

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER–VI (NEW) EXAMINATION – SUMMER 2024****Subject Code:3162211****Date:24-05-2024****Subject Name:Drilling Blasting Technology****Time:10:30 AM TO 01:00 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) Discuss the various types of exploratory drills and their applicability in exploration drilling.	03
	(b) Explain the mechanics of rock fragmentation.	04
	(c) Define the term ground vibration. Explain its causes and damages.	07
Q.2	(a) Discuss the applicability and limitations of different drilling methods.	03
	(b) Define explosive. Discuss the different types and basic composition of explosive.	04
	(c) Explain different properties of explosives.	07
	OR	
	(c) Explain the different types of initiation systems.	07
Q.3	(a) Discuss the mechanism of drilling.	03
	(b) List out different blasting devices. Explain any one.	04
	(c) Explain the blast design for estimation of burden and spacing.	07
	OR	
Q.3	(a) Discuss the mechanics of blasting.	03
	(b) Describe the mitigative measures for blasting nuisances.	04
	(c) Explain the blast design for estimation of charge requirement.	07
Q.4	(a) Explain the fundamentals of rotary drilling.	03
	(b) Discuss the various instruments used for core recovery.	04
	(c) Explain the different blasting cuts of underground mines.	07
	OR	
Q.4	(a) Explain the fundamentals of percussive & rotary percussive drilling.	03
	(b) Differentiate between rotary drilling and percussive drilling.	04
	(c) Explain the secondary blasting.	07
Q.5	(a) Discuss the optimization of drilling parameters.	03
	(b) Explain the different types of errors in interpretation of borehole data.	04
	(c) Explain the factors affecting selection of explosives.	07
	OR	
Q.5	(a) Discuss the factors affecting selection of drilling systems.	03
	(b) Explain the various factors affecting choice of drills.	04
	(c) Explain the storage and handling of explosives.	07
