

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI(NEW) EXAMINATION – WINTER 2022****Subject Code:3162211****Date:17-12-2022****Subject Name:Drilling Blasting Technology****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) Discuss the mechanism of drilling.	03
(b) Define explosive. Discuss the different types and basic composition of explosive.	04
(c) Explain the different types of initiation systems.	07
Q.2 (a) Discuss the factors affecting selection of drilling systems.	03
(b) Discuss the various instruments used for core recovery.	04
(c) Explain different properties of explosives.	07
OR	
(c) Explain the factors affecting selection of explosives.	07
Q.3 (a) Discuss the various types of exploratory drills and their applicability in exploration drilling.	03
(b) List out different blasting devices. Explain any one.	04
(c) Define the term ground vibration. Explain its causes and damages.	07
OR	
Q.3 (a) Discuss the optimization of drilling parameters.	03
(b) Differentiate between rotary drilling and percussive drilling.	04
(c) Explain the different blasting cuts of underground mines.	07
Q.4 (a) Explain the fundamentals of rotary drilling.	03
(b) Discuss the mitigative measures for blasting nuisances.	04
(c) Explain the secondary blasting.	07
OR	
Q.4 (a) Explain the fundamentals of percussive & rotary percussive drilling.	03
(b) Explain the mechanics of rock fragmentation.	04
(c) Explain the storage and handling of explosives.	07
Q.5 (a) Discuss the applicability and limitations of different drilling methods.	03
(b) Discuss the various factors affecting choice of drills.	04
(c) Explain the blast design for estimation of charge requirement.	07
OR	
Q.5 (a) Discuss the mechanics of blasting.	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
