Roll No.													

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

TEST 1

Sem & AY: Odd Sem 2019-20 | **Date**: 30.09.2019

Course Code: CIV 402 | **Time**: 1.00PM to 2.00 PM

Course Name: ENVIRONMENTAL IMPACT ASSESSMENT | **Max Marks**: 40

Program & Sem: B.Tech (All Program) & VII OE | **Weightage**: 20

Instructions:

(i) Read the question properly and answer accordingly.

(ii) Question paper consists of 3 parts.

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries four marks. (3Qx4M=12M)

1. Define three core values of EIA. (C.O.NO.1) [Knowledge]
2. Define EIA and List the guiding principles of EIA. (C.O.NO.1) [Knowledge]
3. Choose **One** appropriate choice (C.O.NO.1) [Knowledge]

(i) Environmental Impact Assessment (EIA) is mandatory under which one of the following India legislations

a. Indian Forest Act
b. Air (Prevention and Control of Pollution) Act
c. Wildlife Protection Act
d. Environment (Protection) Act

(ii) The primary reason for Environmental Impact Assessment is to

a. mitigate existing environmental impacts of development
b. identify the environmental consequences of development in advance
c. predict the size of impacts of developments
d. describe proposed developments

(iii) Which statement best summarizes public involvement?

a. informing the public about the project
b. engaging the public in participating in project impact evaluation
c. engaging the public in promoting the project
d. minimizing bad publicity about the project

(iv) Which of the following require mitigation?

a. significant adverse impacts
b. significant positive effects
c. any impacts for which mitigation is possible
d. any impacts which are negative

Part B [Thought Provoking Questions]

Answer both the Questions. Each Question carries eight marks. (2Qx8M=16M)

4. Write a short notes on Historical Perspective of EIA in India

(C.O.NO.1) [Comprehension]

5. Write the flow chart of categorization of project with general conditions in EIA

(C.O.NO.1) [Comprehension]

Part C [Problem Solving Questions]

Answer the Question. The Question carries twelve marks (1Qx12M=12M)

6. Explain the stages which involved in EC process. (C.O.NO.1) [Comprehension]

SCHOOL OF ENGINEERING

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

Semester: 7th

Course Code: CIV 402

Course Name: Environmental Impact Assessment

Date: 30/9/2019

Time: 11 Hour

Max Marks: 40

Weightage: 20%

Extract of question distribution [outcome wise & level wise]

Q.NO	C.O.NO	Module	Memory recall type [Marks allotted] Bloom's Levels	Thought provoking type [Marks allotted] Bloom's Levels	Problem Solving type [Marks allotted]	Total Marks
			K	C	A	
1	CO1	Module 1	4			4
2	CO1	Module 1	4			4
3	CO1	Module 1	4			4
4	CO1	Module 1		8		8
5	CO1	Module 1		8		8
6	CO1	Module 1		12		12
	Total Marks		12	28		40

K =Knowledge Level C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

[I hereby certify that All the questions are set as per the above guide lines. Mr. Santhosh MB]

Reviewers' Comments

SCHOOL OF ENGINEERING

GAIN MORE KNOWLEDGE REACH GREATER HEIGHTS

SOLUTION

Semester: 7th

Course Code: CIV 402

Course Name: Environmental Impact Assessment

Date: 30/9/2019

Time: 1:00 to 2:00 PM

Max Marks: 40

Weightage: 20%

Part A (3 x 4 M = 12 Marks)

