

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III • EXAMINATION – SUMMER 2013****Subject Code: 132202****Date: 04-06-2013****Subject Name: Mine Development****Time: 02.30 pm - 05.00 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) Explain the following terms with illustrative figure. **07**
(i) Adit, (ii) Shaft, (iii) Incline, (iv) Decline

(b) Explain the following terms used in metal and coal mining: (i) drift, (ii) ore pass, (iii) pillar, (iv) footwall and hanging wall. **07**

Q.2 (a) What are the factors affecting selection of drilling equipment? **07**

(b) Explain laser rays for drift drivage. **07**

OR

(b) Describe shape, size, and gradient of tunnel. **07**

Q.3 (a) List out the method of tunneling in rock. Describe drift method. **07**

(b) Explain fastest drivage method by raise borers **07**

OR

Q.3 (a) Describe the trackless mucking transportation. **07**

(b) Write down the points considered in cycle of operation for drift and also explain how to maintain the gradient of drift, centre line and ventilation. **07**

Q.4 (a) Describe with illustrative diagram- Side discharge loader. **07**

(b) Describe with illustrative diagram- Rocker shovel **07**

OR

Q.4 (a) Describe load haul dump machine. **07**

Q.4 (b) Describe different types of loading machine. **07**

Q.5 (a) Write merits and demerits of inclined shaft. **07**

(b) Explain any one conventional method for vertical raise in the metal mines. **07**

OR

Q.5 (a) Describe classification of shafts. **07**

(b) Write a note on long hole raising with its applicability, merits, and demerits. **07**
