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## Sixth Semester B.E. Degree Examination, July/August 2022

### Mine Environmental 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 various causes and classification of fires. (10 Marks)  
b. Explain the method of Re-opening sealed off areas due to underground mine activity. (10 Marks)

OR

- 2 a. Explain the mechanism and various stages of spontaneous heating in an underground mine. (10 Marks)  
b. Explain the various factors affecting spontaneous heating of coal in a mine. (10 Marks)

#### Module-2

- 3 a. Explain the various causes and prevention of fire damp explosions in a mine. (10 Marks)  
b. With a neat sketch, explain the principle of water barrier used in underground coal mine. (10 Marks)

OR

- 4 a. Explain the various causes and preventive measures of coal dust explosion in an underground coal mine. (10 Marks)  
b. Explain the principle, construction and types of stone dust barriers used in an underground mine. (10 Marks)

#### Module-3

- 5 a. Explain the various causes and prevention of inundation in underground mine. (10 Marks)  
b. With a neat sketch, explain safety boring apparatus. (10 Marks)

OR

- 6 a. Explain the various precautions and techniques to be taken while approaching old workings. (10 Marks)  
b. Explain the process of Dewatering of water logged working. (10 Marks)

#### Module-4

- 7 a. Explain the various kinds of Rescue equipment and their uses. (10 Marks)  
b. Explain in detail an organization of Rescue work. (10 Marks)

OR

- 8 a. Explain the importance of Rescue station and Rescue rooms in mines. (10 Marks)  
b. Explain the various classification of Rescue Apparatus. (10 Marks)

#### Module-5

- 9 a. Explain the various measurements and control methods of Air-borne respirable dust. (10 Marks)  
b. With a neat sketch, explain the layout and organization of lamp rooms. (10 Marks)

OR

- 10 a. Explain the physiological effects of dust and dust related diseases. (10 Marks)  
b. Explain the technical terms in lighting and photometry in illumination survey. (10 Marks)