

**GUJARAT TECHNOLOGICAL UNIVERSITY****B. E. Sem - III Examination May- 2011****Subject code: 132202****Subject Name: Mine development****Date: 25/05/2011****Time: 10.30 am – 01.30 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 [1] Adit & Cross cut **07**  
           [2] Incline & Decline
- (b) Advantages & disadvantages of Incline system of transport. **07**
- Q.2** (a) Various factors affecting size and gradient of drives and tunnels. **07**  
 (b) Explain working of [1] drill jumbo **07**  
           [2] LHD [ load haul dumper]
- OR**
- (b) Explain working of [1] SDL ( side discharge loader **07**  
           [2] Road header & dint header
- Q.3** (a) Selection parameters for optimum location of shaft. **07**  
 (b) Blasting pattern in large size tunnels & transportation of muck. **07**
- OR**
- Q.3** (a) Various blasting pattern used in shaft sinking. **07**  
 (b) Described various shaft lining used in shaft sinking. **07**
- Q.4** (a) What is head gear in shaft ? explain with the sketch **07**  
 (b) Trackless mucking used for fast drivage. **07**
- OR**
- Q.4** (a) Conventional method of raising by raise climbers. **07**  
 (b) Various blasting pattern used in tunneling **07**
- Q.5** (a) Support system used in tunnel driving. **07**  
 (b) Explain ventilation pattern used in tunneling. **07**
- OR**
- Q.5** (a) Explain [1] goaf in mine working **07**  
           [2] insets or plat form in shaft  
 (b) Explain Precautions taken during shaft sinking **07**

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