ISE (India)

Miss Tamanna Afroz,
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- Post graduate Diploma in Fire & Life Safety (PGDF&LS) Audit
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- M.Sc Disaster Management from NOU, Bihar
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- B.Tech (Electrical)
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He has successfully completed several national and international certifications, including Train the Trainer – OHS, First Aid Trainer, NEBOSH IGC, CEng., and Lead Auditor certifications in QMS, EMS, OHSAS, OHSMS, EnMS, RSA, etc. He is also a proud member of SCE, IE and ISEI with 18+ years of experience as a QHSE and Sustainability professional in India and abroad.
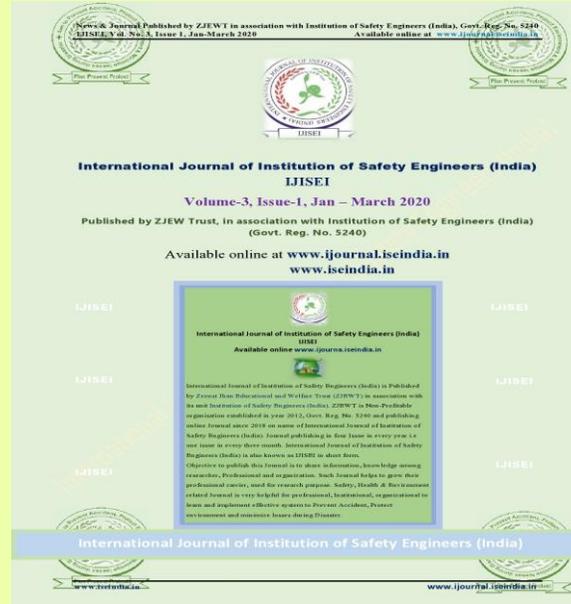
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MEMBERSHIP SERVICES

INSTITUTION OF SAFETY ENGINEERS (INDIA)
MEMBERSHIP

JOURNAL PUBLICATION

SAFETY HEALTH ENVIRONMENT RELATED TRAINING & SERVICES

Awareness session to Villegers
to control forest fire

About us

- **Institution of Safety Engineers (India)** is a **non-profit organization**, established in **2012** under the **ZJEW Trust** and **registered under the Government of India**. The organization works with the objective of **preventing accidents, protecting the environment, and minimizing losses during disasters**.

- The Institution of Safety Engineers (India) provides **safety, health, environment, and quality-related training** to needy and offers similar professional services to **industries, organizations, and institutions** to help achieve Zero Harm.

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WHY DOES A SAFETY MANAGEMENT SYSTEM BECOME INEFFECTIVE IN AN ORGANISATION

