## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2162207 Date: 26/10/2 Subject Name: Mine Ventilation			016	
7	[ime	: 02:30 PM to 05:00 PM Total Marks: 70 etions:		
		<ol> <li>Attempt all questions.</li> <li>Make suitable assumptions wherever necessary.</li> <li>Figures to the right indicate full marks.</li> </ol>		
Q.1	(a) (b)	Explain mine atmospheres and its composition.  Define relative humidity. Explain hygrometer with neat and clean sketch.	07 07	
Q.2	(a) (b)	What are physiological effects of Carbon Monoxide (CO) and Methane (CH <sub>4</sub> )? Describe air conditioning in mines.	07 07	
	<b>(b)</b>	OR Explain kata thermometer in brief with neat and clean sketch.	07	
Q.3	(a) (b)	Explain Natural ventilation in brief with sketch.  Differentiate between axial screw fan and centrifugal fan.  OR	07 07	
Q.3	(a) (b)	Write note on control of temperature and humidity in deep mines.  Describe Chezy's and Atkinson's equation.	07 07	
Q.4	(a) (b)	Explain Ascensional and Descentional ventilation.  Describe coward's diagram. Write importance of this diagram.  OR	07 07	
Q.4	(a) (b)	Explain parallel and series installation of mine fans. List out different damps are found in underground mine with their composition of gases. Explain firedamp in detail.	07 07	
Q.5	(a)	List out instruments used to detect CO in u/g mine. Explain any two with sketch.	07	
	<b>(b)</b>	Describe necessity and standards of ventilation in u/g mine.  OR	07	
Q.5	(a) (b)	Write note on venturi and air-jets.  Explain air locking arrangement and design of evasee in mines.	07 07	

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