**

**Date of Exam:13/12/2021**

**Max.Marks:5**  
**All Questions Carry Equal Marks**

**I Choose the correct Answer**

- 1 Which of the following item is not included in Environmental Auditing? [ ]  
a. Pollution monitoring schemes      b. Scrutiny by the government agencies  
c. Storage of toxic chemicals Safety      d. provisions for industrial works
- 2 Environmental pollution can be controlled by: [ ]  
a. Checking atomic blasts      c. Manufacturing electric vehicles  
b. Sewage treatment      d. All of the above
- 3 The success of audit of environmental issues would be possible only when the SAI does [ ]  
a. The evaluation of the performance entity with reference to established standards and indicators  
b. The evaluation against authentic criteria  
c. both (a) and (b)      d. either (a) or (b)
- 4 The performance audit of environmental issues enable the entities [ ]  
a. To improve upon their performance  
b. Assist policy matters and legislators to rectify the omissions and shortfalls  
c. Contribute to good governance      d. All of the above
- 5 The validity period of Environmental Clearance after EIA process is least for [ ]  
a. Mining projects      c. Harbor projects  
b. River valley projects      d. Area development projects
- 6 When did water (Prevention and Control of Pollution) Act,, come into force in the year of\_\_\_\_? [ ]  
a. 1980      b. 1978      c. 1976      d. 1974
- 7 When did Air (Prevention and Control of Pollution) Act, 1981, come into force [ ]  
a. 01 April 1986      b. 01 March 1986      c. 01 May 1986      d. 29 March 1981
- 8 . ISO 14000 standards are for the \_\_\_\_\_ [ ]  
a. Quality Management System      b. Environmental Management System  
c. Administration      d. Supply chain
- 9 Cost–benefit analysis is a systematic approach to estimate [ ]  
a. Measuring all costs and all possible profits and benefits from an investment project proposal  
b. Taking into account both quantitative and qualitative factors  
c. Sometimes called benefit–cost analysis (BCA)  
d. All of the above
- 10 Bhopal gas tragedy of 1984 took place because methyl isocyanate reacted with [ ]  
a. Ammonia      b. DDT      c. Water      d. CO





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**DEPARTMENT OF CIVIL ENGINEERING**  
**II- Mid Examination (December 13<sup>th</sup> 2021)**

S.No	Roll No	Name	Objective (5M)	Subjective (15M)	Total (20M)
1	18241A0151	SOHEB PATEL	2.5	10	13
2	18241A0152	SRIAM SHIVA ADITYA	AB	AB	AB
3	19241A0101	RUHAIL AHMAD LONE	3	8	11
4	19241A0102	AITHA SAI TEJA	2	14	16
5	19241A0103	BARISSETTY SHIVA KARTHIK	4.5	11	16
6	19241A0104	BENDHI VARUN THEJA GOUD	5	9	14
7	19241A0105	BHUKYA VAMSHI	5	10	15
8	19241A0106	BOGE VENKAT ROHITH	4.5	7	12
9	19241A0107	BONTHA PRANEETHKUMAR	5	12	17
10	19241A0108	CHILUKA RAHUL	2.5	4	7
11	19241A0109	DANDI KIRAN	4.5	11	15
12	19241A0110	DAYYA RAGNESH	4	7	11
13	19241A0111	E MANISH GOUD	3.5	8	11
14	19241A0112	ERRAM SAI PRIYA	4.5	15	19
15	19241A0113	G DEEPIKA	4	14	18
16	19241A0114	GORANTALA SAI	5	15	20
17	19241A0115	GUGULOTHU SANTHOSH	5	11	16
18	19241A0116	GURIJALA SAI KUMAR	4	2	6
19	19241A0117	GURUJALA SRIDHAR	2.5	6	9
20	19241A0118	IRUVANTI HEMANTH KUMAR	5	12	17
21	19241A0119	JANGITI VYSHNAVI	5	12	17
22	19241A0120	JARUPLA CHERAN	5	12	17
23	19241A0122	JETTI SREEVANI	5	14	19
24	19241A0123	K SOWMYA	5	13	18
25	19241A0124	KADALI KRISHNASRI SAI	3.5	13	16
26	19241A0125	KAMAREDDY AKSHAY	4	7	11
27	19241A0126	KATTA SAI KUMAR	4.5	12	17
28	19241A0127	KOLLURI TEJASWI	5	14	19
29	19241A0128	KONDAPURAM SRIJA	5	13	18
30	19241A0129	KOTTE VIVEK	5	2	7
31	19241A0130	KRUTHIKA VIJAY PALANGE	5	12	17

