

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VIII EXAMINATION – WINTER 2015**

**Subject Code:181905****Date:12/12/2015****Subject Name: Industrial Safety & Maintenance Engineering****Time: 2:30pm to 5:00pm****Total Marks: 70****Instructions:**

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

- Q.1 (a)** Describe roll of management and roll of government in Industrial safety. **07**  
**(b)** Explain role of Safety Education and training in Industry. **07**
- Q.2 (a)** Describe importance of following in preventing accidents in industries; **07**  
 Plant Layout, Illumination, Ventilation, House- keeping.  
**(b)** What do you know about internal and external accidents? Also explain about major **07**  
 and minor accidents in industry.
- OR**
- (b)** Discuss causes of accidents in industrial plant. **07**
- Q.3 (a)** Write short notes on (i) Boiler Act (ii) ESI Act. **06**  
**(b)** Enlist basic parameters which form basis of Condition Monitoring Techniques in **08**  
 maintenance of industrial equipments? Explain in brief about any three Techniques.
- OR**
- Q.3 (a)** Differentiate between Emergency maintenance and Breakdown maintenance. **06**  
**(b)** How Industrial Psychology is helpful in preventing accident in Industries? Name the **08**  
 personal protective equipment for preventing accident.
- Q.4 (a)** Explain in details about usefulness of equipment life cycle for deciding maintenance **07**  
 activities. Draw Bath Tub Curve and show which part is important from maintenance  
 point of view.  
**(b)** Discuss various outcome in terms of improved productivity achieved through better **07**  
 safety conditions in industrial plant.
- OR**
- Q.4 (a)** What is Total Productive Maintenance (TPM)? How does it differ from Total **07**  
 Quality Management (TQM)?  
**(b)** State various methods of wear debris analysis. Explain any two of them in brief. **07**
- Q.5 (a)** List the personal protective equipments for following human body parts with IS **07**  
 Standards;  
 (i) Head, (ii) Ear, (iii) Face, (iv) Eye, (v) Overall body, (vi) Foot and leg, (vii) fingers  
 and hands.  
**(b)** What is personal protective equipment? Explain different PPE used for different **07**  
 purpose and an importance of PPE.
- OR**
- Q.5 (a)** What is fault tree analysis and Root cause analysis? Explain in detail. **07**  
**(b)** What is thermal monitoring? Explain in brief about work of temperature sensitive **07**  
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