

CBCS SCHEME

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18MN35

Third Semester B.E. Degree Examination, Dec.2023/Jan.2024

Drilling and Blasting

Time: 3 hrs.

Max. Marks:100

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

Module-1

- 1 a. Describe auger and cable-tool drills with their applications. (12 Marks)
b. How do you store drill cores and why? (08 Marks)

OR

- 2 a. Describe Odex and core drills with their applications. (12 Marks)
b. Describe various types of core barrel with specific applications. (08 Marks)

Module-2

- 3 a. Discuss in detail, the principles of drilling. (10 Marks)
b. Discuss in detail, the mechanics of blasting. (10 Marks)

OR

- 4 a. Explain the factors to be considered for selection of drill. (10 Marks)
b. With neat sketch, explain the working principle of water jet drilling. (10 Marks)

Module-3

- 5 a. Identify and explain the factors that must be analyzed for proper selection of explosive for blasting in mines. (12 Marks)
b. Describe various types of electrical detonators with their applications. (08 Marks)

OR

- 6 a. Describe various properties of explosives with their significance in relation to blasting. (10 Marks)
b. Explain constructional features of detonating fuse, NONEL and electronic detonators with their applications. (10 Marks)

Module-4

- 7 a. Explain the stepwise basic blast hole drilling process. (10 Marks)
b. With neat sketch, explain the square and staggered pattern of drilling. (10 Marks)

OR

- 8 a. Discuss the various problem associated with blasting. (10 Marks)
b. Explain about Crater theory with neat sketch. (10 Marks)

Module-5

- 9 a. Explain blasting-off-the-solid in a development gallery of underground coal mines. (08 Marks)
b. Describe cone cut, wedge cut, drag cut and burn cut with their applications. (12 Marks)

OR

- 10 a. Describe long hole blasting in underground metal mines with its applicability conditions. (10 Marks)
b. What is vertical crater retreat blasting in underground metal mines? Explain. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.