Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – SUMMER 2024

Subject Code:3172215 Date:15-05-2024

Subject Name:Rock Slope Engineering

Time:02:30 PM TO 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.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Classify type of slopes in a mine.	**03**
	(b)	State the importance of slope angle in a mine.	**04**
	(c)	Explain the mechanics of planer failure.	**07**
Q.2	**(a)**	Name the factors affecting slope stability.	**03**
	(b)	Classify different modes of slope failure.	**04**
	(c)	Explain the economic significance of good slope in a mine.	**07**
		OR	
	(c)	Explain the effect of water on slope stability.	**07**
Q.3	**(a)**	List out the different methods of slope stability analysis.	**03**
	(b)	Explain toppling failure.	**04**
	(c)	Discuss different parameters considered while designing highwall slope.	**07**
		OR	
Q.3	**(a)**	Define: i) Cohesion ii) Angle of friction	**03**
	(b)	Write a note on slope geometry with suitable layout.	**04**
	(c)	Explain the mechanics of rotational failure.	**07**
Q.4	**(a)**	Explain dynamic loading	**03**
	(b)	Explain the principle of Slope Stability Radar.	**04**
	(c)	Explain limit equilibrium method of slope stability analysis.	**07**
		OR	
Q.4	**(a)**	List out the different software used for slope stability analysis in mining.	**03**
	(b)	Explain the use of GPS in slope monitoring.	**04**
	(c)	Explain the effect of geological factors on slope stability.	**07**
Q.5	**(a)**	Define slenderness ratio and its affect	**03**
	(b)	Write a note on field instruments used for monitoring of slopes.	**04**
	(c)	Write a note on drainage system and its effect on slope stability.	**07**
		OR	
Q.5	**(a)**	Define Weathering & Creep.	**03**
	(b)	Explain the effect of RMR classification in slope stability evaluation.	**04**
	(c)	Explain time-movement and time velocity plots used in slope monitoring.	**07**

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