

GBCS SCHEME

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18MN52

Fifth Semester B.E. Degree Examination, July/August 2022 Underground Coal Mining

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 current status of coal mining in India. (10 Marks)
b. Briefly explain the different methods of opening up of a coal seam (only by underground method). (10 Marks)

OR

- 2 a. Explain the different methods of analyzing coal. (10 Marks)
b. Explain the factors influencing the choice of mining methods. (10 Marks)

Module-2

- 3 a. Explain blasting of the solid method of development in Bord and Pillar mining. (10 Marks)
b. Mention the standard pillar sizes to be considered with respect to scan depth and gallery width as per CMR 1957 Regulation 99. (10 Marks)

OR

- 4 a. Explain with a layout, the method of development in Bord and Pillar mining by using continuous miners. (10 Marks)
b. Explain the applicability of room and pillar mining method and list out its advantages and disadvantages. (10 Marks)

Module-3

- 5 a. With a neat sketch explain the characteristics of types of immediate roof which are encountered in long wall panels during extraction. (15 Marks)
b. With the elements of long wall panel with a neat sketch. (05 Marks)

OR

- 6 a. Explain with a diagrammatic illustration, double unit longwall face working. (15 Marks)
b. Summaries the factors affecting length and width of a longwall panel. (05 Marks)

Module-4

- 7 a. Explain with neat sketch method of working a thin coal seam by long wall mining using plough and powered supports. (15 Marks)
b. Discuss the support system used in longwall face and gate roads. (05 Marks)

OR

- 8 a. Explain in detail the exploitation of thin coal seam with the combination of buttock and powered supports. (12 Marks)
b. Discuss the classification of modern longwall faces. (08 Marks)

Module-5

- 9 a. Explain the different slicing method of mining thick coal seam. (12 Marks)
b. Discuss on the applicability, advantages and disadvantages of sublevel caving. (08 Marks)

OR

- 10 a. With a neat sketch, explain Blasting Gallery method of mining thick coal seam. (10 Marks)
b. Discuss caving as a method of Goaf control in underground coal mining. (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.