I. SAFETY MANAGEMENT SYSTEM (SMS)

ISE (India)
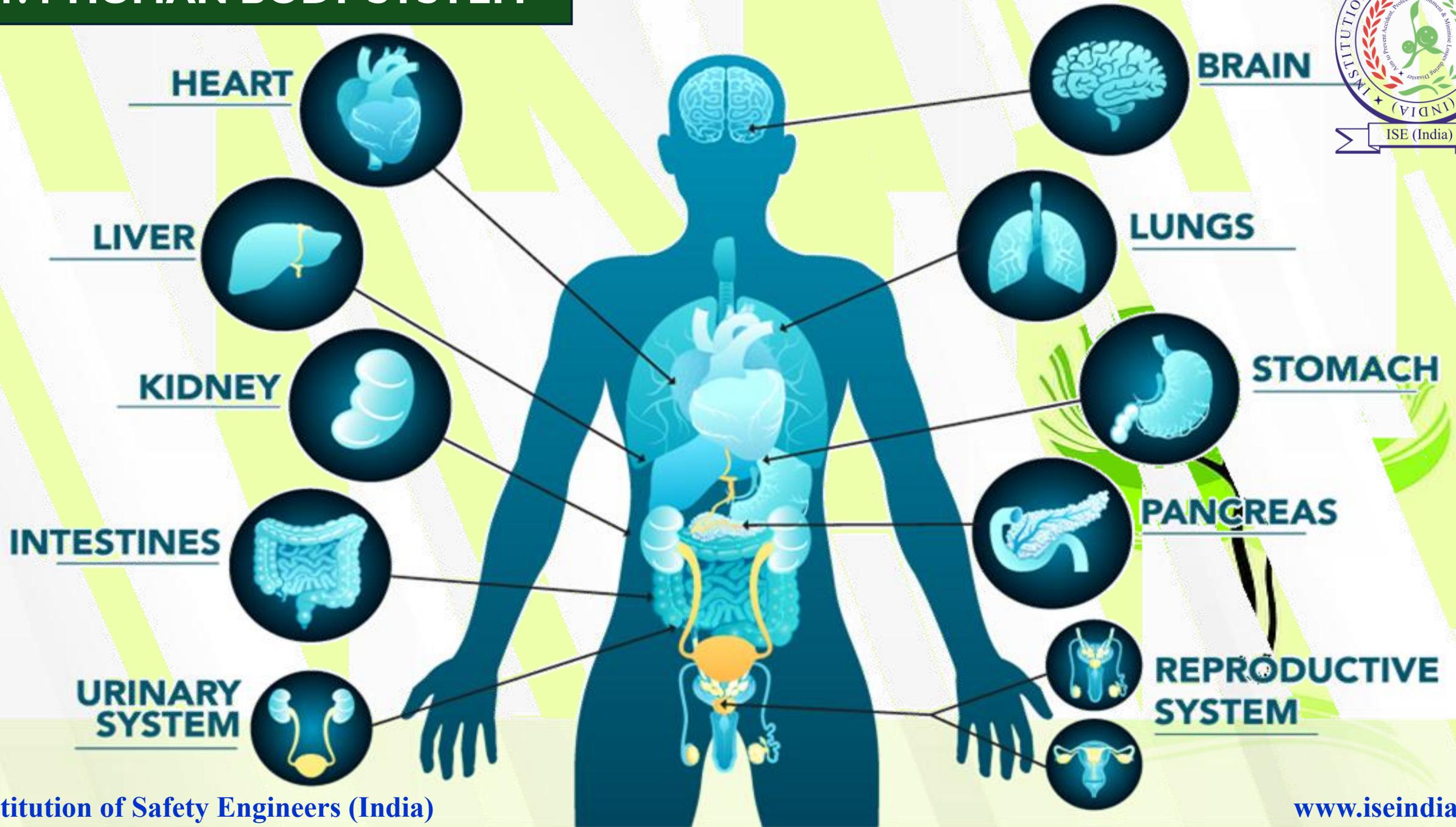
