Se	eat No.: Enrolment N	No
	GUJARAT TECHNOLOGICAL UNIVER	SITY
BE - SEMESTER-V(New) • EXAMINATION - WINTER 2016		
Subject Code:2152204 Date:1		Date:19/11/2016
	ubject Name:Rock Mechanics	
		Fotal Marks: 70
	structions:	iomi mains. 70
	1. Attempt all questions.	
	2. Make suitable assumptions wherever necessary.	
	3. Figures to the right indicate full marks.	MADIZO
		MARKS
	Short Questions	14
1	Define the following terms: hardness	
2	What is density? Various types of density.	
3	What is the full form name of 'RMR'	
4	What is the full form name of 'RQD'	
5	Explain the Factor of Safety	
6	Explain the mineral relative Mohr's scale hardness (1) Topaz (2) Calcit	e
7	What is rheology?	
8	What is strength of rocks?	
9	Define Creep in rocks?	
10	Define the Rock.	
11	Define the following terms: (1) Swelling (2) Moisture Content	
12	What is different between stress and strain?	
13	Explain the formula of Brazilian test.	
14	Explain the formula of Peak shear Strength.	0.2
(a)	Explain briefly Mohr-Coulomb rock failure criteria.	03
<b>(b)</b>	How slake durability of rock is determined?	04
(c)	Write note on Permeability of rocks.	07
(a)	OR Explain the rock deformability under uniaxial compression.	07
(c) (a)	Draw and explain a generalized stress Vs strain curve for rock.	03
( <b>a</b> )	Differentiate isotropic and anisotropic rocks.	03
<b>c</b> )	Write a short note on application of rock mechanics in mining.	07
(C)	OR	07
(a)	Explain Factors affecting on permeability of soils.	03
<b>b</b> )	Explain the Griffith's theory in rock mass.	04
<b>c</b> )	Define Hardness. Explain Moh's scale of hardness and role of hardr	
. /	rock mass.	-
(a)	What is failure in rocks? Write a note on yield criteria of failure theories	. 03
<b>(b)</b>	Define creep? Give the measurement of creep in rocks.	04
(c)	Explain In-situ Determination of Elastic properties of rocks by dy	ynamic <b>07</b>

**Q.1** 

**Q.2** 

**Q.3** 

**Q.3** 

(c) Which parameters influencing wave velocity? Discuss different types of waves by dynamic properties of rock.

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**07**