S.No	Roll No	Name	Objective (5M)	Subjective (15M)	Total (20M)
32	19241A0131	MADA AKHIL REDDY	4	13	17
33	19241A0132	MADARAM SHRAVAN KUMAR REDDY	4.5	12	17
34	19241A0133	MADDIGATLA AJAY SAGAR	4.5	9	14
35	19241A0134	CHANDANA MALPATEL	4.5	12	17
36	19241A0135	MANDALA CHINNI	5	5	10
37	19241A0136	MIREGILLA VIJAYAKUMAR	4	12	16
38	19241A0137	MOHD OBAID KASHIF	4.5	13	17
39	19241A0138	NARAPAKA MADHAV KUMAR	3	2	5
40	19241A0139	NIMMALA ARSHITHA	5	13	18
41	19241A0141	P SIDDARTHA	AB	AB	AB
42	19241A0142	PAGIDIPALLY AJAY KUMAR	4.5	12	17
43	19241A0143	PALLAPU NAVEEN	4	9	13
44	19241A0144	PALLE SANATH KUMAR	5	11	16
45	19241A0145	PANTANGI PRANAY	4	12	16
46	19241A0146	PATIL SWAPNIL	3	4	7
47	19241A0147	POLISETTY SAAHAS	5	8	13
48	19241A0148	S.SAITEJA	5	11	16
49	19241A0149	SAI NEERAJ M	4	10	14
50	19241A0150	SATYA SAI PRASANNA REDDY SOLIPETA	4.5	8	12
51	19241A0151	SHAIK BILAL	2.5	10	13
52	19241A0152	SHAIK FIRDOUS AYESHA	4.5	14	18
53	19241A0153	SOORA VIKAS	4.5	9	13
54	19241A0154	TELLAM SRI SAI PAVANA ROSHINI	5	12	17
55	19241A0155	THALLAPALLY SWARANYA	4	13	17
56	19241A0156	THUMATI VENKATA VAYUNANDHAN	4	10	14
57	19241A0157	UDUMULA NIKHIL REDDY	2.5	10	12
58	19241A0158	VELISHALA GAYATHRI	5	15	20
59	19241A0159	VENKATA SIDDHARTHA RAJU VEGESNA	3	7	10
60	19241A0160	YASWANTH KURUVA	4.5	12	17
61	19241A0161	ABDUL RAHEEM	4.5	13	18
62	19241A0162	ANEMONI MURALI MANOHAR	2.5	8	11
63	19241A0163	ASKANY HARISH SAGAR	5	5	10
64	19241A0164	BODLA AKSHITH	5	12	17
65	19241A0165	BURRA VAMSHI KRISHNA	5	11	16
66	19241A0166	CHERLAKOLA AKHILA	5	14	19
67	19241A0167	CHINTAPALLI VIKRAM	4.5	10	15

S.No	Roll No	Name	Objective (5M)	Subjective (15M)	Total (20M)
68	19241A0168	CHIRRIBOYINA DHANYA	5	14	19
69	19241A0169	D SREE MADHURI	5	11	16
70	19241A0170	GADDAM SAHITHI	3.5	8	11
71	19241A0171	GAJJALA SUKENDHAR REDDY	3.5	9	13
72	19241A0172	YASHASWI GANGAVARAM	3	10	13
73	19241A0173	GINDHAM ADITYA KUMAR	5	10	15
74	19241A0174	GUDHETI NARENDAR REDDY	5	7	12
75	19241A0175	GUMMADI SAI PRATEEK REDDY	5	7	12
76	19241A0176	HANMAPUR DHEERAJ GOUD	3.5	6	10
77	19241A0177	JAVVAJI AISHWARYA	5	12	17
78	19241A0178	JULAPALLY NITHIN RAO	4.5	11	16
79	19241A0179	K NAVEEN	5	8	13
80	19241A0180	K RAJESHWARI	5	13	18
81	19241A0181	KACHAVA SURENDAR	5	12	17
82	19241A0182	KODATHALA INDU	5	11	16
83	19241A0183	KOTARU SRINIVASA VARAPRASAD	4.5	11	15
84	19241A0184	MALOTH RAHUL	3.5	9	12
85	19241A0185	MATURI SATHVIK	5	11	16
86	19241A0186	MD ABDUL MAAJID	5	7	12
87	19241A0187	MEDARI DAYANA	5	13	18
88	19241A0188	NARSINGA SANDEEP	3.5	8	12
89	19241A0189	PALANATI ROHITH	4	9	13
90	19241A0190	PURALASETTY BHAVANA	4	13	17
91	19241A0191	RODDA MALAVIKA REDDY	3.5	12	16
92	19241A0192	SAPRAM NAGA SRILOWKYA MUKTHA	5	10	15
93	19241A0193	SHAIK PARVEZ ANSARI	AB	AB	AB
94	19241A0194	SIDDELA THARUN KUMAR	3	9	12
95	19241A0195	TALARI CHANDANA SREE	4	8	12
96	19241A0196	VALLEPU KALYAN	4.5	10	15
97	19241A0197	VRASHAB PATEL	4.5	11	16
98	19241A0198	YELLAVULA NARENDER	5	12	17
99	19241A0199	BADDELA SAI THARUN	4.5	10	15
100	20245A0101	Aamanchi Bowmi	5	14	19
101	20245A0102	Aviraboina Sai Chaithanya	5	10	15
102	20245A0103	Bairy B S Anirudh	4.5	11	16
103	20245A0104	Daddu Tejasree	4.5	13	17
104	20245A0105	Dopathi Raviteja	4.5	12	16
105	20245A0106	Eruventi Niharika	5	13	18
106	20245A0107	Gaddamidi Aanil	4.5	9	14
107	20245A0108	Gandla Rishik Raj	4.5	11	15
108	20245A0109	Gone Naveen Kumar	1.5	12	13
109	20245A0110	Kota Vishal	4.5	13	17

