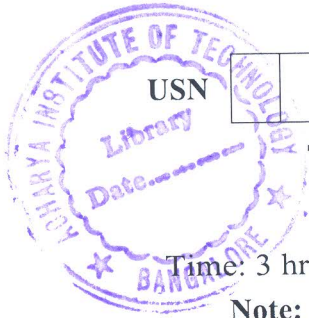


CBCS SCHEME

17MN35



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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.

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 × 3.5 mts. 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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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.