

PRACTICE SET

End Semester Examination, Spring- 2026

Program: BTECH

Semester: IV

Course: Drilling and Blasting Technology

Course Code: 8PCCMiE208

Course Outcomes	Description
CO1	Understand the exploration techniques, drilling operations, casing, coring and data interpretation.
CO2	Analyze the appropriate application of explosive in opencast & underground mines.
CO3	Explain blasting engineering for understanding, formulating and solving blast hole design problems in surface mining.
CO4	Understand the exploration techniques, drilling operations, casing, coring and data interpretation.

UNIT I

Section B (Each carries 10 marks)

- List the main objectives of drilling. Also classify different methods of drilling.
REMEMBER CO1
- Enumerate the various types of drill bit with uses. **UNDERSTAND CO1**
- Differentiate between the percussive and rotary percussive drill. **UNDERSTAND CO1**
- Describe the cable drilling with advantages and disadvantages. **UNDERSTAND CO1**
- What do you understand by core barrel? Explain double tube core barrel?
UNDERSTAND CO1
- Explain the bore hole survey & bore hole deviation. Discuss the method of knowing bore hole deviation by Etch method. **Understand CO1**

Section C (Each carries 20 marks)

- Compare the core recovery method between single and double tube core barrels with sketch. **APPLY CO1**

8. Can you classify the percussive drilling method? Discuss the percussive drilling method in details. **APPLY CO1**

UNIT II

Section B (Each carries 10 marks)

9. Discuss the terminology used in Blasting:
- Subgrade Drilling
 - Burden
 - Spacing
 - Blast Hole **UNDERSTAND CO2**
10. Discuss in details the air decking with sketch. **UNDERSTAND CO2**
11. Differentiate between the chamber blasting & cushion blasting. **UNDERSTAND CO2**
12. Describe about the plaster shoot & pop shooting used in opencast mining with advantages. **UNDERSTAND CO2**
13. Discuss the wedge cut, burn cut and ring cut pattern used in underground. **UNDERSTAND CO2**
14. What do you understand by misfire? Enumerate the causes of misfire. **UNDERSTAND CO2**

Section C (Each carries 20 marks)

15. During the blasting various factors are to be taken in account during blast design. Enumerate the all factors for consideration. **APPLY CO1**
16. Can you classify and discuss the various opencast multi row drilling pattern which are very common. **APPLY CO1**

UNIT III

Section B (Each carries 10 marks)

17. What do you mean by detonator? Classify detonator & explain briefly with diagram. **REMEMBER CO2**
18. What is blasting-off-solid? Mention name of explosive used for blasting- off- solid. Explain it. **UNDERSTAND CO2**
19. Summarize about the explosive with its five components in explosive. **UNDERSTAND CO2**
20. Explain the properties of explosive. Differentiate high explosives and low explosive with example? **UNDERSTAND CO2**
21. Explain about delay detonators used in mines with the help of a diagram. **UNDERSTAND CO3**
22. What is ANFO? Describe. Enumerate the factors while using ANFO. **UNDERSTAND CO3**
23. Discuss NONEL, safety fuse and exploder used in mining for blasting. **UNDERSTAND CO3**

Section C (Each carries 20 marks)

24. In a hard rock open pit mine, spacing is 3m, burden is 4m , bench height is 12 m, sub-drilling is 1m, collar stemming 4m, diameter of hole is 150 mm, density of rock 2500 kg/m³ and density of explosives is 800 kg/m³ . Evaluate the powder factor? **EVALUATE CO2**
25. A coal heading 4m wide and 2.5 m high has an advance of 1 m per cycle the amount of explosive used in blasting is 6 kg. Taking specific gravity of coal as 1.5, the powder factor is ? **EVALUATE CO3**

UNIT IV

Section B (Each carries 10 marks)

26. Enumerate the factors that affects blasting in mines. **UNDERSTAND CO4**

27. Discuss the parameters required to be considered for blast design. **UNDERSTAND CO4**
28. Explain mechanics of living stone theory of blasting. **APPLY CO4**
29. Discuss the various controlled blasting techniques used in opencast mining. **UNDERSTAND CO4**
30. What is fly rock? How it can be controlled in opencast mines? **UNDERSTAND CO4**
31. Describe about muffle blasting used in opencast mining. **UNDERSTAND CO 4**

Summary Sheet:

CO Wise		
CO	Q. No	Marks
CO1	1,2,3,4,5,6,7,8,9,10,11	95
CO2	12,13,14,15,16,17,18,19,20,21	85
CO3	22,23,24,25,26,27,28	60
CO4	29,30,31	75
TOTAL		315

Unit Wise		
Unit	Q. No	Marks
Unit 1	1,2,3,4,5,6,7,8,9,10,11	95
Unit 2	12,13,14,15,16,17,18,19,20,21	85
Unit 3	22,23,24,25,26,27,28	60
Unit 4	29,30,31	75
TOTAL		315

Blooms Taxonomy Level (BTL) Wise		
BTL	Q. No	Marks
LOT	1,2,3,4,5,6,7,8,10,12,13,14,15,16,17,18,19,20,22,23,24,27,29,30	200
HOT	9,11,21,25,26,28,31	115
Total		315

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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.