<b>S.No</b>	<b>Roll No</b>	<b>Name</b>	<b>Objective (5M)</b>	<b>Subjective (15M)</b>	<b>Total (20M)</b>
110	20245A0111	Kummari Mahesh	4.5	10	14
111	20245A0112	Lakavath Anil	4.5	9	13
112	20245A0113	Madavaram Rohith	5	11	16
113	20245A0114	Mandala Akshitha	5	13	18
114	20245A0115	M Manjunath	2	8	10
115	20245A0116	Porandla Nababhushanam	5	11	16
116	20245A0117	Pulishetty Bhavani	5	10	15
117	20245A0118	Racha Kranthi Ranadeer	4	13	17
118	20245A0119	S Manoj Kumar	5	14	19
119	20245A0120	Samudrala Manideep	4.5	14	18
120	20245A0121	Sangepaga Goutham	4.5	10	15
121	20245A0122	Sodadasi Rahul	5	13	18
122	20245A0123	Vanga Harshith	5	12	17
123	20245A0124	Choleti Vineetha	5	13	18
124	20245A0125	Gangula Grishma	4.5	13	18
125	20245A0126	Bollampalli Sai Poojith	5	11	16
126	20245A0127	Pamulapati Sumanth	5	8	13
127	20245A0128	T Sanghamithra	5	14	19
128	20245A0129	Abeda Akanksha	5	12	17
129	20245A0130	Doppalapudi Ramvineeth Sai	4	7	11
130	20245A0131	Pilly Uday Kiran	4.5	9	14



GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF CIVIL ENGINEERING  
III Year I Semester - 1- Mid Examination (20<sup>th</sup> October 2021)  
Subject: Environmental Impact Assessment and Life Cycle Analysis (GR19A1008)

(S/S)

Ardy

Objective Questions

Name : M. Akshitha

Roll no 20245A0114

Duration: 10 Minutes

Max.Marks:5

Answer the following Multiple-choice questions:

1. Which one of the following does not belong to EIA methods used for assessing the impacts of developmental activities on the environment?  
a) Adhoc      b) Network      c) Flexible      d) Checklist C ✓
2. EIA is \_\_\_\_\_ and \_\_\_\_\_ environmental impacts.  
a) beneficial and adverse      b) social and benefit      c) adverse and economical      d) None of above A ✓
3. Prediction of impact is \_\_\_\_\_.  
a) qualitative      b) quantitative      c) economic      d) beneficial A ✓
4. EIA is a \_\_\_\_\_ which helps to evaluate environmental impact of proposed developmental projects or programs. .  
a) quantitative      b) tool      c) subjective      d) clearance B ✓
5. Screening criteria based on . .  
a) type and location of development      b) difficult and control attribute  
c) type and difficult to development      d) partial development A ✓
6. Scoping is procedure of environmental issues. .  
a) identifying      b) impact      c) physical impact      d) attributes A ✓
7. Scale and severity of impact is determined by whether it is .  
a) development      b) reversible      c) adverse      d) reversible or irreversible D ✓
8. what is EIAS?  
a) environmental impact assessment statement      b) environmental Indian association statement  
c) environmental international assess state      d) none of the above A ✓
9. Fault Tree analysis is D ✓  
a) Evaluate failures in engineering systems      b) Analysis provides a graphical representation of the relationships between specific events and the ultimate undesired event  
c) Allows systematic examination of various materials      d) All the above
10. Reason Public should involve in EIA? C ✓  
a) regarded as proper, fair conduct of democratic government in public decision-making activities  
b) way to ensure that projects meet citizens' needs and are suitable to the affected public  
c) All the Above



# Gokaraju Rangaraju Institute of Engineering & Technology

(Autonomous College Affiliated to JNTUH)

(12 Pages)

Bachupally, Kukatpally, Hyderabad - 500090

I II

## MID TERM EXAMINATION

Arthy

No.

374693

H.T. No.

