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10MN64

Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Mine Environmental Engineering – II

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO full questions from each part.

PART – A

- 1 a. When it is not possible to quench a mine fire using direct attack. Explain the immediate action to be adopted, explain in detail. (10 Marks)
b. Explain the causes and prevention of underground fire. (10 Marks)
- 2 a. Explain the factors governing spontaneous heating. (10 Marks)
b. Explain the stages and symptoms of spontaneous heating. (10 Marks)
- 3 a. Explain the process of formation of firedamp in underground and how to estimate the hazard due to fire damp in mines. (10 Marks)
b. Explain the mechanism of coal dust explosion and how to estimate the hazard due to coal dust explosion. (10 Marks)
- 4 a. It is found that an abandoned mine is water logged. The approach to water logged area is sufficiently near to it and the water pressure is less based on piezometer. Explain the method of de-watering to be adopted. (10 Marks)
b. Explain the importance of mine sump and its construction in underground mine. (10 Marks)

PART – B

- 5 a. State the lighting standards in
i) Open cast mines ii) Long wall iii) Depillaring. (10 Marks)
b. Explain the different methods of illumination in mines. (10 Marks)
- 6 a. Explain the method of luminance calculations adopted in a mine. (10 Marks)
b. Explain different methods of illumination survey. (10 Marks)
- 7 a. A miner is entombed due to roof fall in underground mine. After initial examination it is found that he is asphyxiated. Explain the methods of artificial respiration to be adopted to revive the mine. (12 Marks)
b. Comment on the Rescue organization and their importance in rescue operation. (08 Marks)
- 8 a. An alarm is heard from underground to surface officials about mine fire in under ground mine. Explain the rescue and recovery work following mine disaster. (10 Marks)
b. Explain FAB with neat sketch in an underground mine. (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.