

# CBCS Scheme

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15MN61

## Sixth Semester B.E. Degree Examination, June/July 2018 Surface Mining

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 List the advantages and disadvantages of open cast mining and also list the limits of open cast mining. (16 Marks)

OR

- 2 Define a Box cut. Explain the methods of opening and Box cut and also explain the factors affecting the selection of site for Box cut. (16 Marks)

### Module-2

- 3 With a neat labelled sketch, explain the Bench height, Bench width and Bench slope angle. (16 Marks)

OR

- 4 An open cast mine bench has a potential failure plane AC as indicated in figure. Bolts are installed to stabilize the failure plane providing a resultant bolting force of 300 kN. The area of sliding block ABC is  $37.45\text{m}^2$ . The unit weight, Cohesion and Angle of internal friction of rock are  $25\text{ kN/m}^2$ , 20 Kpa and  $40^\circ$  respectively then what will be its F.O.S. (16 Marks)

### Module-3

- 5 Explain the method of presplitting and explain the causes of Ground vibrations. (16 Marks)

OR

- 6 Explain the method of smooth blasting. Explain the different types of Rock drill based on motive power. (16 Marks)

### Module-4

- 7 a. Explain Casting, Striping, Quarrying and Placer mining. (08 Marks)  
b. Explain the difference between electric shovel and hydraulic shovel. (08 Marks)

OR

- 8 With a neat labelled diagram, explain the B.W.E. (16 Marks)

### Module-5

- 9 Enlist the advantages of HAC over traditional truck haulage system in open pit mine. (16 Marks)

OR

- 10 Enlist the major advantages of in-pit crushers in open cast mining. (16 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.