CBCS SCHEME

USN | | | | | | | | | | |

18MN32

Third Semester B.E. Degree Examination, July/August 2022
Elements of Mining Engineering

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Explain the significance of mining industry for infrastructures development. **(10 Marks)**

b. Explain the important geo-technical investigation for an underground mine project. **(10 Marks)**

OR

2 a. Explain the method of opening an mineral by an audit. **(10 Marks)**

b. Explain the method of opening an mineral by an incline. **(10 Marks)**

Module-2

3 a. Explain the unit operation for an shaft sinking. **(10 Marks)**

b. Explain the brick lining for an shaft sinking project. **(10 Marks)**

OR

4 a. It was proposed to sink a shaft in a loose deposit of sand, mud or aluminium near the surfaces upto a depth of 30 m. Suggest a suitable method. **(10 Marks)**

b. It was proposed to sink a shaft, when there is a danger of ground filling up the shaft or where there is considerable inrush of water under a small head. Suggest a suitable method. **(10 Marks)**

Module-3

5 a. Explain the method of constructing an incline shaft by drilling and blasting. **(10 Marks)**

b. It is proposed to construct a drift of 3m×3m in a hard rock formation having a density of 2.5 gm/cm^2. The drilling was carried out with Jumbo drilling machining for a length of 280 m. Calculate the powder factor, OMS and advance/month. **(10 Marks)**

OR

6 a. Explain the drainage arrangement for an drift. **(10 Marks)**

b. It is proposed to construct an adit at 4m×4m dimension. Calculate the powder factor, OMS and advance/month, the adit is proposed in a medium hard rock having a density of 1.8 gm/cm^2 for a length of 120 m. **(10 Marks)**

Module-4

7 a. Explain the timber support with a neat sketch. **(10 Marks)**

b. Explain the forepoling method of supports with a neat sketch. **(10 Marks)**

OR

8 a. Explain the root bolting support with a neat sketch. **(10 Marks)**

b. Explain the systematic support rules. **(10 Marks)**

Module-5

9 a. Explain the cut and cover method of tunneling. **(10 Marks)**

b. Explain the pipe jacking method of tunneling. **(10 Marks)**

OR

10 a. Explain the method of constructing a tunnel with TBM. **(10 Marks)**

b. Explain the method constructing a tunnel with conventional tunneling. **(10 Marks)**

* * * * *