

PRACTICE SET

End Semester Examination, Spring - 2026

Program: B.TECH (MINING)

Semester: IV

Course: Geology for Mining Engineers

Course Code: 8PCCMiE205

Course Outcomes	Description
CO1	Design the structural geology in aspects of engineering requirements & structural disturbances.
CO2	Apply the knowledge gained in the contexts of exploration and mineral distribution and able to design the stages of exploration of economic minerals.
CO3	Explain the geology of coal along with its classification and origin.
CO4	Describe the concept on petroleum geology with its migration, accumulation & important basins of India

Unit -1

Section: II (10 Marks)

1. Explain the different types of unconformities and explain their recognition using field evidence. CO1 (Understand)
2. How contour spacing indicates slope and affects geological mapping? CO1 (Apply)
3. Define a fault and discuss its classification based on geometry and movement. Elaborate on the impact of various fault types on the outcrop patterns of stratified rocks. CO1(Remember)
4. Discuss the classification and recognition of faults and discuss their structural characteristics.CO1 (Apply)
5. Explain the importance of topographical maps in planning mining operations. CO1(Understand)
6. Explain the classification of folds based on geometry and attitude, and explain their formation mechanisms.CO1(understand)

Section: III (20 Marks)

7. Briefly evaluate the processes involved in the formation and recognition of unconformities. (Analyze) CO1
8. Analyze and evaluate the forms of igneous intrusions (dyke, sill, and batholith) and assess their effects on surrounding rocks and mining operations. CO1 (Analyze)

Unit -2

Section: II (10 Marks)

9. Elaborate the different processes of ore formation (magmatic, hydrothermal, sedimentary, metamorphic) with examples.CO2 (Apply)
10. Recognize the different types of processes of formation mineral deposits that are formed, Classify any three in brief? (Apply)CO 2
11. Analyze the scope and importance of economic geology in the development of mineral resources and national economy. (Analyze)CO 2
12. Briefly explain about the Iron ore deposits, Manganese & copper deposits formation? (Understand)CO 2
13. Can you discuss the concepts and objectives of mineral exploration in modern mining practices? (Apply) CO2
14. Compare & discuss the different stages of mineral exploration and their significance in resource estimation. (Apply)CO2

Section: III (20 Marks)

15. Create a comparative analysis of major Indian mineral deposits based on their origin, distribution, and economic value. (Apply) CO2

Unit -3

Section: II (10 Marks questions)

16. Evaluate the economic importance of major coalfields such as Jharia, Raniganj, and Bokaro. (Evaluate)CO3
17. Analyze the concept of coal rank and explain how physical and chemical properties change from peat to anthracite. (Analyze)CO3
18. Differentiate between the Humification process & Coalification process of coal formation? (Understand) CO3
19. Provide a brief overview of the major coalfields of India and their significance. (Remember) CO3

Section: III (20 Marks)

20. Analyze how geological factors influence the mining and utilization of coal deposits. CO3 (Apply)
21. As we know the Indian coal is formed by two major theories In-Situ & Drift theory briefly explain with neat sketch diagram? (Analyze)CO 3

Unit-4

Section: II (10 Marks)

22. Explain the migration and accumulation of petroleum with neat sketch. (Analyze) CO4
23. Discuss about the origin of Petroleum? (Understand)CO 4

24. Explain the factors that contribute to the creation of traps that allow petroleum to accumulate in reservoir rock? (Understand)CO 4
25. What is oil traps? Differentiate the structural & stratigraphic traps in brief? (Analyze) CO4
26. Explain the occurrence of petroleum in major petroliferous basins of India, highlighting their geological characteristics and economic significance. CO4 (Understand)

Section: III (20 Marks)

27. Classify the oil migration causes for migration in petroleum and explain the different types of migration. (Analyze)CO 4
28. Petroleum is the major need of present world. Can you differentiate all three major sources of origin of petroleum with neat sketch diagram? (Analyze)CO 4

Summary Sheet:

CO Wise

CO	Q. No	Marks
CO1	1,2,3,4,5,6,7,8	100
CO2	9,10,11,12,13,14,15	80
CO3	16,17,18,19,20,21	70
CO4	22,23,24,25,26,27,28	90
Total		340

Unit Wise

Unit	Q. No	Marks
Unit 1	1,2,3,4,5,6,7,8	100
Unit 2	9,10,11,12,13,14,15	80
Unit 3	16,17,18,19,20,21	70
Unit 4	22,23,24,25,26,27,28	90
Total		340

Blooms Taxonomy Level (BTL) Wise

BTL	Q. No	Marks
LOT	1,3,5,6,12,19,22,23,24,26	100
HOT	2,4,7,8,9,10,11,13,14,15,16,17,18,20,21,25,27,28	240
Total		340

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