



10MN72

Seventh Semester B.E. Degree Examination, June/July 2019
Ground Control

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Explain the design constraints faced during Bord and Pillar and Long wall mining.(10 Marks)
b. Interpret the influence of water, time and temperature on stress behavior of rock mass. (10 Marks)
- 2 a. Explain Continuum theories for determining subsidence. (10 Marks)
b. Explain graphical method of determining the subsidence. (10 Marks)
- 3 a. Explain the procedure of re – inforcement of mine fills in underground mine. (10 Marks)
b. Explain the cemented sand fill method of stabilization of rock excavation. (10 Marks)
- 4 a. Explain the importance of Premining and Induced stresses. (08 Marks)
b. Explain the importance of Numerical modeling and list different type of numerical modeling. Enumerate any one. (12 Marks)

PART – B

- 5 a. Explain the RMR method of Rock mass classification and enumerate the supports suggested based on RMR. (10 Marks)
b. Explain Q classification of Rock mass classification. Enumerate the importance of it in case of support system. (10 Marks)
- 6 a. Define Support Resistance. Explain how to estimate the support resistance with an example. (10 Marks)
b. Draw the different support patterns for roof bolting and trusses used in u/g mine. (10 Marks)
- 7 a. Explain Load Measuring devices used in measurement of Insitu stresses of a u/g structure. (10 Marks)
b. Explain Strain Measuring devices used in measurement of Insitu stresses of a underground structure. (10 Marks)
- 8 a. Comment on the Preventions / Remedial method adopted for coal and rock burst. (10 Marks)
b. Explain the causes of rock burst in an underground metal mine. (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.