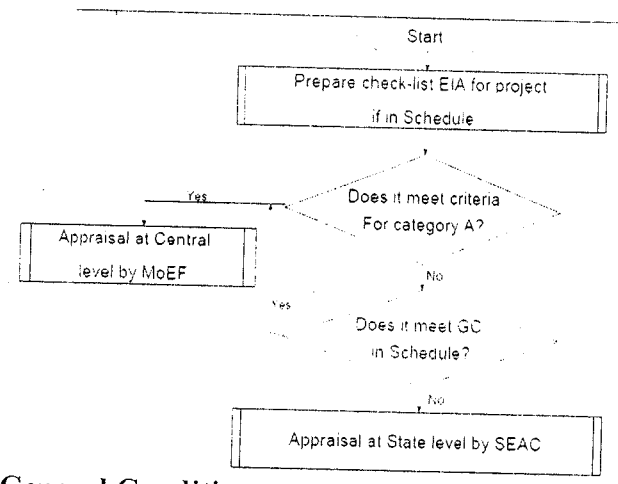
Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	**Integrity :**The EIA process will conform to agreed standards **Utility** :The EIA process will provide balanced, credible information for decision-making **Sustainability :** The EIA process will result in environmental safeguards	3 cores values 3 Marks Explanation 1 Marks	5 minutes
2	**EIA:** It is an early warning process that verifies the enforcement of environmental policies. **EIA:** It is a preventive tool used to evaluate the negative and positive environmental impacts of policies, plans, programs, and projects; the EIA proposes measures to adjust impacts to acceptable levels **EIA guiding Principles** **Purposive** – meeting its aims and objectives **Focused** – concentrating on the effects that matter **Adaptive** – responding to issues and realities **Participative** – fully involving the public **Transparent** – clear and easily understood **Rigorous** – employing 'best practicable' methodology **Practical** – establishing mitigation measures that work **Credible** – carried out with objectivity and professionalism **Efficient** – imposing least cost burden on proponents	EIA Definition 1 Mark Any 6 Guiding principles 3 Marks	5 Minutes
3	(i) Environment (Protection) Act (ii) Identify the environmental consequences of development in advance	1 X 4 = 4Marks	5 Minutes

		(iii)	Engaging the public in participating in project impact evaluation.		
		(iv)	significant adverse impacts		

Part B

(2 x 8 M = 16 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
4	**Historical Perspective** ❖ The foundation of environmental impact assessment (EIA) in India was first laid in 1976-77 when the Planning Commission asked the then Department of Science and Technology (DST) to examine all the river-valley projects from an environmental angle. ❖ This was subsequently extended to cover those projects, which required an approval from the Public Investment Board. However, these were administrative decisions, and didn't have the legislative support. ❖ To fill this gap, the Government of India enacted the **Environment Protection Act (EPA) on 23rd May 1986.** ❖ To achieve the objectives of this act, one of the decisions that were taken was to make EIA . ❖ On 27 January 1994, the Union Ministry of Environment and Forests (MoEF), Government of India, under the Environmental Protection Act of 1986, promulgated an EIA notification making Environmental Clearance (EC) **mandatory for any expansion or modernization activity or for setting up new projects listed in Schedule 1** of the notification. ❖ Since then there have been about twelve amendments made in the EIA notification of 1994.	6 points = 8 Marks	10 Minutes
5	**Categorization of projects**	Flow chart 6 Marks General conditions 2 Marks	15 Minutes



General Conditions

project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of :

- Protected areas notified under **the Wild Life (Protection) Act, 1972**
- **Critically polluted areas as identified by the Central Pollution Control** Board from time to time
- **Eco-sensitive areas as notified under section 3 of the E** (P) Act, 1986, such as Mahabaleshwar, Panchgani, Matheran, Pachmarhi, Dahanu, Doon valley, and
- **Inter-State boundaries and international boundaries**

Part C (1Q x 12 M = 12 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
6	**Stage 1:** Screening (Only for Category 'B' projects and activities) **Stage 2:** Scoping **Stage 3:** Public Consultation **Stage 4**: Appraisal Sequential order all of which may not apply to particular cases as set forth in this notification **Stage 1: Screening**	Screening 3M Scoping 3 M Public Consultation 3M Appraisal 3 M	20 Minutes

This is the first stage of EIA, which determines whether the proposed project, requires an EIA and if it requires EIA, then the level of assessment required.
Only for Category B projects and activities to determine if they need EIA
Category A projects compulsorily need EIA
Scrutiny (Critical observation or examination)of an application seeking EC by SEAC for determining whether or not the project or activity requires further environmental studies
Form 1
Form 1A
Classify projects as B1 (require EIA) and B2 (don't require EIA)
For categorization of projects into B1 or B2, the MoEF has issued appropriate guidelines from time to time

Stage 2: Scoping

This stage identifies the key issues and impacts of the project that should be further investigated. This stage also defines the boundary and time limit of the study.

