

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2162202

Date:28/04/2018

Subject Name:Underground Metal Mining

Time:10:30 AM to 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the following: (1) Stope (2) Winze (3) Raise. **03**
(b) Describe the classification of stoping method. **04**
(c) Draw a network diagram for the transportation of ore with belt conveyor and skip from various levels of mine. **07**
- Q.2** (a) Define the following : (1) Cross – Cut (2) Lateral (3) Ore Drive **03**
(b) List out various drilling pattern used in Underground Metal Mining. Explain any one. **04**
(c) Explain Recovery & Dilution. **07**
- OR**
- (c) Write a short note on sub level caving method. **07**
- Q.3** (a) Which precaution should be taken during blasting in Underground Metal Mining? **03**
(b) Write a short note on basic function of winze. **04**
(c) List out various methods of shaft sinking. Explain any one. **07**
- OR**
- Q.3** (a) Describe the basic fundamental of cut & fill method. **03**
(b) List out various equipments used in Underground Metal Mining with their functions. **04**
(c) Explain the breast stope method with proper figures. **07**
- Q.4** (a) Describe the functions of skip and cage. **03**
(b) Explain the underhand stoping method. **04**
(c) Write a short note on vertical crater method. **07**
- OR**
- Q.4** (a) List out the various formulas for the shaft pillar. **03**
(b) Explain the overhand stoping method. **04**
(c) Explain stopping of super-imposed veins and parallel ore bodies. **07**
- Q.5** (a) Draw a layout of square set stoping method. **03**
(b) Write a short note on mechanical back filling. **04**
(c) Explain the underground crushing with proper figure. **07**
- OR**
- Q.5** (a) Briefly describe the shaft collar. **03**
(b) Write a short note on pneumatic back filling. **04**
(c) Explain the sub level stoping with neat sketch. **07**
