CBCS SCHEME

USN | | | | | | | | | |

17MN35

Third Semester B.E. Degree Examination, June/July 2019
Elements of Mining Engineering

Time: 3 hrs. Max. Marks: 100

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

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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.

Module-1

1 a. Define with neat sketch of following mining terminologies.
i) Raise ii) Winze iii) Adit iv) Dip. **(10 Marks)**

b. Explain various stages of mine life. **(10 Marks)**

OR

2 a. Explain significance of the Indian mining on national economy. **(10 Marks)**

b. Define the neat sketch of following mining terminologies :
i) Hangwall ii) Footwall iii) Shaft iv) Cross cut. **(10 Marks)**

Module-2

3 a. Explain walling scaffold and Rider with well labeled neat sketch. **(10 Marks)**

b. With a neat sketch explain the following shaft sinking method.
i) Caisson method ii) Piling method. **(10 Marks)**

OR

4 a. What are the general arrangement or equipments required for shaft sinking operation? **(10 Marks)**

b. Explain Temporary lining and permanent lining with well labeled neat sketch. **(10 Marks)**

Module-3

5 a. List all various methods of Raise drivages and explain Alimak raise climber method with neat sketch. **(10 Marks)**

b. Explain Burn cut and Fan cut pattern with well labeled delay numbers in sketch. **(10 Marks)**

OR

6 a. Pull of the development drive is 1.2 mts and size of the face is 3.5 mts × 3.5mts. Density of the face rock is 2.8. Manpower deployed for drive is 15 persons/day (3 shifts/day). Calculate OMS. **(10 Marks)**

b. Explain Wedge cut and concentric ring patterns with well labeled delay numbers in sketch. **(10 Marks)**

Module-4

7 a. What are the materials required for mine supports and explain prop support with neat sketch. **(10 Marks)**

b. Explain Rock bolt support with well labeled neat sketch. **(10 Marks)**

OR

8 a. Explain chokmate support with well labeled neat sketch. **(10 Marks)**

b. What are the contrast and similarity of hydraulic and friction props. **(10 Marks)**

Module-5

9 a. Explain cycle operation for opening a tunnel by conventional method. **(10 Marks)**

b. Explain tunnel boring machine with neat sketch. **(10 Marks)**

OR

10 a. Explain shield tunneling method with their applicability and advantages. **(10 Marks)**

b. Explain conventional method of tunneling method by using burn cut pattern. **(10 Marks)**

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