- ❑ Who does the scoping?
- ❑ Expert Appraisal Committee (EAC) in the case of Category 'A' projects or activities
- ❑ State level Expert Appraisal Committee (SEAC) in the case of Category 'B1' projects

Stage 3: Public consultation

Process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained
All category 'A' and category 'B1' projects or activities shall undertake
Public Consultation with exemption of followings:

- ❑ Modernization of irrigation projects
- ❑ Expansion of road or highways projects
- ❑ All projects concerning national defence and security etc.

Public Consultation may be exempted by Expert Appraisal Committee (EAC/SEAC) if project is not affecting the local people
Public Consultation shall ordinarily have two components

- ✓ public hearing at the site or in its close proximity- district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons
- ✓ obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project

Stage 4: Appraisal

- ❑ Detailed scrutiny by the EAC or SEAC of
  - ✓ documents like the Final EIA report
  - ✓ outcome of the public consultations including public hearing proceedings
  - ✓ submitted by the applicant to the regulatory authority concerned for grant of environmental clearance
- ❑ EAC or SEAC
- ❑ shall recommend to the regulatory authority concerned
  - ❑ either for grant of prior environmental clearance on stipulated terms and conditions
  - ❑ or rejection of the application for prior environmental clearance, together with reasons for the same.
  - ❑ Prescribed procedure for appraisal is given in Appendix V

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GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

TEST – 2

Sem & AY: Odd Sem 2019-20 | **Date**: 18.11.2019

Course Code: CIV 402 | **Time**: 1:00 PM to 2:00 PM

Course Name: ENVIRONMENTAL IMPACT ASSESSMENT | **Max Marks**: 40

Program & Sem: B.Tech.& VII (OE) | **Weightage**: 20%

Instructions:

(i) Read the question properly and answer accordingly.

(ii) Question paper consists of 3 parts.

Part A [Memory Recall Questions]

Answer all the Questions. Each Question carries four marks. (3Qx4M=12M)

1. List the projects which causes impact on Water Environment [4](C.O.2) [Knowledge]

2. Distinguish point and Non-point sources of pollution. [4](C.O.2) [Knowledge]

3. The question consists of **four** multiple choice questions. **Each** MCQ carries **one** mark.

   Choose **ONLY ONE** appropriate choice [4](C.O.2) [Knowledge]

   (i) Which of the following are indirect impacts

   a. visual impact of a chimney in a power station project
   b. impact of mining raw materials for building a new power station
   c. predicted noise impact of a new road in operation
   d. impact on air quality from trucking supplies of wood to a construction site

   (ii) In what type of impact might you provide impact predictions in terms of Biological Oxygen Demand?

   a. water quality
   b. vibration
   c. noise
   d. particulates

(iii) Particulate emissions are

a. not included in air pollution studies
b. fine dust defined as chemically toxic
c. fine dust usually measured by quantity and size in microns, such as PM10 (up to 10 microns)
d. limited in their impacts to nuisance effects

(iv) Which environmental principle best reflects the intent of EIA?

a. polluter pays
b. prevention is better than cure
c. reduce reuse recycle
d. none of the above

Part B [Thought Provoking Questions]

Answer both the Questions. Each Question carries eight marks. (2Qx8M=16M)

4. With neat diagram explain the framework for impact mitigation. [8](C.O.2) [Comprehension]

5. Define public participation process and also mention key requirements for public participation [8](C.O.3) [Comprehension]

Part C [Problem Solving Questions]

Answer the Question. The question carry twelve marks (1Qx12M=12M)

6. List and explain the Basic steps for Prediction and Assessment of Impacts on the water Environment. [12](C.O.2) [Application]

