

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII • EXAMINATION – WINTER 2013

Subject Code: 172205**Date: 03-12-2013****Subject Name: Rock Slope Engineering****Time: 10:30 TO 01:00****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) What is production blasting? Which are the different parameters required for the optimum results of blasting? Explain any one. **07**
- (b) What is pre – reinforcement? List out different stabilization techniques by rock reinforcement. Write a short note on any one. **07**

- Q.2** (a) Which precautions should be taken to avoid excessive back break with respect to production blasting? Explain pre – shearing and cushion blasting. **07**
- (b) Describe the various procedures for making surface measurements of slope movement. **07**

OR

- (b) Which methods are used in cases where, surface monitoring of slope movement is not feasible? **07**

- Q.3** (a) Write a note on Buttresses – as a reinforcement method for stabilization of rock slope. **07**
- (b) Which are the different challenges for the slope designer to determine the characteristics of stability of rock slopes in open pit mine? **07**

OR

- Q.3** (a) Write a note on Shotcrete. **07**
- (b) Explain the various slope design concepts and geo-hydrology in the case of stratigraphically controlled deposits of open pit coal mine. **07**

- Q.4** (a) Give the general conditions for plane failure in a rock slope. Add a note on analysis of failure on a rough plane. **07**
- (b) Write a note on use of non-linear failure criterion in Bishop stability analysis. **07**

OR

- Q.4** (a) Explain Newmark`s method of analyzing seismic effects on rock slopes. **07**
- (b) Explain comprehensive wedge analysis. **07**

- Q.5** (a) Write a note on limit equilibrium analysis for the stability of rock slopes. **07**
- (b) Explain geophysical method for the site reconnaissance for mining method. **07**

OR

- Q.5** (a) Explain the stages of complete investigation for the planning for the different slope design method. **07**
- (b) Explain ground water in rock slope. **07**
