

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME - SEMESTER– III • EXAMINATION – SUMMER 2015**

**Subject Code: 731804****Date: 02/05/2015****Subject Name: Industrial Hygiene & Safety****Time: 2:30 pm to 5:00 pm****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 the application and usefulness of following engineering control in industry (1) Substitution (2) Administrative control (3) Enclosure (4) Wetting process **08**
- (b)** Describe the Need of Personal Protective Equipments (PPE) for workers working in industry. **06**
- Q.2 (a)** Define Ergonomics ? Describe ergonomic aspects ( Design ) of Computer Workstation **08**
- (b)** Write Short notes on : **06**
- (1) Lux Meter  
(2) Dosi Meter (Personal Sound Meter)  
(3) WBGT ( Wet Bulb Globe Thermometer)
- OR**
- (b)** Write Short notes on : **06**
- (1) Silicosis  
(2) Reynaud's Phenomena/Disease  
(3) Carbon Monoxide Poisoning
- Q.3 (a)** Define Industrial safety? Explain the role of EHS/ SHE Officer in industry **08**
- (b)** Write Short Notes on (Any Three) : **06**
- (1) Health Effects of high and continuous Noise  
(2) Health Effects of radiations  
(3) Good house Keeping  
(4) Minimization disease
- OR**
- Q.3 (a)** Describe the Health Hazards in Pharma Industry .What are preventive steps required to control the hazards **08**
- (b)** Write Short Notes on (Any Three): **06**
- (1) Hazards in Textile Industry  
(2) Biological Monitoring  
(3) Significance Of TLV  
(4) Local Exhaust Ventilation System (LEV)
- Q.4 (a)** Describe the effects and control of Heat Stress .Name the four industries where there is Heat Stress exposure **08**

- (b) Short Notes ( Any Three) 06  
 (1) Difference between Occupational Health and Hygiene  
 (2) Detector Tubes  
 (3) MSDS  
 (4) Asbestosis
- OR**
- Q.4 (a)** Explain following terms in brief (any eight) 08  
 (1) ACGIH (2) GDS (3) STEL (4) TWA  
 (5) Ceiling Limit, C (6) SOP (7) HVAC (8) LVS (9) HVS (10) PPE
- (b) Preparation of Safety Report conforming to MSIHCR provision 06
- Q.5 (a)** Explain any two of the following : 08  
 (1) Hazard identification checklist  
 (2) Safety Tagging System  
 (3) Safety Sampling  
 (4) Job Safety Analysis( JSA)
- (b) Expand the following ( Any Six) 06  
 (1) HAZOP (2) HAZAN (3) QRA (4) OHSAS (5) JSA (6) PFD (7) RA (8) FTA
- OR**
- Q.5 (a)** Write Short Notes on( Any Four): 08  
 (1) Total Loss Control  
 (2) Fault Tree Analysis  
 (3) Personal Monitoring  
 (4) Bio Medical Wastes  
 (5) Use of Environmental Engineering in Occupational Health
- (b) Explain any three of the following themes in detail 06  
 (1) Hazard analysis  
 (2) Physical Hazards at work-place  
 (3) Provisions related to health under Factories Act  
 (4) A Rating Technique for Risk Assessment  
 (5) Fire and Extinguishers

\*\*\*\*\*