2 0 2 4 5 A 0 1 1 4

Name of the Examination IT B TECH I SEM I MID

Course Environmental Impact Assessment Branch Civil-B Date 20/10/21

Signature of the Invigilator

Q.NO.	1		2		3		4		5		6		TOTAL
	a	b	a	b	a	b	a	b	a	b	a	b	
MARKS	2	3	3	2	3	2	1	1					15

START WRITING FROM HERE

(1) (a) Environmental Impact Assessment :-

Environmental Impact Assessment is the assessment of damage or loss caused by the project to the environment. This is known as Environmental Impact Assessment.

Need for Environmental Impact Assessment :-

- 1) To identify the environmental impact caused by the project to
- 2) To evaluate the Control Measures.
- 3) To identify the tools and Methodologies adopted by the environmental impact Analysis
- 4) To know how much impact does the environment has with the proposed or selected project.



## ① (b) Screening:-

- (1) Screening is done whether the Environmental Impact Assessment is done required or not.
- (2) The main objective of the screening process is to prevent the environmental adverse effects of a proposed project.
- (3) Screening is governed by the national legislation.
- (4) In screening process, the information is collected and analysed whether there are any threats cause to the environment.
- (5) There are only two methods involved in screening process. they are checklist method and matrices method.

## Scoping:-

- (1) Scoping is the process that is done to identify and decide whether it is included in EIA or not.
- (2) The main objective of the scoping is to identify the key environmental issues of a proposed project.
- (3) Scoping is governed by the governmental and non governmental and to establish guidelines of communication.
- (4) In Scoping the checked information is collected and analysed.
- (5) Scoping uses different techniques such as base line studies, checklist, matrices, network diagrams and adaptive methods.

2

(a)

checklist Method.

(1) This Method is done or it consists of a table

(2) It consists of comprehensive lists of environmental parameters of a proposed project

(3) checklist Method has the classification such as analysing, descriptive, scaling and scale weighing

(4) checklist is the more suitable methods and it is used in small scale projects.

(5) This method has high effects in EIA process of a proposed project.

Matrix Method:

(1) This Method is done or it consists of a matrix.

(2) The matrix consists of rows and columns whereas the rows ~~can~~ having various activities and columns having environmental factors.

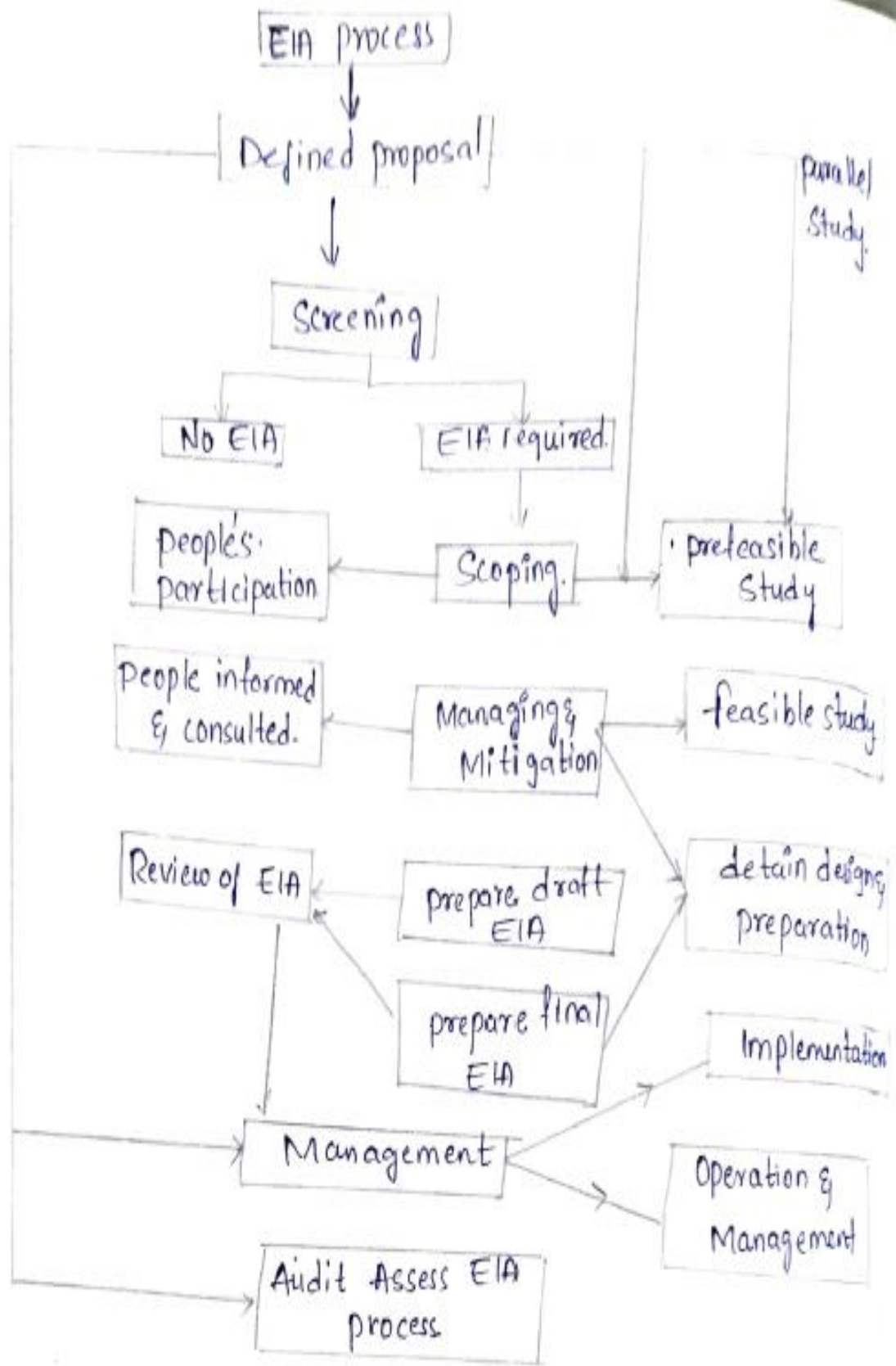
(3) The Matrix method does not contain any classification as of the <sup>checklist</sup> ~~matrix~~ Method

