

CBCS Scheme

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15MN46

Fourth Semester B.E. Degree Examination, Dec.2017/Jan.2018

Drilling and Blasting Engineering

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 What is drillability of rocks? What are the factors influence drillability in percussive drilling? Explain them in detail with relevant diagrams. (16 Marks)

OR

- 2 Write short notes on the following :
a. Alignment and derivation in drilling
b. Principles of rock drilling. (16 Marks)

Module-2

- 3 What is S.M.S? Explain the procedure in detail, how the SMS are manufactured/prepared, with suitable diagram. What are its application, advantages and disadvantages? (16 Marks)

OR

- 4 a. What are the important properties of explosives? Explain them in detail. (08 Marks)
b. Discuss on ANFO and Heavy ANFO. (08 Marks)

Module-3

- 5 Explain in detail, the procedure for preparation of charge, stemming and shot firing in underground coalmines. What are the precautions to be observed during such operations? (16 Marks)

OR

- 6 a. Explain, with a neat diagram, various components of a delay detonator. (08 Marks)
b. What is a misfire? Explain in detail, the procedure to be adopted in dealing with misfire in underground coal mines. What are its causes and preventive measures to be adopted to avoid misfires? (08 Marks)

Module-4

- 7 Explain with a suitable diagram, the constructional details of a magazine. What are the precautions to be observed for construction and maintenance of a magazine? Explain them in detail. (16 Marks)

OR

- 8 a. Explain the provisions for bulk transport of explosives in surface mines/ quarries as per mining law. (10 Marks)
b. Discuss on Hydrox. (06 Marks)

Module-5

- 9 What is creator theory? Explain it in detail, with suitable diagram. What are its application and limitations? (16 Marks)

OR

- 10 What are the various causes of ground vibrations due to blasting and explain the various measures to be adopted to minimize them. Give the DGMS standards for ground vibrations in India. (16 Marks)

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