SCHOOL OF ENGINEERING

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

Semester: 7th

Course Code: CIV 402

Course Name: Environmental Impact Assessment

Date: 18/11/2019

Time: 1:00 t0 2:00 PM

Max Marks: 40

Weightage: 20%

Extract of question distribution [outcome wise & level wise]

Q.NO	C.O.NO	Module	Memory recall type [Marks allotted] Bloom's Levels	Thought provoking type [Marks allotted] Bloom's Levels	Problem Solving type [Marks allotted]	Total Marks
			K	C	A	
1	CO2	Module 2	4			4
2	CO2	Module 2	4			4
3	CO2	Module 2	4			4
4	CO2	Module 2		8		8
5	CO3	Module 3		8		8
6	CO3	Module 2			12	12
	Total Marks		12	16	12	40

K =Knowledge Level C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

SCHOOL OF ENGINEERING

GAIN MORE KNOWLEDGE REACH GREATER HEIGHTS

SOLUTION

Semester: 7th
Course Code: CIV 402
Course Name: Environmental Impact Assessment

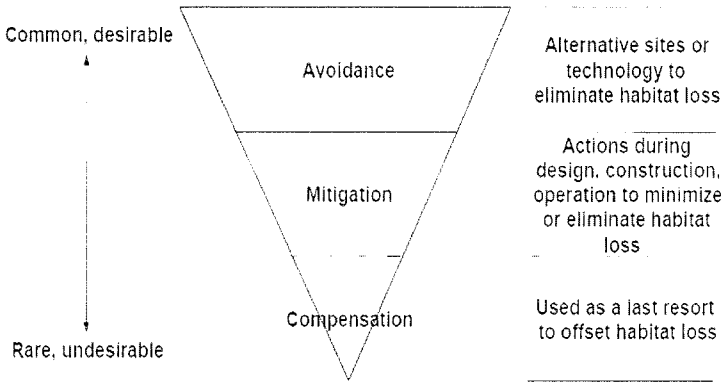
Date: 18/11/2019
Time: 1:00 to 2:00 PM
Max Marks: 40
Weightage: 20%

Part A (3 x 4 M = 12 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	**List of project which create impact on water environment** • Industrial plants or power plants withdrawing surface water for use as cooling water • power plants discharging heated wastewater – industries discharging process wastewater • Municipal WWTP • project involving fill or creation of fast lands along rivers, lakes, and coastal areas • surface mining projects • construction of dams • River channelization projects • deforestation and agricultural development tourism projects	**Any four projects 4 X 1 = 4**	5 minutes
2	**Differences between point and Non-point Sources of Pollution** **Point Sources (PS)**: Discharge usually controlled by permits; Relatively easy to control because we know the type of contaminants, and location of discharge; Easy to monitor above & below discharge, and dilution rates can be calculated; Industry can be fined if they do not comply with permit regulations **Non-Point Sources (NPS)**: Many small difuse sources from many different locations; Individual contributions are small but cumulative effects can be significant; Difficult to monitor, requires many stations; Difficult to develop permit systems and difficult to enforce regulations; Difficult to determine despersion rates	2 + 2 = 4M Two difference between point and non-point source	5 Minutes
3	(i) Impact of mining raw materials for building a new power station.	1 X 4 = 4Marks	5 Minutes

		(ii)	water quality		
		(iii)	fine dust usually measured by quantity and size in microns, such as PM10 (up to 10 microns)		
		(iv)	prevention is better than cure		

Part B (2 x 8 M = 16 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
4	**A framework for impact mitigation**  The elements of mitigation are organized into a hierarchy of actions: ❑ first, avoid adverse impacts as far as possible by use of preventative measures; ❑ second, minimize or reduce adverse impacts to as low as practicable levels; and third, remedy or compensate for adverse residual impacts, which are unavoidable and cannot be reduced further	Diagram with all details 4 M Explanation 4 M	10 Minutes
5	Public participation: Process through which **people who will be affected** by or **are interested in a decision, and who have a stake in the outcome**, get a chance to influence its content before it is made. **Key requirements for public participation** ❑ **early notification** in a timely and effective manner, plus elements of the notification document	Definition 2 M Any three requirements 6 M	15 Minutes

