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10MN751

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020
Advanced Surface Mining

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 concept of cut-off grade for the estimation of ore reserves. (06 Marks)
b. What do you understand by quality control. (08 Marks)
c. Discuss the importance of conservation of minerals. (06 Marks)
- 2 a. For a mine producing Y million tons per annum of mineral. Assume your own condition and explain the length, numbers and width of the bench required to be maintained. (12 Marks)
b. What are the factors to be considered in selection of site for initial box cut. (08 Marks)
- 3 a. Explain the pit layout for a shovel dumper combination. (08 Marks)
b. Draw a layout for an open cast copper mine with an output of 5000 tons per day in a flat deposit. The thickness of the copper deposit is 10m and the thickness of overburden is 10m. Assume your own conditions. (12 Marks)
- 4 a. Explain the factors affecting the stability of a slope. (06 Marks)
b. With sketches summarize the different types of slope failure. (14 Marks)

PART – B

- 5 a. Discuss the factor of safety calculation for a bench slope. (10 Marks)
b. Explain the different methods of controlling slope failure. (10 Marks)
- 6 a. With a neat sketch, explain continuous surface miner and list out the types of continuous surface miner. (12 Marks)
b. What are the parameters influencing in selection of drilling machine? (08 Marks)
- 7 a. Explain the controlling techniques adopted for minimizing the ground vibrations caused due to blasting. (10 Marks)
b. Define fly rock and how to control fly rocks. (10 Marks)
- 8 a. Explain the design parameters of an ideal haul road. (12 Marks)
b. What are the factors that governs the stability of a spoil dump. (08 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.