Components of Computers
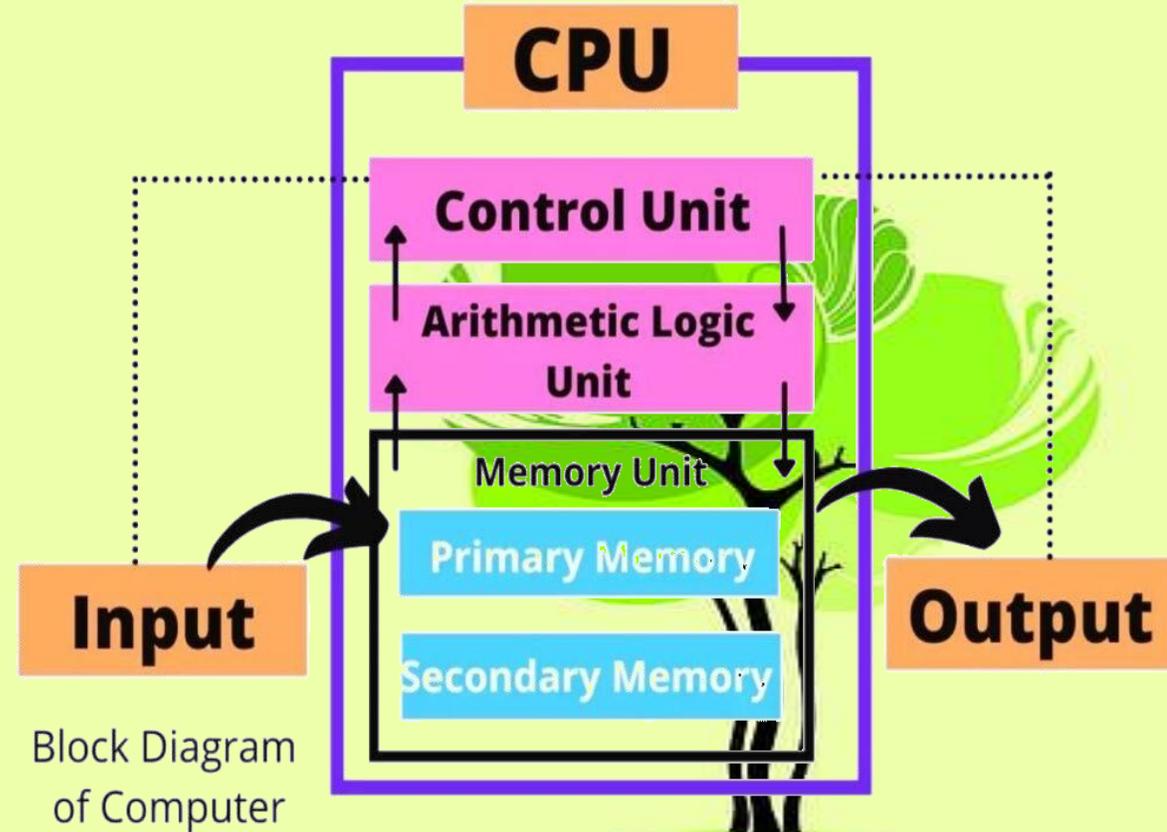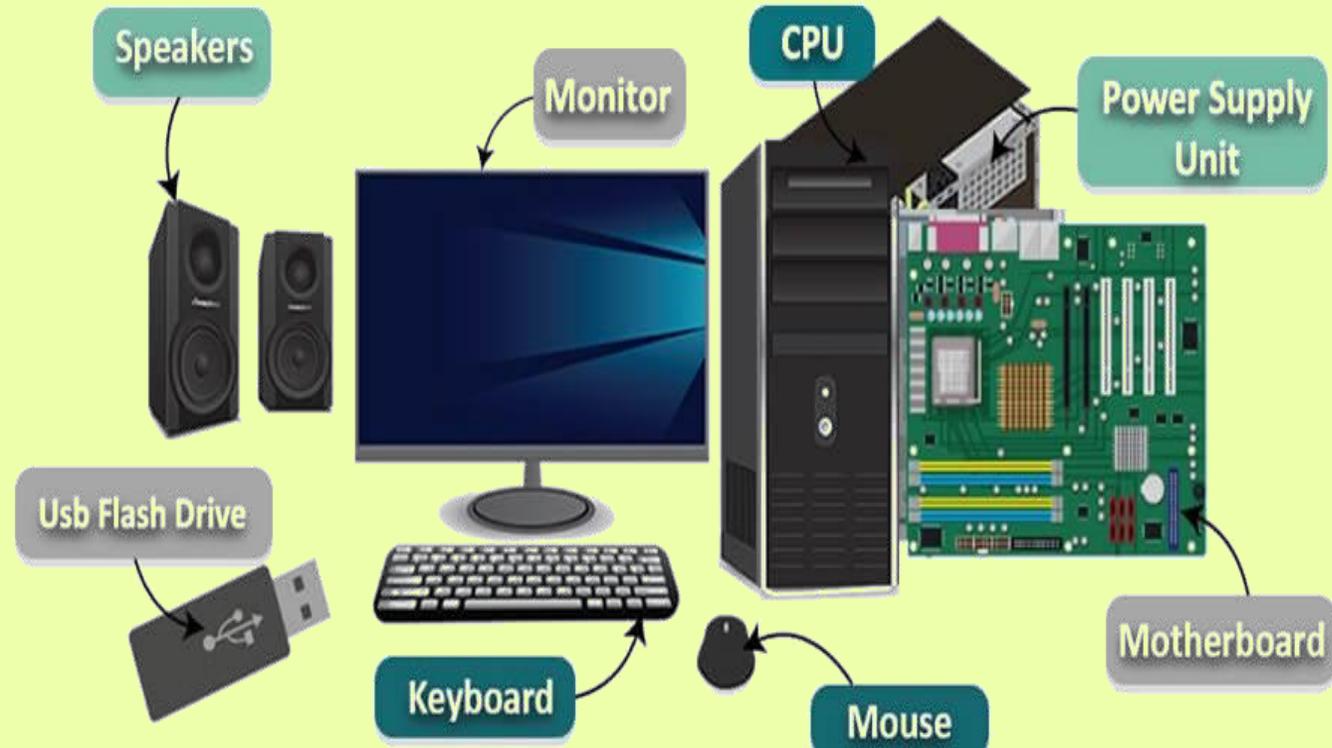