(4) Matrix method is more convenient in the EIA process and it is used in large scale projects

(5) Matrix method has small effects in EIA process of a proposed project



(a) (b)



### ③ (a) Rapid EIA :-

Rapid environmental Impact Assessment is the Assessment to identify the environmental conditions of a specific location during the specific period of time.

→ In this Rapid EIA the information is being collected of a proposed project and the analysis can be done whether the impacts are there for the project in order to have environment protected.

### Comprehensive EIA :-

1) Comprehensive EIA is done after the initial screening and the rapid environmental impact Assessment (EIA) is performed.

(2) The information that have been collected upto now from the above process is comprehended whether the information consists of impacts or not. Now these comprehended data or information is taken. for this the following are

- (1) Base line data
- (2) Impact Identification
- (3) Impact prediction
- (4) Evaluation of impact.
- (5) Monitoring mitigations & manging plans.
- (6) Informing to society and decision making.

### ③ (b) Sustainable Development:-

Sustainable Development is the process that the resources that we are able to get now is to restore them for the future generations. This is known as the Sustainable Development. Simply it can be explained as Reduce, Reuse and Recycle.

→ The Natural Resources that we are able to get now are unable to find in the future generation. means they are going to be extinct. So for that reason we have to maintain a balanced system so that the resources are not going to be extinct. Sustainable development should be have when we are moving to the other generations. Examples like petrol, diesel are going to be over so that we cannot find them in the next generation. So that in order to maintain a sustainability we have to use them in a limit.



GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

III BTech I Semester II- Mid Term Examination 13<sup>th</sup> December 2021

Environmental Impact Assessment and Life Cycle Analysis (GR18A3008)

DEPARTMENT OF CIVIL ENGINEERING

OBJECTIVE

V Gayathri

(S)

Duration: 10 Minutes

Max.Marks:5

Name : V Gayathri

Roll no 19291A0158

Answer the following Multiple-choice questions:

- Which of the following items is not included in Environmental Auditing?  
a. Pollution monitoring schemes      b. Scrutiny by the government agencies  
c. Storage of toxic chemicals Safety      d. provisions for industrial works  
1b1 ✓
- Environmental pollution can be controlled by:  
a. Checking atomic blasts      c. Manufacturing electric vehicles  
d. Sewage treatment      d. All of the above  
1d1 ✓
- The success of audit of environmental issues would be possible only when the SAI does  
a. The evaluation of the performance entity with reference to established standards and indicators  
b. The evaluation against authentic criteria  
c. both (a) and (b)      d. either (a) or (b)  
1c1 ✓
- The performance audit of environmental issues enable the entities  
a. To improve upon their performance  
b. Assist policy matters and legislators to rectify the omissions and shortfalls  
c. Contribute to good governance      d. All of the above  
1d1 ✓
- The validity period of Environmental Clearance after EIA process is least for  
a. Mining projects      c. Harbor projects  
b. River valley projects      d. Area development projects  
1d1 ✓
- When did water (Prevention and Control of Pollution) Act., come into force in the year of \_\_\_\_  
a. 1980      b. 1978      c. 1976      d. 1974  
1d1 ✓
- When did Air (Prevention and Control of Pollution) Act, 1981, come into force  
a. 01 April 1986      b. 01 March 1986      c. 01 May 1986      d. 29 March 1981  
1d1 ✓
- ISO 14000 standards are for the \_\_\_\_  
a. Quality Management System      b. Environmental Management System  
c. Administration      d. Supply chain  
1b1 ✓
- Cost-benefit analysis is a systematic approach to estimate  
a. Measuring all costs and all possible profits and benefits from an investment project proposal  
b. Taking into account both quantitative and qualitative factors  
c. Sometimes called benefit-cost analysis (BCA)  
d. All of the above  
1d1 ✓
- Bhopal gas tragedy of 1984 took place because methyl isocyanate reacted with  
a. Ammonia      b. DDT      c. Water      d. CO<sub>2</sub>  
1c1 ✓