	❑ reasonable **timeframes for effective** participation ❑ **early** public participation, when all options are open and effective participation can take place ❑ free access to information as soon as it becomes available ❑ public participation procedures allowing the public to submit comments in **writing, or at public hearing or inquiry**		

Part C (1Q x 12 M = 12 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
6	**Step by Step procedure in prediction and assessment of water quality** Step 1: Identification of water pollutants Step 2: Description of existing water quantity and quality levels Step 3: Unique pollution problems Step 4: Description of ground water quality and quantity Step 5: Summary of meteorological information Step 6: Water quality standards Step 7: waste load allocation study Step 8: Mesoscale impact calculation Step 9: Construction phase impacts Step 10: Microscale impact calculation **Step-1** Determine types and quantities of water pollutants emitted from all alternatives for meeting a given need during both construction and operation phases. **Step-2** Determine the existing water quantity and quality levels for the surface water courses in the area. Examine the frequency distributions and the median and mean data for both water quality and quantity. **Step-3** Document unique pollution problems that have occurred or are existing in local surface water courses. **Step-4**	**Steps 8 marks** **Explanation on any two steps 4 M**	20 Minutes

	If relevant for the project alternatives , describe ground water quantity and quality in the area, nothing the depth of ground water table and direction of ground water flow. **Step-5** Identify major and local uses of ground water, delineate(precisely) historical trends for ground water depletion and pollution. **Step-6** Assemble summary of key meteorological parameters for the area, nothing particularly the monthly averages of precipitation, evaporation, and temperature. **Step-7** Procure the applicable water quality standards for local surface water courses and ground water supplies if relevant. Specify applicability of effluent standards and required treatment technology and state whether the receiving stream is water quality limited or effluent limited. Consider the time schedules required for attaining applicable water quality standards. **Step-8** Summarize the organic waste load allocation study for the area. Also procure extant information on inorganic, thermal, sediment and bacterial waste loads. Identify known point sources of pollution , focusing specifically on unique discharges or waste water constituents. And also enumerate the type of water uses in the area and summarize the quantities involved.		

Roll No												

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

END TERM FINAL EXAMINATION

Semester: Odd Semester: 2019 - 20
Course Code: CIV 402
Course Name: ENVIRONMENTAL IMPACT ASSESSMENT
Program & Sem: B.Tech (All programs) & VII (OE- II)

Date: 26 December 2019
Time: 9:30 AM to 12.30 PM
Max Marks: 80
Weightage: 40%

Instructions:
(i) Read the all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.

Part A [Memory Recall Questions]

Answer all the Questions. Each Question carries 4 marks. (5Qx4M=20M)

1. Define EIA and what are the Benefits of EIA. (C.O.No.1) [Knowledge]
2. List the guiding principles of EIA. (C.O.No.2) [Knowledge]
3. What is noise pollution and List the sources of noise pollution. (C.O.No.2) [Knowledge]
4. Define Environmental Audit and also mention the aim of Environmental Audit (C.O.No.4) [Knowledge]
5. Environmental management plan (EMP) and EIA: how are they related? (C.O.No.3) [Knowledge]

Part B [Thought Provoking Questions]

Answer all the Questions. Each Question carries 8 marks. (3Qx8M=24M)

6. List the purpose and contents of an Environmental Management Plan (C.O.No.3) [Comprehension]
7. List and explain different types of checklists method used in Environmental Impact Identification (C.O.No.4) [Comprehension]
8. With neat diagram explain the framework for impact mitigation. (C.O.No.3) [Comprehension]

Part C [Problem Solving Questions]

Answer all the Questions. Each Question carries 12 marks. **(3Qx12M=36M)**

9. Explain any one of the following methodologies of Impact assessment with their merits and demerits

    a) Network method

    b) Ad hoc method (C.O.No.4) [Comprehension]

