

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2172207****Date:18/05/2019****Subject Name:Rock Fragmentation****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.

		MARKS
Q.1	(a) Define drilling. Why it is required?	03
	(b) Discuss the role of powder factor in evaluation of blasting.	04
	(c) Explain different properties of explosives.	07
Q.2	(a) What do you mean by rock fragmentation? Explain in brief.	03
	(b) Discuss the present status of drilling and blasting practices in India.	04
	(c) What is ground vibration? Explain its causes and damages.	07
	OR	
	(c) Explain different methods of drilling used for production of minerals from surface and underground mines.	07
Q.3	(a) Describe the mechanism of drilling.	03
	(b) Discuss the factors affecting optimization of drilling parameters.	04
	(c) Explain different types of drill bits used in drilling with neat sketch.	07
	OR	
Q.3	(a) Discuss the factors affecting drillability of rocks.	03
	(b) Explain different types of bit wear and effects of bit wear.	04
	(c) List out different types of drill machines. Explain any one with neat sketch.	07
Q.4	(a) Discuss the mitigative measures for blasting nuisances.	03
	(b) Draw a table which describes the permissible limit of ground vibration given by DGMS.	04
	(c) Discuss the recent developments in explosive and blasting techniques.	07
	OR	
Q.4	(a) Define the following term: Boring, Spacing and Burden.	03
	(b) Explain the electric and non-electric methods of blasting.	04
	(c) Explain novel methods of drilling.	07
Q.5	(a) Discuss the various factors affecting choice of drills.	03
	(b) Explain the controlled blasting technique with solid decking	04
	(c) Explain nuclear blasting in brief.	07
	OR	
Q.5	(a) Explain the mechanism of blasting.	03
	(b) List out different blasting devices. Explain any one with sketch.	04
	(c) Differentiate between rotary drilling and percussive drilling.	07
