

Internal Assessment Test 1 – October 2022  
**QUESTION PAPER AND SCHEME OF EVALUATION**

Sl.	Answer any FIVE FULL Questions	Marks	CO	RBT
1	Define the following with examples:  (i) Safety (ii) Hazard (iii) Caution (iv) Appliance (v) Precaution	10	CO1	L1
2	Define accident. Explain the reasons for accident.	10	CO1	L1
3	What is Material Safety Data Sheet (MSDS)? List the different sections of MSDS.	10	CO2	L2
4	Discuss the safety climbing guidelines while using ladders.	10	CO2	L2
5	Explain Lockout Tagout procedures followed in industries.	10	CO2	L2
6	Explain safety measures to be followed when carrying out welding operations.	10	CO3	L2

<u>Question #</u>	<u>Description</u>	Marks Distribution		Max. MARKS
<b>1</b>	Define the following with examples: (i) Safety (ii) Hazard (iii) Caution (iv) Appliance (v) Precaution  ➤ <b>Each definition 1 Mark</b> ➤ <b>Each example 1 Mark</b>	<b>5M</b> <b>5M</b>	10M	10M
<b>2</b>	What is accident? Explain the reasons of accident.  ➤ <b>Definition of accident</b> ➤ <b>Stating the reason</b> ➤ <b>Explanation</b>	<b>2M</b> <b>4M</b> <b>4M</b>	10M	10M
<b>3</b>	What is Material Safety Data Sheet (MSDS)? List the different sections of MSDS.  ➤ <b>Definition</b> ➤ <b>Explaining</b>	<b>2M</b> <b>8M</b>	10M	10M
<b>4</b>	Discuss the safety climbing guidelines while using ladders. ➤ <b>Mention 10 safety precaution each carry 1 marks</b>	<b>10M</b>	10M	10M
<b>5</b>	Explain Lockout Tagout procedures followed in industries ➤ <b>Statement</b> ➤ <b>Explanation</b>	<b>5M</b> <b>5M</b>	10M	10M
<b>6</b>	Explain safety measures to be followed when carrying out welding operations ➤ <b>Mention 10 safety precaution each carry 1 marks</b>	<b>10M</b>	10M	10M

## Solution of 1<sup>st</sup> IAT

1

- i. Safety:** Condition of being safe undergoing or causing hurt, injury or loss.  
Example: Using mask while welding, wearing gloves
- ii. Hazard:** A hazard is any agent that can cause harm or damage to humans, property, or the environment.  
Example: Stored energy, when released, can cause damage, presence of hazardous situations example oxygen-depleted atmospheres, awkward positions, repetitive motions, low-hanging or protruding objects
- iii. Precaution:** An action that is done to prevent something unpleasant, inconvenient or dangerous happening,  
Example: Wearing seat belts while riding vehicle
- iv. Caution:** A warning against danger or evil. Careful forethought to avoid danger or harm.  
Example: Speed breakers, railway crossing
- v. Appliance:** A device or piece of equipment designed to perform a specific task  
Example: Refrigerator, Welding rod

2.

It is defined as any unplanned event or an unfortunate incident that that happens unexpectedly and unintentionally result in injury or ill health of people or damage or loss of property, materials or the environment or loss of business opportunity.

- **Taking shortcuts:** Every day we make decisions we hope will make the job faster and more efficient. But time savers ever risk your own safety or that of other workers. Shortcuts that reduce your safety on the job are not shortcuts, but an increased chance for injury.
- **Being over confident:** Confidence is a good thing. Overconfidence is too much of a good thing. “It’ll never happen to me” is an attitude that can lead to improper procedures, tools or methods in your work. Any of these can lead to an injury.
- **Starting a task with incomplete instructions:** To do the job safely and correctly the first time, you need complete information. Have you ever seen

a worker sent to do a job having been given only a part of the job's instructions? Don't be shy about asking for explanations regarding work procedures and safety precautions. It isn't dumb to ask questions, it's dumb not to.

- **Poor housekeeping:** When clients, managers or safety professionals walk through your work site, housekeeping is an accurate indicator of everyone's attitude about quality, production and safety. Poor housekeeping creates hazards of all types. A well-maintained area sets a standard for others to follow. Good housekeeping involves both pride and safety.
- **Ignoring safety procedures:** Purposely failing to observe safety procedures can endanger you and your coworkers. You are being paid to follow safety policies – not to make your own rules. Being “casual” about safety can lead to a casualty
- **Mental distractions from work:** Having a bad day at home and worrying about it at work is a hazardous combination. Dropping your “mental guard” can pull your focus away from safe work procedures. You can also be distracted when you're busy working and a friend comes by to talk while you are trying to work. Don't become a statistic because you took your eyes off the machine “just for a minute.”
- **Failure to Pre-Plan the Work:** There is a lot of talk today about job hazard analysis. JHAs are an effective way to figure out the smartest ways to work safely and effectively. Being hasty in starting a task or not thinking through the process can put you in harms way. Instead, plan your work and then work your plan.

