

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-III Regular / Remedial Examination December 2010

Subject code: 132202

Subject Name: Mine Development.

Date: 14 /12 /2010

Time: 10.30 am – 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) Give the various methods of entering into a deposit to be worked out by underground mining for approach to the ore body. Write an applicability, merits and demerits. **07**
- (b) Explain terms used in metal and coal mining are drift, orepass, level interval, face, pillar, hangingwall and footwall. **07**

- Q.2** (a) Explain the methods of shape of tunnel with its merits and limitations. **07**
- (b) Write down the points consider in cycle of operation for drift and explain maintain the gradient of drift and centre line and ventilation. **07**

OR

- (b) Explain: laser rays for drift drirage. **07**

- Q.3** (a) A drift of size 5m*8m is to be driven. The monthly production 250 meter is require, determine the method to be adopted, drilling pattern with calculation of hole for face, charging and blasting method. **07**
- (b) Describe the general principal should be kept in mind when opening up a deposit with its sketch. **07**

OR

- Q.3** (a) A horizontal development of 45 meters. Drive size 3m*3m to be driven. Describe the method to be adopted, necessary assumption; face operation, drilling machine deployed for production and drilling pattern. **07**
- (b) Explain fastest drirage method: raise borers. **07**

- Q.4** (a) Explain trackless mucking transportation. **07**
- (b) Explain: rocker shovel. **07**

OR

- Q.4** (a) Explain: side discharge loader **07**
- (b) Explain: load haul dump machine **07**

- Q.5** (a) Explain any one conventional method for vertical raise in the metal mines. **07**
- (b) Give the neat sketch of alimak raise climber with its various stages and explain cycle of operation in brief. **07**

OR

- Q.5** (a) Write a short note on long hole raising with its applicability, merits and demerits. **07**
- (b) A vertical 60 meter length, size 2m*2m is to be driven by drop raising method. Explain the method with the help of sketch and cycle of operation. **07**
