Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – SUMMER • 2015

Subject Code: 172205 Date: 06/05/2015

Subject Name: Rock Slope Engineering

Time:02.30pm-05.00pm 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 plan failure in rock slope? Describe analysis of failure on a rough plane.	**07**
	(b)	What do you mean by role of explosive? Add a note on production blasting.	**07**
Q.2	**(a)**	Explain Hoek – brown strength criteria for rockmasses.	**07**
	(b)	Discuss Buttresses – as a reinforcement method for stabilization of rock slope.	**07**
		OR	
	(b)	Explain reinforcement with fully grouted untensioned dowels.	**07**
Q.3	**(a)**	Why seismic method is carried out for the site reconnaissance for different rock cuts? Explain it in brief.	**07**
	(b)	Explain load and resistance factor in design for rock slopes.	**07**
		OR	
Q.3	**(a)**	Give the basic principles of rock slope engineering for the open – pit mining slope stability. Write a short note on Socioeconomic consequences of slope failures.	**07**
	(b)	Explain the ground water flow in unstable slope design of rocks.	**07**
Q.4	**(a)**	Define blast damage. Give the controlling measures for it.	**07**
	(b)	Explain sub-surface monitoring methods for rock slope.	**07**
		OR	
Q.4	**(a)**	Write a note on use of non-linear failure criterion in Bishop stability analysis.	**07**
	(b)	Give types of slope movement. Explain long term creep movements of rock slope.	**07**
Q.5	**(a)**	Explain geological investigation programme for porphyry deposits.	**07**
	(b)	What is circular failure? Explain circular failure charts.	**07**
		OR	
Q.5	**(a)**	Explain geological investigation programme for deep seated deformation in weak rock mass.	**07**
	(b)	What is Wedge failure? Explain comprehensive wedge analysis.	**07**

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