

INDUSTRIAL SAFETY

Aim:

To create knowledge about Industry operations like maintenance techniques and safety procedures as per standards and acts

Objective

- ❖ To create knowledge about several maintenance techniques like preventive, scheduled, breakdown etc
- ❖ To make learner to understand various hazards or accidents like electrical or mechanical and to prevent them from occurring

Pre Test – MCQs

1. Which of the following is the causes of accident?
 - a) Unsafe conditions
 - b) Unsafe acts
 - c) Tired worker
 - d) All of the above**
2. Control of any hazardous plants such as oil, gas plants and they are used to protect human, industrial is known as _____.
 - a) Industrial safety**
 - b) Production safety
 - c) Mechanical safety
 - d) None of the above
3. Safety colour code is used to _____.
 - a) Indicate storage
 - b) Notices, signs and label**
 - c) Transportation
 - d) None of the above
4. Which of the following is the electrical hazards?
 - a) Insufficient protective devices**
 - b) To arrange passages to escaping at the time of fire
 - c) Insufficient guards
 - d) Poor condition of the guards
5. Which of these is most likely to cause an accident in a workplace?
 - a) Administration
 - b) Manual handling**
 - c) Adequate lighting
 - d) Excessive noise

6. Which of the following precautions is/are necessary in electrical work ?
- a) The equipment should be earthed properly
 - b) Cable should be completely insulated
 - c) Cable should have any joints
 - d) **Both (a) & (b)**
7. In case of an accident, the victim should immediately be...
- a) Asked to take rest
 - b) Enquired about the accident
 - c) **Attended to**
 - d) Left to himself without treatment
8. The safe way of working is.....
- a) **An effective and right way of working**
 - b) An ancient way of working
 - c) A way of handling the work in a hurry
 - d) A way of normal working

Pre-Requisites:

Basic knowledge of machines and tools used in industry

Theory

Industrial safety subject deals with many aspects of an industry. The industry can be any manufacturing unit or processing unit or any utility. It primarily deals with safety aspects and procedures to be followed in an industry as per International standards for all types of hazards that are prone to happen like electrical, mechanical, fire etc. It also deals with various forms of maintenances like preventive, breakdown, scheduled etc specifying their need, forms and along with

Necessary procedures and precautions. Industrial safety, uses tools like decision tree, flowcharts etc. which are widely used in machine learning and artificial intelligence for taking decisions such that, the decisions taken not only considers safety and productivity of machines and employee but also cost economics.

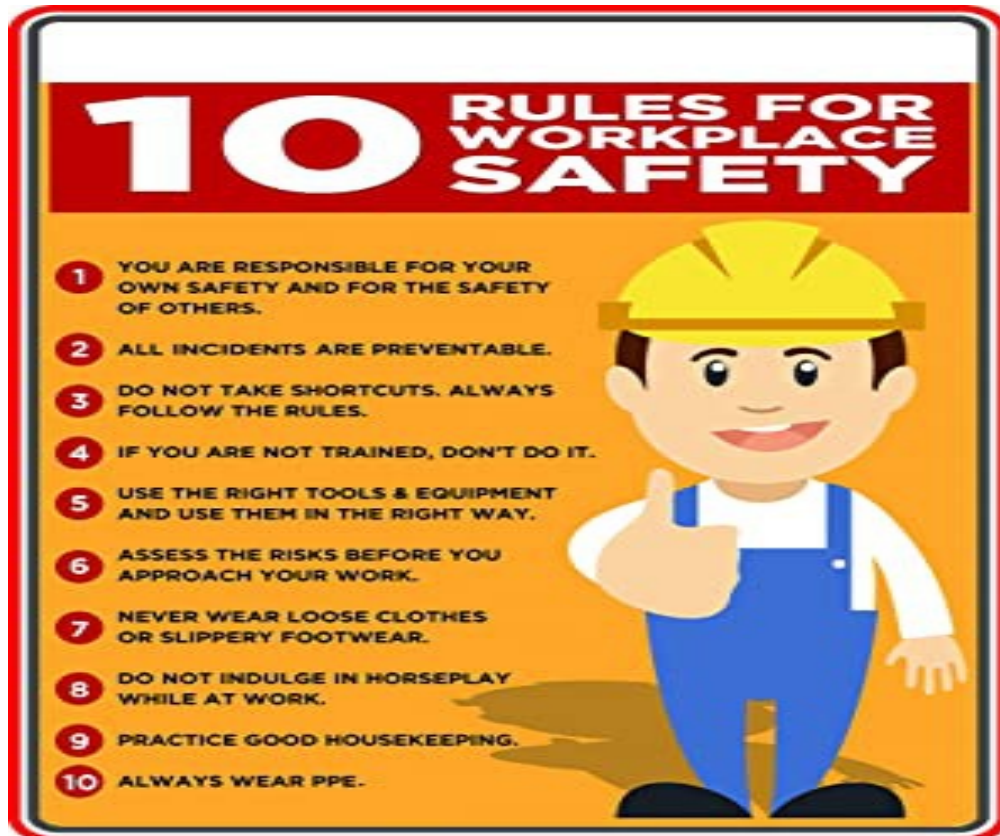
Maintenance, in general, can be defined as efforts taken to keep the condition and performance of a machine always like the condition and performance of the machine when it is still new.

There are 4 key types of maintenance management strategies including run-to-failure maintenance, preventive maintenance, predictive maintenance, and reliability-centered maintenance.

These maintenance management strategies can be used together, or independently. But, how do you know which strategy will work best for your organization? And when to use each one

Daily Workplace Safety Tips in Manufacturing

- Inform Supervisors of Unsafe Conditions. ...
- Use **Equipment**, Machines, and Tools Properly. ...
- Wear Safety **Equipment** (PPE) ...
- Prevent Slips and Trips. ...
- Keep Work Areas and Emergency Exits Clear. ...
- Eliminate Fire Hazards. ...
- Avoid Tracking Hazardous Materials. ...
- Prevent Objects from Falling



Applications

- ❖ The principles of maintenance can be applied in every day routine of any industry
- ❖ Learning of safety procedures can prevent accidents and hazards like electrical, fire etc
- ❖ Learning as per the standards and acts are applied in designing and maintaining the industry fit for Occupant's health and safety

Post Test – MCQs

1. In safety color code red color is used for _____.
 - a) Caution
 - b) Safety instructions
 - c) Stop signs**
 - d) None of the above
2. Class-A fire consists of fire due to _____.
 - a) Wood**
 - b) Oil
 - c) Transformer
 - d) Chemical
3. Class-B fire consists of fire due to _____.
 - a) Chemical
 - b) Motor
 - c) Oil**
 - d) Aluminium
4. _____ is best suited to extinguishing oil or flammable liquid fire.
 - a) Soda acid
 - b) Foam**
 - c) Dry chemical
 - d) Water
5. _____ is best suited to extinguishing class- C fire.
 - a) Water
 - b) Inert gas**
 - c) Foam
 - d) None of the above

Conclusion

Safety is one of the key functionalities of any industry. The knowledge obtained through this subject helps in understanding and practice of safety measures, maintenance methods and fault tracing techniques like decision tree for effective operation and improved employee well being and safety which maximises productivity of that industry

References

1. Maintenance Engineering Handbook, Higgins & Morrow, Da Information Services.
2. Maintenance Engineering, H. P. Garg, S. Chand and Company.
3. Indian Factories Act, 1948
4. <https://automationforum.co/what-is-maintenance-types-of-maintenance/>

ASSINGNMENT

1. To Prepare notes on types of maintenance in an industry
2. To prepare notes on safety procedures as per standards and Acts