

**POST GRADUATE CERTIFICATE IN  
INDUSTRIAL SAFETY/POST  
GRADUATE DIPLOMA IN  
INDUSTRIAL SAFETY  
(PGCINDS/PGDINDS)  
Term-End Examination  
December, 2023  
MIS-024 : MECHANICAL AND ELECTRICAL  
SAFETY MANAGEMENT**

*Time : 3 Hours*

*Maximum Marks : 70*

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**Note :** Attempt *six* questions in all. Question No. 1  
*is compulsory.*

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1. (A) Objective type questions :  $5 \times 2 = 10$
- (i) Electrical injuries are commonly caused by :
- (a) An unsafe equipment (Or) installations
- (b) An unsafe environment
- (c) An unsafe work practices
- (d) All of the above

- (ii) WPS stands for :
- (a) Work position system
  - (b) Work partition system
  - (c) Work permit system
  - (d) Work permit source
- (iii) Checklist for Job Safety Analysis (JSA) consists of :
- (a) Men, Material, Tools, Machine
  - (b) Work Area, Material, Machine, Tools
  - (c) Work Area, Men, Machine, Tools
  - (d) Work Area, Men, Material, Tools
- (iv) The secondary of a current transformer must be ..... while energized.
- (a) Opened
  - (b) Grounded
  - (c) Examined
  - (d) Shortened
- (v) The abbreviation of MTBF is :
- (a) More Time Between Failures
  - (b) Mean Time Between Failures
  - (c) Modular Time Between Failures
  - (d) Maximum Time Between Failures

- (B) Short answer type questions :  $5 \times 2 = 10$
- (i) What are the different types of failed system ?
  - (ii) What are the various types of controls that can reduce the extent of safeguarding ?
  - (iii) Write down the importance of proper training for workers before job work.
  - (iv) What are the main factors for the accident ?
  - (v) What are the elements of Labelling ?
2. (a) How do you identify the various types of hazards in your workplace ? Discuss. 5
- (b) Discuss the various responsibilities of an employee in ensuring safeguarding of machines. 5
3. (a) What is Material Handling ? List some factors affecting the selection of material handling equipment. 5
- (b) What is mechanical material handling ? List out the risk factors associated with mechanical handling. 5
4. (a) Why are push back and anti-kick back systems required ? Explain in brief. 5
- (b) What is lifting operation ? Why is safety important in lifting operation ? 5

5. (a) What are the precautions need to be taken when working near high voltage lines ? 5
- (b) What are the safety precautions when working on electrical motor ? 5
6. (a) Describe the regulations of work permit system. List out the different types of work permit. 5
- (b) Make a checklist for safe operations in fireworks manufacturing industry. 5
7. (a) What are the procedure of first aid to be followed for unconscious electric shock victims ? 5
- (b) What is the purpose of first aid in education and training ? List out the various training methods. 5
8. Write short notes on any *two* of the following : 5+5
- (a) Earthing (*Or*) Grounding
- (b) Globally Harmonized System (GHS) Labelling
- (c) Personal Protective Equipments (PPE)