

PRACTICE SET
End Semester Examination, Spring- 2026

Program: B.Tech (MINING)
Semester: VIII
Subject: Environmental Aspects of Mining
Subject Code: 8PCCMiE405

Course Outcome:

On the completion of the Course, the students will be able to:

Course Outcomes	Description
CO1	Understand the sustainable development and environmental as well as ecological conservation along with mining activities.
CO2	Learn the composition of mine and atmospheric air and the source of pollutants of air, water and sound.
CO3	Apply the knowledge on control of pollution of water and its treatment for purification using important parameters such as-BOD, COD and DO.
CO4	Apply the knowledge on environmental impact assessment of the project and laws related to land acquisition and rehabilitation as well as mine closure and corporate social responsibility.

UNIT I

SECTION B (10 marks)

1. Explain the concept of ecology and describe why the study of ecology is important in understanding environmental interactions. CO1(Understand)
2. Summarize the major environmental problems associated with mining activities. Provide examples to support your explanation. CO1 (Understand)
3. Assess the importance of forest conservation in the context of mining. Do you agree that conservation efforts should be prioritized? Justify your viewpoint. CO1 (Apply)
4. Describe at least three environmental issues that result from mining activities. How do these issues affect biodiversity and human health? CO1(Understand)
5. Interpret the meaning of sustainable development. Explain with examples why sustainable development is essential for future generations. CO1(Understand)
6. In your own words, analyze the environmental consequences of mining and related activities. Suggest at least three practical and effective remedies to mitigate these impacts. CO1(Analyze)

7. Illustrate environmental carrying capacity? Discuss how it helps in regulating population and resource use for sustainable living. CO1(Understand)

SECTION C (20 marks)

8. Briefly describe the primary objectives of sustainable development. How can these objectives be achieved in real-world scenarios such as urban planning, industry, and agriculture?CO1(Apply)

UNIT II

SECTION B (10 marks)

9. Define Air Pollution. What are the major classes of air pollutants? CO2(Remember)
10. List the primary and secondary air pollutants. Provide one example for each type. CO2(Remember)
11. Define air pollution. What are the major categories of air pollutants and their sources?CO2(Understand)
12. Explain the role of dust consolidation techniques in mines. How do these techniques reduce air pollution?CO2(Understand)
13. Compare and contrast acid rain and global warming. What are their causes, effects, and preventive strategies? CO2(Analyze)
14. Discuss the suppression methods control and monitoring of coal dust. CO2 (Understand)

SECTION C (20 marks)

15. Evaluate the impact of air pollution on miners' health. Based on your knowledge, illustrate common health issues and suggest precautionary measures to reduce health risks in mining operations. CO2 (Apply)
16. A small source whose sound power level L_w is 110 dB is hanging freely outdoors. What is the sound pressure level at 20 meters from the source? CO2 (Apply)

UNIT III

SECTION B (10 marks)

17. After the completion of opencast project how physical and biological reclamation can be done Describe all steps? CO3 (Analyze)
18. Outline the major stages in sewage treatment. How does each stage help in reducing water pollution from domestic and industrial sources? CO3(Understand)
19. To develop a better understanding about the quality of water how these two parameters are helpful BOD & COD. CO3(Analyze)
20. What is acid mine drainage (AMD)? Briefly describe one real-world scenario from a known mine where AMD posed serious environmental threats. CO2 (Apply)
21. Explain how land degradation occurs due to mining operations. List key impacts such as erosion, loss of soil fertility, and change in land use. CO3(Understand)
22. Differentiate between organic and inorganic water pollutants. Provide examples and describe their environmental impacts. CO3(Analyze)

SECTION C (20 Marks)

23. A waste water effluent has BOD_5 of 80mg/L and the reaction rate constant is 0.16 per day. The ultimate BOD in mg/L is? CO3(Apply)

24. Relate the concept of the hydrological cycle to water usage and pollution in mining. Discuss all relevant components such as precipitation, infiltration, surface runoff, and groundwater recharge. CO3 (Apply)

UNIT IV

SECTION B (10 marks)

25. Enumerate the major components of a Mine Closure Plan. Briefly explain their roles in environmental sustainability. CO4(Understand)
26. Illustrate the major provisions under Environmental protect Act, 1986. CO4(Apply)
27. List and classify environmental laws related to mining. Provide examples such as those related to air, water, forest, and land conservation. CO4(Understand)
28. What are the main provisions under the Water (Prevention and Control of Pollution) Act, 1974? State how it regulates water quality in mining. CO4 (Understand)
29. State the provisions regarding water prevention and control of pollution Act, 1974. CO4 (Remember)
30. Explain the major parameters included in Mine Closure Plan. CO4 (Understand)

SECTION C (20 marks)

31. Present a real-world case study of an EIA in a mining project. Analyze the outcomes and lessons learned for future environmental planning. CO4 (Analyze)
32. Demonstrate your understanding of the Environmental Protection Act, 1986 by highlighting its major provisions relevant to the mining sector. CO4(Apply)

Summary Sheet

CO Wise

CO	Q. No	Marks
CO1	1,2,3,4,5,6,7,8	90
CO2	9,10,11,12,13,14,15,16	100
CO3	17, 18,19,20,21,22,23,24	100
CO4	25,26,27,28,29,30,31,32	100
Total		390

Unit Wise

Unit	Q. No	Marks
Unit 1	1,2,3,4,5,6,7,8	90
Unit 2	9,10,11,12,13,14,15,16	100
Unit 3	17, 18,19,20,21,22,23,24	100
Unit 4	25,26,27,28,29,30,31,32	100
Total		390

Blooms Taxonomy Level (BTL) Wise

BTL	Q. No	Marks
LOT	1,2,4,5,7,9,10,11,12,14,18,21,27,28,29,30	150
HOT	3,6,8,13,15,16,17,19,20,23,24,26,31,32	240
Total		390

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Disclaimer: - This is a Practice set. The Question in End term examination will differ from the Practice set. This Practice set is meant for practice only.