Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEMESTER- VI • EXAMINATION - SUMMER 2015

Subject Name: Sub-Surface Environment Time: 10.30am-01.00pm Total Ma Instructions:			Date: 08/05/2015	
		ks: 70		
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a) (b)	What are the component of atmosphere in underground Mine? How pollution takes place in mines? How toxic are mine gases?	07 07	
Q.2	(a) (b)	What are the determinants of humidity and also explain its effect in mines. Explain the necessity of air-conditioning in deep mines. OR	07 07	
	(b)	What is the requirement of pressure survey in a mine? Explain the inclines monometer for the pressure ventilation survey.	07	
Q.3	(a) (b)	How is temperature and humidity controlled in mines? Explain the devices used for control and distribution of air in mine. OR	07 07	
Q.3	(a) (b)	Explain Atkinson's and Chezy's equation. Explain the principle, construction and working of fans in mines.	07 07	
Q.4	(a)	Writes note on coursing, distribution and regulation of air current in mines.	07	
	(b)	What is firedamp? Describe the occurrence of firedamp in mines. OR	07	
Q.4	(a)	How fans are installed in mines? Explain parallel and series operations of fans.	07	
	(b)	What are the ventilation issues in mines?	07	
Q.5		Write a note on any two:-	14	
		 Kata thermometer. Thermodynamics of ventilation. Network problems of fans. Detection of mine gases. 		