10. Explain the EIA outline for a mining project (C.O.No.4) [Comprehension]

11. Explain the stages of EC (Environmental Clearance) process. (C.O.No.2) [Comprehension]

Reviewer Commend:

Format of Answer Scheme

SCHOOL OF ENGINEERING

SOLUTION

Semester: Odd Sem. 2019-20
Course Code: CIV 402
Course Name: ENVIRONMENTAL IMPACT ASSESSMENT
Program & Sem: B.TECH 7TH (OPEN ELECTIVE)

Date: 26.12.2019
Time: 3 HRS
Max Marks: 80
Weightage: 40%

Part A (5Q x 4M = 20Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	**EIA:** It is an early warning process that verifies the enforcement of environmental policies. **EIA:** It is a preventive tool used to evaluate the negative and positive environmental impacts of policies, plans, programs, and projects; the EIA proposes measures to adjust impacts to acceptable levels **Benefits of EIA** a) Lower project costs in long term b) Avoidance or remedial measures are planned and implemented in time to minimize adverse impacts c) Improved planning of future projects d) Better protection of the environment e) Minimized social impacts through the consultative processes f) Opportunity for the public to learn about environmental effects, express concerns, and provide input to the assessment process g) Opportunity for the public to influence the decision-making process	Definition of EIA **2M** Four benefits of EIA **2M**	10 minutes
2	The EIA guiding principles: a) Purposive b) Focused	8 guiding principles **4 M**	10 minutes

SCHOOL OF ENGINEERING

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

END TERM FINAL EXAMINATION

Extract of question distribution [outcome wise & level wise]

Q.NO.	C.O.NO (% age of CO)	Unit/Module Number/Unit /Module Title	Memory recall type [Marks allotted] Bloom's Levels	Thought provoking type [Marks allotted] Bloom's Levels	Problem Solving type [Marks allotted]	Total Marks
			K	C	A	
1	1	1	4			4
2	2	2	4			4
3	2	2	4			4
4	4	4	4			4
5	3	3	4			4
6	3	3		8		8
7	4	4		8		8
8	3	3		8		8
9	4	4		12		12
10	4	4		12		12
11	2	2		12		12
	Total Marks		20	48	12	80

K =Knowledge Level C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

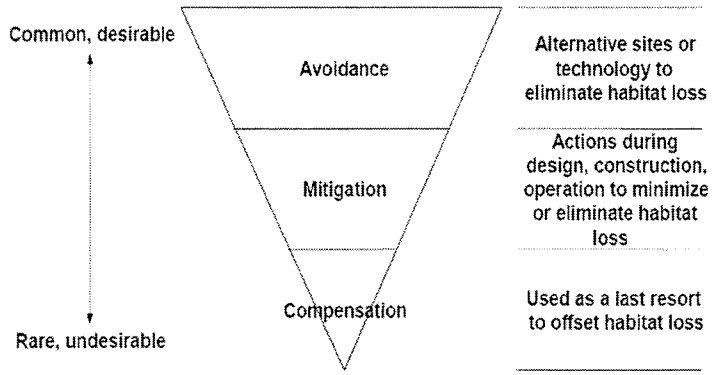
I hereby certify that all the questions are set as per the above guidelines.

Faculty Signature:

