

CBCS SCHEME

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18MN35

Third Semester B.E. Degree Examination, July/August 2021 Drilling and Blasting

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Describe various types of anger drills used for exploration purpose and also mention their applicability conditions. (08 Marks)
b. Describe construction and working of cable tool drill with neat sketch. (06 Marks)
c. Describe working of Odex drill with its advantages and application. (06 Marks)
- 2 a. Explain core recovery using various types of core barrels. (12 Marks)
b. Describe briefly the procedure for storing drill core. (08 Marks)
- 3 a. Explain working principle of rotary percussive drilling. (10 Marks)
b. Draw a sketch showing components of a down the hole drilling rig and explain its functioning. (10 Marks)
- 4 a. Describe constructional and working details of a water jet drilling. (10 Marks)
b. Describe working principle of airlegs, chainfeed and hydraulic feeds that are used as advance systems to obtain high performance from the drills. (10 Marks)
- 5 a. What are the basic compositions of a commercial explosive? (05 Marks)
b. Identify and explain properties of an explosive that are of interest to its user. (12 Marks)
c. Compare low explosives with high explosives. (03 Marks)
- 6 Describe physical properties, chemical composition and application of the following explosives.
a) Slurry Explosives (07 Marks)
b) ANFO (07 Marks)
c) Emulsion explosives. (06 Marks)
- 7 a. Explain mechanics of rock fragmentation by blasting. (12 Marks)
b. Identify and explain the factors that influence the efficiency of blasting. (08 Marks)
- 8 a. Explain briefly the mechanics of rotary and percussive drilling. (10 Marks)
b. Identify and explain the factors and parameters that affect the selection of drills. (10 Marks)
- 9 a. Identify and explain various blasting cuts used in underground coal mines. (10 Marks)
b. Describe a blasting practice that is used in underground coal mines without giving an under cut. (10 Marks)
- 10 a. Describe long hole blasting with neat sketch. (10 Marks)
b. Describe vertical crater retreat blasting with neat sketch. (10 Marks)

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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.