

CBCS SCHEME



USN

17MN46

Fourth Semester B.E. Degree Examination, June/July 2019 Drilling and Blasting Engineering

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Identify and interpret the factors/parameters that influence the selection of drills. (10 Marks)
b. Describe mechanics of rotary and percussive drilling. (10 Marks)

OR

- 2 a. Define Drillability and drillability index. (02 Marks)
b. Identify and interpret the factors / parameters that affect the drillability. (06 Marks)
c. Describe various types of drag bits with neat sketch. (12 Marks)

Module-2

- 3 a. How do you select an explosive for blasting in mines? Explain. (08 Marks)
b. Compare low explosives with high explosives. (04 Marks)
c. Distinguish between PMS and SMS. (08 Marks)

OR

- 4 a. What does a commercial explosive contain, apart from explosive substance or explosive mixture? (05 Marks)
b. Describe various types of permitted explosives with specific features of each type. (05 Marks)
c. Describe physical properties, chemical composition and application of emulsion explosives. (10 Marks)

Module-3

- 5 a. Describe various types of detonators with neat sketch. (10 Marks)
b. Describe electronic detonators and NONEL blasting. (10 Marks)

OR

- 6 a. What are the causes, preventive and remedial measures for misfires? (10 Marks)
b. Describe the procedures of blasting right from preparation of charge to shot firing, using electric detonator. (10 Marks)

Module-4

- 7 a. What precaution and safety measures do you ensure during transportation of explosives? (12 Marks)
b. Describe magazines indicating its constructional features and capacity and its establishing procedure. (08 Marks)

OR

- 8 a. What did, according to your opinion, lead to the development of substitutes for explosives? (04 Marks)
b. Describe hydrox, cardox and airdox, with their applications. (12 Marks)
c. How do you handle damaged explosives? (04 Marks)

Module-5

- 9 a. Explain basic mechanism of blasting with neat sketch. (08 Marks)
b. Describe detonation pressure, coupling/decoupling and shock wave impedance with their role in effective blasting. (12 Marks)

OR

- 10 a. What are the causes of air overpressure in opencast mines? Identify and interpret parameters / factors that govern the intensity of air overpressure. (08 Marks)
b. Explain briefly the preventive measures for air over pressure. (05 Marks)
c. What are the causes and controlling measures for fly rocks in open cast mines? (07 Marks)