Speakers

Monitor

CPU

Power Supply Unit

Usb Flash Drive

Keyboard

Mouse

Motherboard

CPU

Control Unit

Arithmetic Logic Unit

Memory Unit

Primary Memory

Secondary Memory

Input

Output

Block Diagram of Computer

Safety

+

- ❑ Control over hazard or Risk
- ❑ Protection from harm and hazards
- ❑ Freedom from harm or danger."

Management

+

- ❑ Managing people, organizational resources & Process.
- ❑ Achieving goals through organized effort."

System

- ➢ Group of components working together
- ➢ Components organized to ensure safety."

Safety Management System

- ❑ Structured system to manage workplace safety.
- ❑ Framework for identifying and controlling risks.
- ❑ Organized approach ensuring safety and compliance

2. I SAFETY MANAGEMENT SYSTEM (SMS)

SMS

COMMITMENT & SAFETY POLICY

Plan

PLANNING

IMPLIMENTATION & OPERATION

Do

CHECKING & CORRECTIVE ACTION

Check

MANAGEMENT REVIEW

Act

CONTINUAL IMPROVEMENTS

Workplace Safety
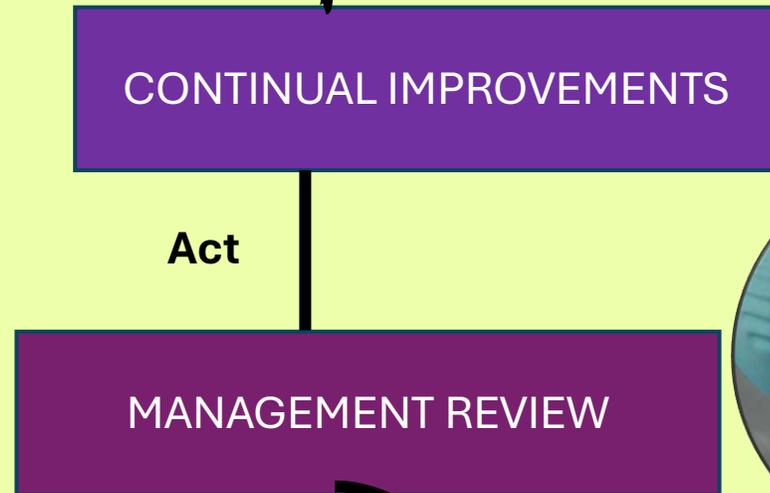
2.2 ELEMENT OF SAFETY MANAGEMENT SYSTEM

SAFETY MANAGEMENT SYSTEM

1. Leadership & Accountability
2. Risk Assessment & Management
3. Communication
4. Competency & Training
5. Asset Integrity
6. Safe Operations
7. Contractors, Suppliers & Others
8. Emergency Preparedness
9. Incident Reporting & Analysis
10. Community Awareness & Off-the-Job Safety
11. Continuous Improvement

Establishing a strong culture where every individual is responsible for their actions and is committed to a safe environment.