**Gokaraju Rangaraju Institute of Engineering & Technology**  
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Bachupally, Kukatpally, Hyderabad - 500090

I II **MID TERM EXAMINATION**

*[Handwritten signature]*

No. 378282

H.T. No. 1 9 2 4 1 4 0 1 5 8

Name of the Examination III. B.Tech I semester mid-term Examination

Course Environmental Impact Assessment & Statement Branch Civil Engineering Date 13/12/2021

*[Handwritten signature]*  
Signature of the Invigilator

Q.NO.	1		2		3		4		5		6		TOTAL
	a	b	a	b	a	b	a	b	a	b	a	b	
MARKS	2	3	5		NA		5						15

START WRITING FROM HERE

Ans:- Environmental Legislations in India:-

- ⇒ Environmental legislation is a collection of laws and regulation on the impact environment impact caused by the human activities. The umbrella of environmental legislation law and regulation to achieve environmental goals, yet they are trying to decrease the negative interaction between the man and environment.
- ⇒ Environmental legislation is adopted by the central government. It is the plan of the central government aim to achieve the law improve the interaction of man and environment in a positive way. The government set the standard for the emissions in the factories and industries. The common goal of government to improve the quality of water, quality of air, wild life etc by these is happening only by discharging wastes in the water, emissions into air. to avoid the government fixed standards for emissions, discharges for those who are having industries, (or) factories.
- ⇒ Environmental legislation varies from countries to continent but focuses on common goal to make environment pollution free.
- ⇒ This laws and regulations are adopted by the central government.

## → Laws in Environmental Legislation:

### 1) Administrative laws :-

The Administrative laws are related to the administration and enactment provision commission and others.

### 2) Information laws :-

- The National Environment Act, 1986 to 1992.
- The Freedom of Information
- The Occupational Safe and Health Act.
- The Emergency planning and Community of Right to know Act

### 3) pollution laws :-

- 1) The Air pollution Act
- 2) The prevention Act
- 3) The water pollution Act.

### 4) National laws :-

- 1) The Coastal zone management Act.

## → Environmental Legislation [Articles] in India :-

### 1) Article 35A [Direct principle of state policy] :-

The Article 35A comes under the direct principle of state policy, which says the people to ~~say~~ save forests and wild life.

### 2) Article 51A [fundamental duties of citizen]

The Article 51A says that it is the duty of every citizens to save environment.  
→ save the forest, water, rivers, oceans etc.

## → Environmental Legislation Rules and Acts :-

Water:-

- 1) Water (conservation and control) Act 1954.
- 2) Water (conservation and control) Act 1955.

→ Air [Conservation and Control] Act 1981 continued upto 1987

→ Air [Conservation and Control] rule 1982 & 1983

→ Forest:-

→ The forest protection Act 1980.

→ forest protect rule 1981.

Exam:- Life cycle Assessment:-

The life cycle assessment is a phase of LCA related the environment potential impact by elementary resources [environment resources] obtained from the report of LCI [Life cycle Inventory].

The following steps are involved in the life cycle Assessment:-

1) Select (or) Identify the Impact

2) Classification

3) Characterization

4) Normalization

5) Grouping

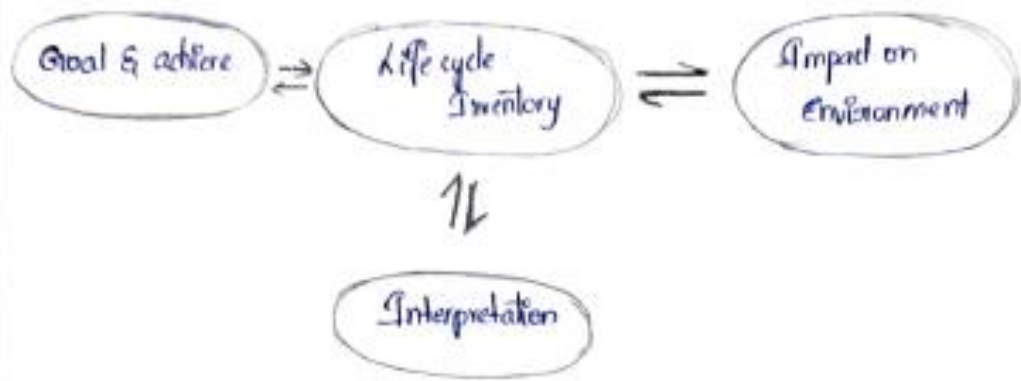
6) Weighting.