### 3.

#### **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

- 1.1. Product identifier
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- 1.3. Details of the supplier of the safety data sheet
- 1.4. Emergency telephone number

#### **SECTION 2: Hazards identification**

- 2.1. Classification of the substance or mixture
- 2.2. Label elements
- 2.3. Other hazards

#### **SECTION 3: Composition/information on ingredients**

- 3.1. Substances
- 3.2. Mixtures

#### **SECTION 4: First aid measures**

- 4.1. Description of first aid measures
- 4.2. Most important symptoms and effects, both acute and delayed
- 4.3. Indication of any immediate medical attention and special treatment needed

#### **SECTION 5: Firefighting measures**

- 5.1. Extinguishing media
- 5.2. Special hazards arising from the substance or mixture
- 5.3. Advice for firefighters

#### **SECTION 6: Accidental release measure**

- 6.1. Personal precautions, protective equipment and emergency procedures
- 6.2. Environmental precautions
- 6.3. Methods and material for containment and cleaning up
- 6.4. Reference to other sections

#### **SECTION 7: Handling and storage**

- 7.1. Precautions for safe handling
- 7.2. Conditions for safe storage, including any incompatibilities
- 7.3. Specific end use(s)

#### **SECTION 8: Exposure controls/personal protection**

- 8.1. Control parameters
- 8.2. Exposure controls

#### **SECTION 9: Physical and chemical properties**

- 9.1. Information on basic physical and chemical properties
  - Appearance (physical state, color, etc.)
  - Upper/lower flammability or explosive limits
  - Odor
  - Vapor pressure
  - Odor threshold
- 9.2. Other information

#### **SECTION 10: Stability and reactivity**

- 10.1. Reactivity
- 10.2. Chemical stability
- 10.3. Possibility of hazardous reactions
- 10.4. Conditions to avoid
- 10.5. Incompatible materials
- 10.6. Hazardous decomposition products

#### **SECTION 11: Toxicological information**

- 11.1. Information on toxicological effects

#### **SECTION 12: Ecological information**

- 12.1. Toxicity
- 12.2. Persistence and degradability
- 12.3. Bioaccumulative potential
- 12.4. Mobility in soil
- 12.5. Results of PBT and vPvB assessment
- 12.6. Other adverse effects

#### **SECTION 13: Disposal considerations**

- 13.1. Waste treatment methods

#### **SECTION 14: Transport information**

- 14.1. UN number
- 14.2. UN proper shipping name
- 14.3. Transport hazard class
- 14.4. Packing group
- 14.5. Environmental hazards
- 14.6. Special precautions for user

- 14.7. Transport in bulk

### **SECTION 15: Regulatory information**

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- 15.2. Chemical safety assessment

**SECTION 16: Other information:** This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

## **4.**

- Clean muddy or slippery boot soles before climbing a ladder.
- Always face a ladder when climbing up or down.
- Follow the three-point rule: keep at least both feet and one hand or both hands and one foot on the ladder at all times.
- Keep your body centered between the side rails of the ladder so you don't tip over the ladder.
- A good rule is to always keep your belt buckle inside the rails of a ladder. Avoid carrying materials or tools when climbing a ladder.
- Carry tools up or down in a belt or hoist them in a bag or bucket. Never stand on the top two steps of a stepladder and the top four rungs on other ladders.
- Inspect the ladder before climbing to make sure it is in good shape. Report all defects to your supervisor.
- Do not use any ladder that is defective
- When choosing an extension ladder, keep in mind that the length of a ladder is different from its usable length
- Make sure that both feet are on stable and level surfaces, and that both rails are resting evenly on the resting spot
- When climbing fixed ladders on towers, tanks, or chimneys, use appropriate ladder safety devices as instructed.
- A ladder safety device is an appliance that will arrest the fall of an individual working at elevated heights
- Do not load ladders beyond the maximum intended load for which they were built.
- Allow only one person at a time on a single-width ladder and no more than two people on a double width ladder, each on a separate side.
- Always select a ladder that is the correct length to safely reach the working height.
- When using a ladder to access elevations, make sure that it extends three feet above the landing surface for ease in mounting and dismounting
- When accessing an upper level from a ladder, position the ladder so the side-rails extend at least three feet above the landing point.
- Always read and follow warning labels on ladders
- Choose the right ladder for the job.
- Do not choose a ladder with height or weight limits that are less than you need to perform the job.

## **5.**

The general LOTO procedure should follow a **basic 6 step process**.

- Prepare for Shutdown: Notify affected employees that maintenance will be performed under LOTO. The authorized employee should review the hazards and LOTO procedures for the equipment that will be serviced.
- Shutdown Equipment: The authorized employee will shut down the equipment following company and/or manufacturer's requirements.
- Isolate Equipment: Isolate the equipment from the hazardous energy sources using the equipment specific LOTO procedure.
- Place Locks and Tags: Locks and/or tags should be placed on valves, breakers/electrical disconnects, blank flanges, and any other point called out on the equipment specific LOTO procedure.
- Release/Block Stored Energy: Release stored energy from the stored energy hazards identified in the LOTO procedure, such as releasing springs, blocking elevated parts that could drop, stopping moving parts, draining fluids, venting gases, etc.
- Verify Equipment Isolation: Confirm that workers are clear from the area, locking devices are securely in place, and that the equipment is isolated. Once this is done, attempt a normal startup to confirm that the equipment does not start.

## 7.

### Welding machine

- a. Wear PPE
- b. Remove all flammable material, such as cotton, oil, gasoline, etc., from the vicinity of welding.
- c. Keep a suitable fire extinguisher nearby at all times
- d. Do not leave hot rejected electrode stubs, steel scrap, or tools on the floor or around the welding equipment
- e. Do not permit unauthorized persons to use welding or cutting equipment.
- f. Proper ventilation should be provided
- g. Obey the instructions given by the instructor
- h. Gain sufficient knowledge before using machine
- i. Proper safety guard must be provided
- j. Do not touch work piece after the work with bare hand.

k. Do not play with the machine.