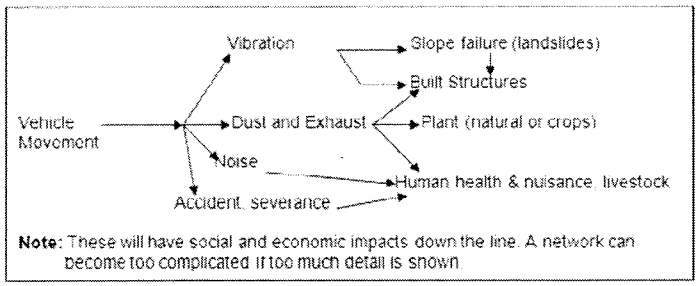
	c) Adaptive d) Participative e) Transparent f) Rigorous g) Practical h) Credible i) Efficient		
3	Sound that is unwanted or disrupts one's quality of life is called as noise. When there is lot of noise in the environment, it is termed as noise pollution. **Sources of noise pollution** ❑ Transportation systems are the main source of noise pollution in urban areas. ❑ Construction of buildings, highways, and streets cause a lot of noise, due to the usage of air compressors, bulldozers, loaders, dump trucks, and pavement breakers. ❑ Industrial noise also adds to the already unfavorable state of noise pollution. ❑ Loud speakers, plumbing, boilers, generators, air conditioners, fans, and vacuum cleaners add to the existing noise pollution	Definition **2M** Any four sources of noise pollution **2M**	15 minutes
4	Environmental Audit can be defined as a basic management tool comprising a **systematic, documented, periodic and objective evaluation** of how well environmental organizations, management systems and equipment are performing. The aim of the audit is ❖ To facilitate management control of environmental practices and ❖ To enable the company to assess compliance with its policies including meeting regulatory requirements.	Definition **2M** Two aims **2M**	10 minutes
5	O EIA is analysis of issues and recommendations O EIA is documented in an Environmental Assessment Report (EA Report) O EMP is an action plan O EMP is based on results of EIA	4 M	10 minutes

Part B (3Q x 8M = 24 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
6	**PURPOSE OF EMP** a) Minimize negative impacts; b) Enhance positive impacts; c) Ensuring environmentally sustainable planning, construction and operations management; d) Reduce problems & delays during project implementation; e) Improve overall project quality; and f) Add value to the project. **Contents of an EMP** a) Major Findings of EIA/screening b) Environmental Impacts Overview c) Regulatory/Statutory Requirements d) Environmental Management Proposed Pre-construction Construction Operation e) implementation Arrangements f) institutional Arrangements g) Monitoring Mechanism h) Reporting System i) Environmental Training and Management Budget	6 purpose **4 M** 6 Contents of an EMP **4 M**	20 minutes
7	Types of Checklists Method ➢ Simple checklist ➢ Descriptive checklist ➢ Scaling and weighing checklists ➢ Questionnaire Checklist **Simple checklists** Are a list of parameters without guidelines regarding either interpretation or measurement of environmental parameters or specific data needs or impact prediction and assessment	List of Checklists method **4M** Explanation on any two checklists method **2 X 2= 4 M**	15 minutes

	Descriptive checklists Include list of environmental factors along with information on measurement, impact prediction and assessment. **Scaling and weighting checklists** Scaling and weighting checklists are strong in impact identification. While including the function of impact identification, they include a certain degree of interpretation and evaluation. Scaling and weighting checklist techniques quantify impacts reasonably well **Questionnaire Checklist** **Checklist prepared based on the questions asked.** This is used mainly for Public Consultation; it tells about the stakeholder's awareness and responses towards the proposed project. The questionnaire is then further evaluated in spread sheets to find the scale of impacts and weight of parameters based on public opinion.		
8	**A framework for impact mitigation**  	Diagram with all details 4 M Explanation 4 M	15 minutes

Part C (3Q x 12M = 36Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
9	**Network method** Networks" are those methodologies which integrate impact causes and consequences through identifying interrelationships between casual actions and the impacted environmental factors, including those representing secondary and tertiary effects. - Larry W. Canter, 1996, page 81  **Note:** These will have social and economic impacts down the line. A network can become too complicated if too much detail is shown **Merits** a) Link action to impact b) Useful in simplified form in second order for checking impacts c) Handles direct and indirect impacts **Demerits** It Can become overly complex, If simplified if used beyond version **Ad hoc method** ➢ Simple method based on subjective environment impacts on broad aspects ➢ Ad hoc method is useful when time constraints and lack of information require that the EIA must rely exclusively on expert opinion ➢ It provides minimal guidance for total impact assessment while suggesting the broad areas of possible impacts and the general nature of these possible impacts ➢ When more scientific methods are available, it is not recommended. **Merits** Specialists on a particular area will provide guidance **Demerits** ❖ It require expert. ❖ Short/long term impact are merely examined on guess basis ❖ Identification, prediction and interpretation impacts are quite poor	Merits and Demerits For each method **2 X 2 = 4M** Explanation on each method **4 X 2 = 8M**	25 minutes