→ The life cycle Assessment is done after getting report of life cycle inventory. If any impact found on environment for a product cycle firstly we need to identify the impact. Secondly we need to classify the impact on what basis impact is done. We need to characterize the impact & in classification we need to normalize and Grouping. And finally weighting impact on environment.

→ The first two steps are most important in now-a-days. Life cycle Assessment is done on basis of classification, characterization.

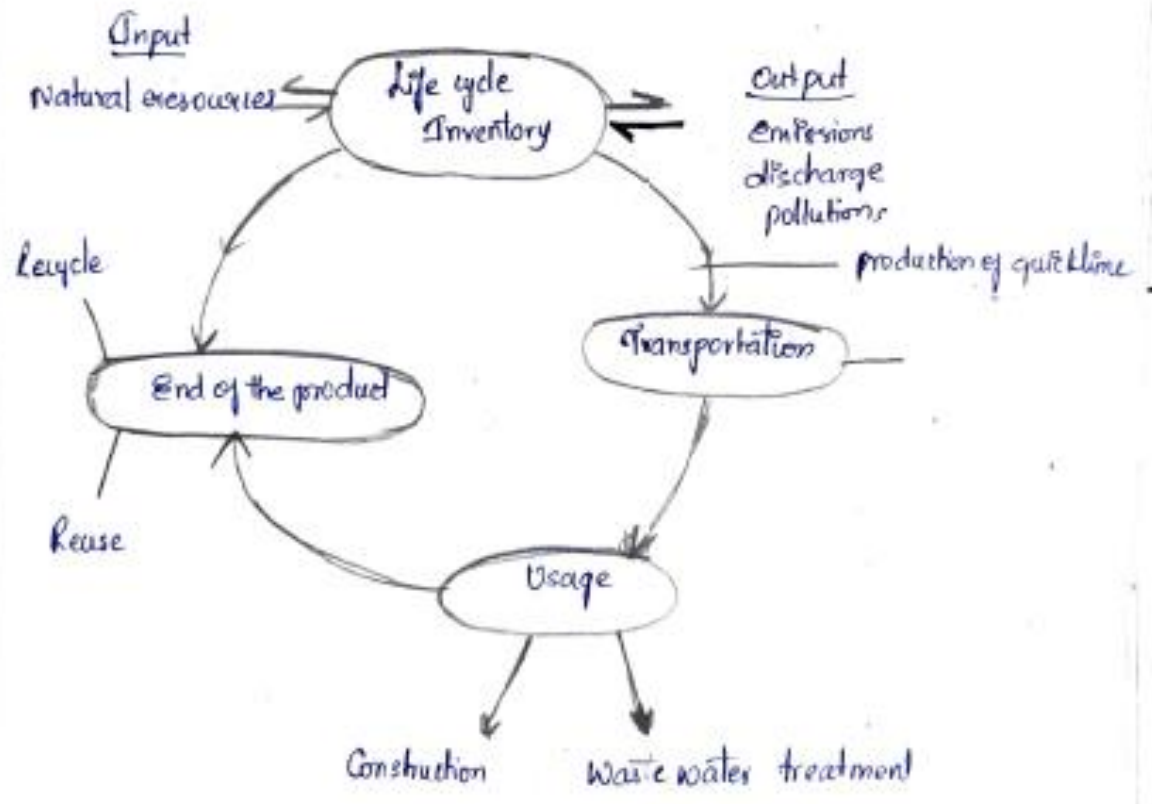
→ Life cycle Assessment is done in the following procedure:-





→ Example for life cycle Assessment =

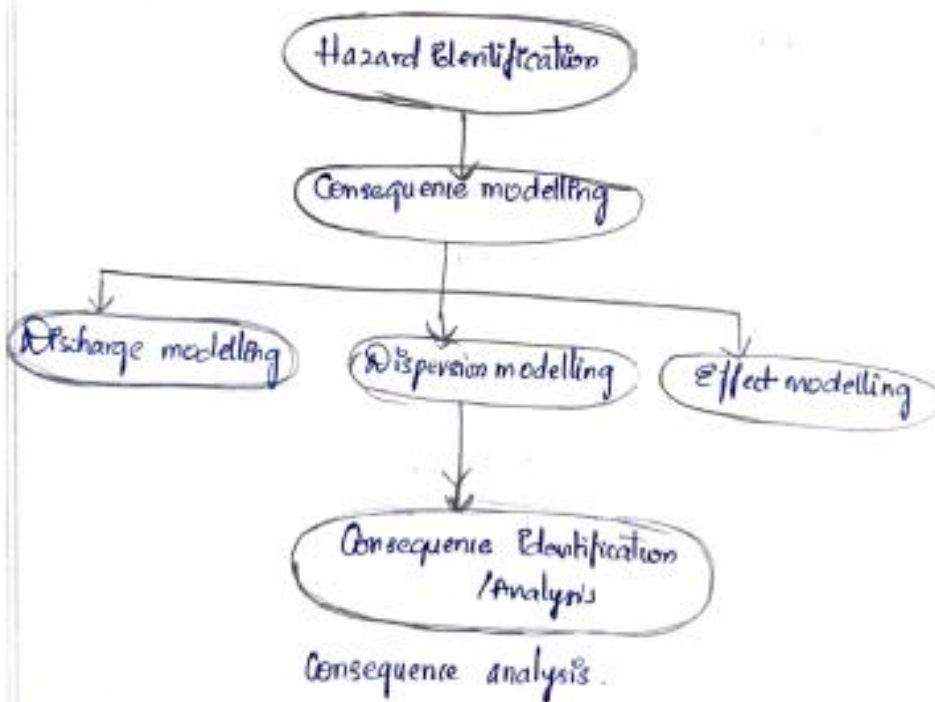
→ Let us consider the life cycle Assessment of production of quicklime.  
 Example of





