

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012**

**Subject code: 172205****Date: 28/12/2012****Subject Name: Rock Slope Engineering****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Which geological parameters are used for the site reconnaissance and planning an investigation program to collect detailed design data for the rock cuts. **07**  
(b) Explain the affect of ground water flow in unstable slope design of rocks. **07**
- Q.2** (a) Give Hoek-brown strength criteria for rock masses. **07**  
(b) Write down geometrical conditions for wedge failure and explain wedge failure analysis. **07**

**OR**

- (b) What is plane failure and explain mechanism of plane failure with illustrative diagram **07**
- Q.3** (a) Write the different principles of rock slope engineering and explain any one. **07**  
(b) Explain pseudo-static stability analysis. **07**
- Q.3** (a) Explain circular analysis with suitable examples. **07**  
(b) Explain load and resistance factor in design for rock slopes. **07**
- Q.4** (a) Explain reinforcement with fully grouted untensioned dowels. **07**  
(b) Write a note on Bishop's and janbu's method for slices. **07**

**OR**

- Q.4** (a) Explain importance of explosive properties and blast hole diameter for blasting in sloppy area. **07**  
(b) What is blast damage? Give the controlling measures for it. **07**
- Q.5** (a) Explain sub-surface monitoring methods for rock slope movements. **07**  
(b) Explain geological investigation programme for porphyry deposits. **07**
- OR**
- Q.5** (a) Explain surface monitoring methods for rock slope movements. **07**  
(b) Explain regressive and progressive movements of rock slope. **07**

\*\*\*\*\*