Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. - SEMESTER – VIII EXAMINATION – OCTOBER 2012

Subject Code: 181905 **Date: 25/10/2012**

Subject Name: Industrial Safety & Maintenance Engineering

Time: 02.30pm - 05.00pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What is industrial safety? How it is associated with risk?	**07**
	(b)	Explain roll of management and roll of government in industrial safety.	**07**
Q.2	**(a)**	What do you know about internal and external accident also explain what is major and minor accident in an industry?	**07**
	(b)	What are the aims and objectives of industrial legislation?	**07**
		OR	
	(b)	What is boiler act? Can this act is applicable to boiler belonging to or under the control of Army Navy and Air Force?	**07**
Q.3	**(a)**	What is meant by industrial maintenance? What are different activities which come under maintenance?	**07**
	(b)	Differentiate between Emergency maintenance and Breakdown maintenance.	**07**
		OR	
Q.3	**(a)**	What are basic principles of maintenance planning?	**07**
	(b)	What is Reliability, Maintainability and Availability? Ideally every company would like to achieve 100 percent reliability but this is seldom possible .Justify this statement.	**07**
Q.4	**(a)**	What are the causes of equipment breakdown?	**07**
	(b)	What is Total Productive Maintenance (TPM) and discuss it's similarities with TQM?	**07**
		OR	
Q.4	**(a)**	Explain MTBS, MTBF, MTTF, MTTR and failure rate.	**07**
Q.4	**(b)**	What is an economics aspect of maintenance? Explain with neat figure. Showing all the costs.	**07**
Q.5	**(a)**	What is fault tree analysis? Apply it for a car accident and suggest detail analysis.	**07**
	(b)	What are the functions of lubrication? And give the tips on lubrication.	**07**
		OR	
Q.5	**(a)**	What is wear debris analysis? Write the names of any three wear debris analysis techniques commonly used.	**07**
	(b)	What is thermal monitoring? How temperature sensitive tapes work?	**07**

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