### 1(a) Consequence analysis :-

- Consequence analysis is defined as the hazard (or) harmful activities which are done against environment. The activities which are identified in consequence analysis.
- In Consequence analysis, the harmful activities are identified and making the environment free from the pollution.
- So, Consequence analysis may improve the public healths, safety and environmental condition.
- Consequence analysis is also benefit considered for cost benefits for the pre-proposed project.
- When they identify the harmful for the environmental. Issues are solved according to the impact on environment.



- Consequence analysis is important for the public and also for environment.

## 16) Environmental Audits

- Environmental audit is a tool for environmental management system
- Environmental audit is used to
  - 1) Identify
  - 2) Investigate
  - 3) Understand.
- Environment audit provides the "snap-shot" -time which gives the information time to time what is happening in organization
- Environmental audit provides the information of any project provides/ releasing noise emission rather than emission standard emission.
- If they are not following the rules, the govt management system takes the action on the industry.
- Environmental audit govt gives the awareness regarding impact on environment
- Environmental audit it decreases the public health issues by providing standard emissions for the project
- Environment audit investigates the harmful sources from the project and identifies. They make plans and which is given to the industries they evaluate the plans. They check whether they are implementing or not.
- Environment audit is important tool for environment management system. It is an organization to achieve the environment in a better way. By decreasing the pollution rate.

## III B.Tech I Semester Regular Examinations, Feb/Mar 2021

**ENVIRONMENTAL IMPACT ASSESSMENT AND LIFE CYCLE ANALYSIS**  
(Civil Engineering)

Time: 3 hours

Max Marks: 70

**Instructions:**

1. Question paper comprises of **Part-A** and **Part-B**
2. **Part-A** (for 20 marks) must be answered at one place in the answer book.
3. **Part-B** (for 50 marks) consists of **five questions with internal choice**, answer all questions.

**PART – A**

(Answer ALL questions. All questions carry equal marks)

10 \* 2 = 20 Marks

1. a. Explain the need for conducting Environmental Impact Assessment. [2]
- b. Relate the benefits of EIA. [2]
- c. Relate the need and importance of EIA. [2]
- d. Explain the terms screening and scoping. [2]
- e. Explain in brief environmental clearance process in India. [2]
- f. What is Rapid EIA? [2]
- g. What are the major effects of pesticide pollution? [2]
- h. What is environmental management plan? [2]
- i. Illustrate about acid rain. [2]
- j. Classify the various characteristics of solid wastes. [2]

**PART – B**

(Answer ALL questions. All questions carry equal marks)

5 \* 10 = 50 Marks

2. (a) Explain Environmental Impact Statement. [10]
- (b) Illustrate between Rapid EIA and Comprehensive EIA.

**OR**

3. (a) Explain the various steps in EIA process with the help of a flow chart. [10]
  - (b) Construct a note on screening and scoping as elements of EIA.
4. (a) Explain matrix methods. [10]
  - (b) List the various EIA methods. What are the criteria used for selecting best EIA method in a given situation?

**OR**

5. (a) What is meant by Environmental Risk Assessment? How Ecological Risk Assessment is different from Human Health Risk Assessment? [10]

(b) Explain how EIA is a tool for achieving Sustainable development.

6. (a) Explain the importance of public participation in EIA process. [10]

(b) Explain the role of Fault Tree Analysis in Hazard Analysis.

**OR**

7. (a) Explain the following: (i) Environmental analysis (ii) Assessment of impact significance. [10]

(b) Distinguish between Fault tree and Event tree analysis.

8. (a) Evaluate and explain any two topics to be included in detailed content of EIA. [10]

(b) Construct a note on Environmental Management Plan.

**OR**

9. (a) Write the advantages of environmental Audit. [10]

(b) Explain Environmental Cost Benefit Analysis.

10. (a) Compile various practices adopted to control land degradation. [10]

(b) Explain any case study of EIA in detail.

**OR**

11. (a) Justify about the socio economic impacts associated with an airport project. [10]

(b) Explain the Case Study of Environmental Impact Assessment on thermal power station?