10	The following aspects highlight the various problems of a mining project during planning and operation stages 1) **Water pollution** a) Liquid effluents from a mining area pumped out during drainage operations b) Spent water for handling plant, dust extraction and dust suppression system c) Effluents from preparations and beneficiation plants d) Leachates /wash offs from waste tailings dumps e) Effluents should treated to confirm to standards f) Efforts should be made to reduce the discharge of toxic and objectionable effluents in to surface water bodies or ground water or lands to a minimum. g) Acid mine drainage is produced whenever permeable formations interacts with water table, aquifer etc. h) Available techniques should be used to control acid main drainage **2) Solid waste management** a) Overburden and mine waste disposal : Following factors are important in selecting a site for disposal of over burden and mining waste b) Proper area Site should be located on a secure and impervious base c) Location should be for away, as possible from water course, aquifers etc. d) Waste with abnormal high concentrations should be disposed in sanitary landfills	problems of a mining project during planning and operation stages (water pollution) **6 M** Solid waste management **6 M**	25 minutes
11	**Stages in EC process** **Stage 1:** Screening (Only for Category 'B' projects and activities) **Stage 2:** Scoping **Stage 3:** Public Consultation **Stage 4:** Appraisal **Stage 1: Screening**	**Stages in EC process** **4 M** Explanation on each stage 2 M **2 X 4 = 8M**	25 minutes

This is the first stage of EIA, which determines whether the proposed project, requires an EIA and if it requires EIA, then the level of assessment required.

- ❑ Only for Category B projects and activities to determine if they need EIA
- ❑ Category A projects compulsorily need EIA
- ❑ Scrutiny of an application seeking EC by SEAC for determining whether or not the project or activity requires further environmental studies

Form 1

Form 1A

- ✓ Classify projects as B1 (require EIA) and B2 (don't require EIA)
- ✓ For categorization of projects into B1 or B2, the MoEF has issued appropriate guidelines from time to time

Stage 2: Scoping

This stage identifies the key issues and impacts of the project that should be further investigated. This stage also defines the boundary and time limit of the study.

- ❑ Who does the scoping?
- ❑ Expert Appraisal Committee (EAC) in the case of Category 'A' projects or activities
- ❑ State level Expert Appraisal Committee (SEAC) in the case of Category 'B1' projects

Stage 3: Public consultation

Process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained

All category 'A' and category 'B1' projects or activities shall undertake

Public Consultation with exemption of followings:

- ❑ Modernization of irrigation projects
- ❑ Expansion of road or highways projects
- ❑ All projects concerning national defence and security etc.

Public Consultation may be exempted by Expert Appraisal Committee (EAC/SEAC) if project is not affecting the local people

Public Consultation shall ordinarily have two components

- ✓ public hearing at the site or in its close proximity- district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons
- ✓ obtain responses in writing from other

	concerned persons having a plausible stake in the environmental aspects of the project **Stage 4: Appraisal** ❑ Detailed scrutiny by the EAC or SEAC of ✓ documents like the Final EIA report ✓ outcome of the public consultations including public hearing proceedings ✓ submitted by the applicant to the regulatory authority concerned for grant of environmental clearance ❑ Appraisal of all projects or activities which are not required to undergo public consultation, or submit an Environment Impact Assessment report (Category B2) shall be carried out on the basis ✓ prescribed application Form 1 ✓ Form 1A ✓ any other relevant information ❑ EAC or SEAC ❑ shall recommend to the regulatory authority concerned ✓ either for grant of prior environmental clearance on stipulated terms and conditions ✓ or rejection of the application for prior environmental clearance, together with reasons for the same. Prescribed procedure for appraisal is given in Appendix V		