Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 172207 **Date: 29/04/2017**

Subject Name: Rock Fragmentation (Department Elective - I)

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.**

Q.1	**(a)**	Explain the mechanism of rock blasting.	**07**
	(b)	Write a short note on (i) Burn cut pattern & (ii) Wedge cut pattern.	**07**
Q.2	**(a)**	Explain various properties of explosive.	**07**
	(b)	Differentiate rotary and percussive drilling.	**07**
		OR	
	(b)	Which factors are considered for selecting drill for an open cast mine?	**07**
Q.3	**(a)**	Compare low explosive with high explosive	**07**
	(b)	Write a short note on the applicability of seismograph.	**07**
		OR	
Q.3	**(a)**	What are the safety measures observed for the use of explosives?	**07**
	(b)	Mention different types of drill machines and drill bits used for blasting in open cast mines.	**07**
Q.4	**(a)**	Write a short note on nuclear blasting.	**07**
	(b)	What do you understand by slurry explosive and emulsion explosive? In what conditions such explosives are used?	**07**
		OR	
Q.4	**(a)**	Describe the different methods of secondary blasting.	**07**
	(b)	Write a short note on popular used explosive ANFO. Draw a cross section view of multi charged drilling hole.	**07**
Q.5	**(a)**	What is ground vibration? Explain its causes and damages.	**07**
	(b)	Write a short note on different types of detonators.	**07**
		OR	
Q.5	**(a)**	What is the basic difference between delay blasting and non-delay blasting?	**07**
	(b)	Describe different between the direct initiation system and indirect initiation system.	**07**

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