

PRCATICE SET
End Semester Examination, December, 2025

Program: DIPLOMA (MINING)
Semester: V
Subject: MINING MACHINERY II
Subject Code: 8D.302

UNIT I

Section A (5 marks)

1. What is snoring of pump?
2. Explain the types of valves used in mines.
3. Elaborate the term “Static Head of the pump” with schematic diagram.

Section B (10 Marks)

4. Differentiate between Priming, Impeller, & casing in brief.
5. Describe briefly about “water hammer”? Explain the causes and remedies of water pump.
6. Draw a neat labeled diagram & explain the construction and working of “Turbine pump”.
7. Write short notes on:
 - a) Centrifugal pump
 - b) Roto pump
8. Explain the working of cavitation in mine pump write its demerits in brief.
9. Elaborate about single and double reciprocating pump, write its construction and operational work with neat sketch diagram.

Section C (20 marks)

10. A pump is to be installed to deal with 140000 liter of water per hour through a total head of 420 m.
 - (a) Assuming the overall efficiency of 80% calculate power input to the motor.
 - (b) Assuming that pump work continuously for a month of 30 days, calculate the cost of power per tonne of coal raise in a colliery having average daily raising of 520 tonne with 26 working days in the month. Assume power cost of 13 paisa per unit.

UNIT II

Section A (5 marks)

11. Compare between the LHD and SDL.
12. Illustrate the advantages and disadvantages of Loaders used in mines?
13. Give salient features of the different parts of coal cutting machines?

Section B (10 Marks)

14. Explain the various types of cuts given by Coal Cutting Machine? (10 marks)
15. What is cutting gear? What is an arrangement of cutting gear? (10 marks)
16. Briefly describe the drilling machine used in opencast & underground mines (10 marks)
17. Define the Jumbo drill machine? Explain the different types of Jumbo drill machine with advantages?
18. Briefly explain about the construction and working of “Continuous Miner”.



Section C (20 marks)

19. Illustrate coal cutting machine? Explain in brief about different types of coal cutting machines.
20. State the types of mechanical loader? Explain with the help of different types of mechanical loader.

UNIT III

Section A (5 marks)

21. Elaborate the problems faced in laying cable underground.
22. What are the types of cables used in mines?
23. Differentiate between flexible cable and semi flexible cable.

Section B (10 Marks)

24. List and describe different types of cables used in underground mining.
25. Describe the construction and use of semi-flexible cables in mines.
26. Discuss the special features of construction on single core & high-tension belted core cable?
27. Describe the care and maintenance of cables used in mines
28. What is flame-proof cable construction and where is it used?

Section C (20 marks)

29. Discuss the cable
 - (a) H type cable
 - (b) ST type cable
 - (c) Flexible cable
 - (d) Core cable
30. Suppose being a mining engineer guide the Low cables & high-tension cable you have to suggest your superior to use in mines and why give brief description in your word with neat sketch diagram?

UNIT IV

Section A (5 marks)

31. What is the of belt tension and transmitting energy through belt?
32. Write the names of cable jointing method?
33. Explain with neat sketch the different type of cables used in mines.

Section B (10 Marks)

34. What is a clutch? Describe different types used in mining machines.
35. Explain care and maintenance of cables in brief.
36. Compare chain drives with belt drives in terms of efficiency and usage.
37. What are the advantages and limitations of belt drives?
38. Define a prime mover. Give examples used in mining machinery.

Section C (20 marks)

39. Write short notes on any two:
 - a) Gear
 - b) Clutch
 - c) Belt
40. Describe the function of all gears drives in mechanical power transmission create with neat sketch diagram?

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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.