

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3162211****Date:14-07-2023****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) Differentiate between rotary drilling and percussive drilling.	04
	(c) Explain different properties of explosives.	07
Q.2	(a) Discuss the optimization of drilling parameters.	03
	(b) List out different blasting devices. Explain any one.	04
	(c) Explain the different types of initiation systems.	07
	OR	
	(c) Explain the factors affecting selection of explosives.	07
Q.3	(a) Explain the fundamentals of rotary drilling.	03
	(b) Discuss the various instruments used for core recovery.	04
	(c) Explain the storage and handling of explosives.	07
	OR	
Q.3	(a) Explain the fundamentals of percussive & rotary percussive drilling.	03
	(b) Define explosive. Discuss the different types and basic composition of explosive.	04
	(c) Explain the secondary blasting.	07
Q.4	(a) Discuss the mechanism of drilling.	03
	(b) Discuss the different types of errors in interpretation of borehole data.	04
	(c) Explain the blast design for estimation of burden and spacing.	07
	OR	
Q.4	(a) Discuss the mechanics of blasting.	03
	(b) Discuss the various factors affecting choice of drills.	04
	(c) Explain the blast design for estimation of charge requirement.	07
Q.5	(a) Discuss the factors affecting selection of drilling systems.	03
	(b) Explain the mechanics of rock fragmentation.	04
	(c) Define the term ground vibration. Explain its causes and damages.	07
	OR	
Q.5	(a) Discuss the applicability and limitations of different drilling methods.	03
	(b) Discuss the mitigative measures for blasting nuisances.	04
	(c) Explain the different blasting cuts of underground mines.	07
