

PRACTICE SET
End Semester Examination, December, 2025

Program: DIPLOMA (MINING)

Semester: V

Subject: UNDERGROUND METAL MINING

Subject Code: 8D.301

UNIT I

Section I

1. Differentiate between Raise and winze with diagram. (5 marks)
2. What is raising? Name the methods of raising. (5 marks)
3. Name the common support system used in metal mines. (5 marks)
4. Define level interval. Write the advantages of short level interval in metal mining.(5 marks)
5. What is stope and stoping in metal mining? (5 marks)

Section II

6. Differentiate in broad the coal mining and metalliferous mining.(10 marks)
7. Discuss the method of raising by long hole drilling with diagram.(10 marks)
8. Explain open raising method used in metal mining during development.(10 mark)
9. Discuss the method of raising by two compartment method with diagram.(10 marks)
10. Elucidate the raise driving by Alimak raise climber method in details with applicability conditions. (10 marks)
11. Explain two compartment raising method with its advantages and disadvantages.(10 marks)

Section III

12. Draw a labeled diagram of underground metal mines showing all development work. And define the following terms:-
 - (a) Crown pillar
 - (b) Level
 - (c) Level interval
 - (d) Country Rock
 - (e) Cross cut (20 marks)
13. Elaborate in brief all the methods of raising in underground metal mining with diagram. (20 marks)

UNIT II

Section I

14. Discuss the breast stoping method. (5 marks)
15. Explain room and pillar method with advantages. (5 marks)
16. Describe the sublevel caving method of stoping in details. (5 marks)

Section II

17. Brief about long hole stoping method used in metal mining with advantages.(10 marks)
18. What are the factors on which the choice of method of stoping depends in metal mining? (10 marks)
19. What is shrinkage stoping? Write its application and operation process. (10 marks)
20. Write the applicability conditions of square set stoping and its merits and demerits. (10 marks)
21. What is top slicing method? Discuss its application and disadvantages. (10 marks)
22. Contrast the two methods of overhand and underhand stoping used in metal mining. (10 marks)
23. Classify in broad the stoping methods used in metal mining.(10 marks)

Section III

24. Discuss the application, preparatory work, advantages and disadvantages of sub level stoping. (20 marks)
25. Write the applicability, operation and advantages of cut and fill method of stoping. (20 marks)
26. Elaborate the block caving method. Write its applicability, advantages and disadvantages. (20 marks)

UNIT III

Section I

27. Describe the shape and size of a shaft. (5 marks)
28. Enumerate the equipments required for sinking of shaft. (5 marks)
29. Explain the shaft centering arrangement with diagram. (5 marks)
30. Discuss the terms walling scaffold & rider. (5 marks)
31. Write short notes on-(a) Cementation
(b) Freezing (5 marks)

Section II

32. Discuss the drilling and blasting process in a sinking shaft. (10 marks)
33. What is permanent lining in shaft sinking process? (10 marks)
34. What is temporary lining in shaft sinking process? (10 marks)
35. Discuss the factors which are to be considered for location of shaft. (10 marks)

Section III

36. Explain in details the special method of sinking i.e. cementation process and freezing method. (20 marks)

UNIT IV

Section I

37. What is Drilling? Why this is done? (5 marks)
38. What is drill bit? Discuss the importance of size of drill bit.(5 marks)

Section II

39. Differentiate between percussive drilling and rotary drilling method. (10 marks)
40. Classify the different types of drilling methods with depth & diameter of hole. (10 marks)

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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.