TOST STATE OF THE PARTY OF THE

Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020 Underground Metal Mine

Time: 3 hrs. Max. Marks: 100

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

PART - A

1	a.	Explain in underground metal mining the peculiarities of metaliferous Dep	osit, with neat
		sketches.	(10 Marks)
	b.	Explain in detail the scope and limitations of underground metal mining.	(10 Marks)

- 2 a. i) Explain the methods of development. (05 Marks)
 - ii) Explain the factor affecting the choice of level intervals in underground metal mine.
 (05 Marks)
 - b. Explain the following with neat sketches:
 - i) Block size ii) Shaft station of its uses iii) Ore Bin and Ore pass
 - iv) Shape and size of drive. (10 Marks)
- 3 a. Explain the classification of stoping methods in underground mines. (10 Marks)
 - b. Explain the factors affecting choice of stoping methods in underground metal mining.
 (10 Marks)
- 4 a. Explain in stoping methods, the differences between over hand stoping and under hand stoping in underground metal mine. (10 Marks)
 - b. Explain the "Shrinkage stoping" method used in underground metal mine with neat sketches and also the advantages and disadvantages. (10 Marks)

PART - B

- 5 Explain the new methods of sub level stoping used in underground metal mine, like semi mechanized, with neat sketches. (20 Marks)
- 6 a. Explain the following with neat sketches:
 - i) Shaft pillar ii) Resonant pillar iii) Crown pillar iv) Sill pillar. (10 Marks)
 - b. Explain the methods of extraction of shaft pillar with neat sketches and its support system used. (10 Marks)
- 7 a. Explain the deep mining problems in underground metal mines. (10 Marks)
 - b. Explain the method of stoping as stope drive methods, with neat sketches. (10 Marks)
- Explain the tunneling in underground mining method by conventional and mechanized, with neat sketches.

 (10 Marks)
 - b. Explain the Shaft Boring machines and their Application in underground metal mine.
 (10 Marks)