ZERO HARM

Arrive Safe / Work Safe / Go Home Safe

COMMITMENT to LEAD

I am responsible for my co-workers' safety

SAFETY IS OUR #1 PRIORITY

2.2.1. LEADERSHIP & ACCOUNTABILITY

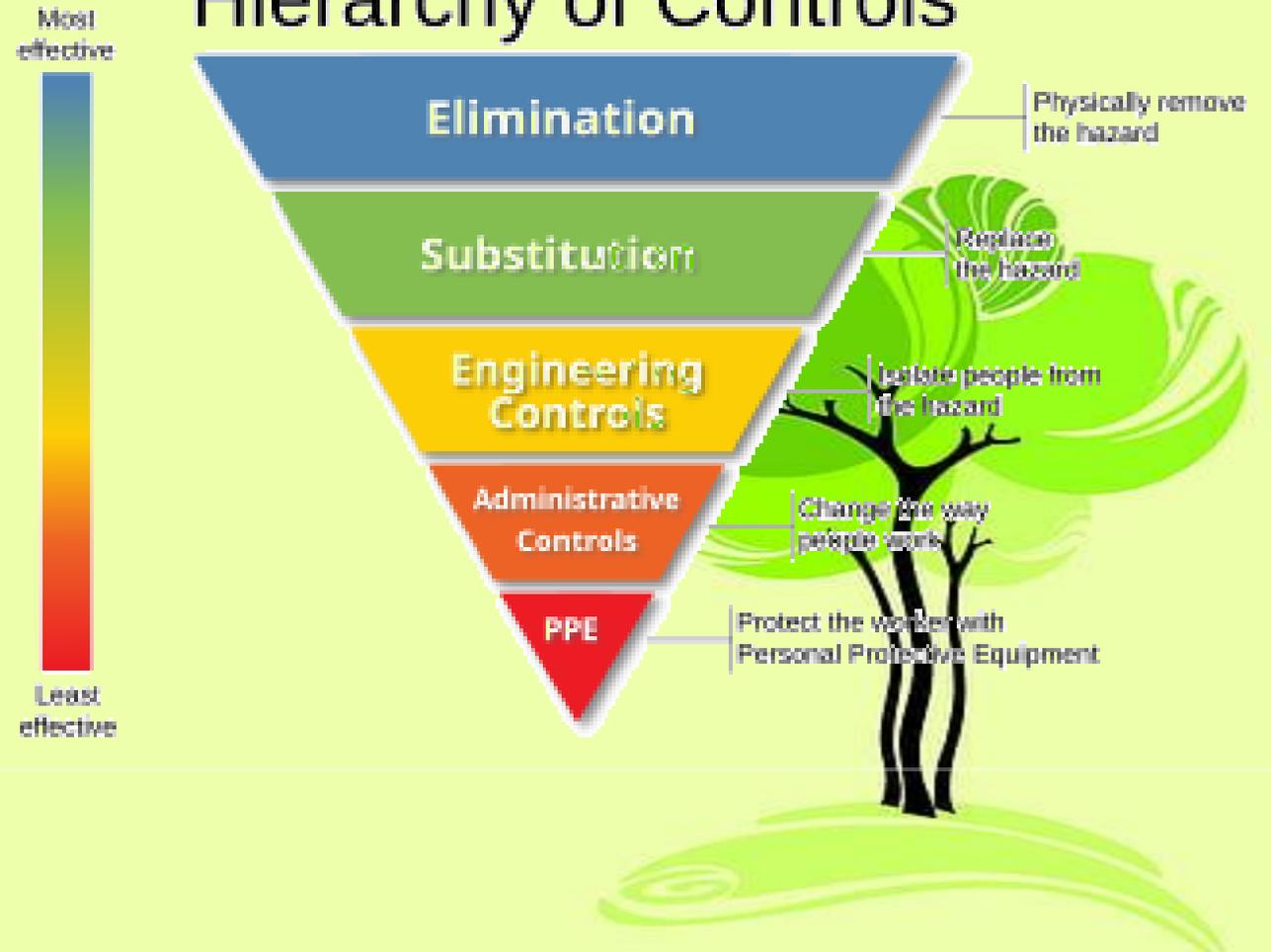I am responsible for my co-workers' safety

- Visible commitment
- clear vision
- Accountability
- Effective communication
- Employee engagement
- Leading by example
- Risk awareness
- Trust
- Learning
- Continuous improvement.

Hierarchy of Controls

This elements discuss the effective two way communication to ensure that all Safety information and risks are communicated and attended in timely manner.

Examples :

- Weekly Face To Face Safety Meeting

- Informal Communication

- Loss Prevention Bulletin

- SMC Meetings

- Bulletin Boards, Safety Films, Posters

- Bi monthly meetings

- Safety Meetings

- Safety Communications

- Procedures Management Safety Files

Sender → Message → Receiver
Feedback
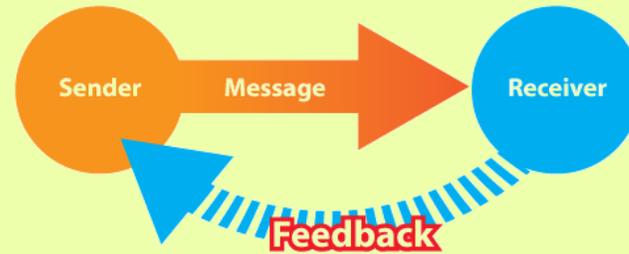
Two-Way Communication: Importance and Best Practices

This element addresses the training and competency requirements for educating employees.

Examples :

- Safety & Job Orientation

- Certifications

- On Job Training

- Job Skills Training

- E-learning

EMPLOYEE SAFETY TRAINING

SAFETY TRAINING

SAFETY TRAINING
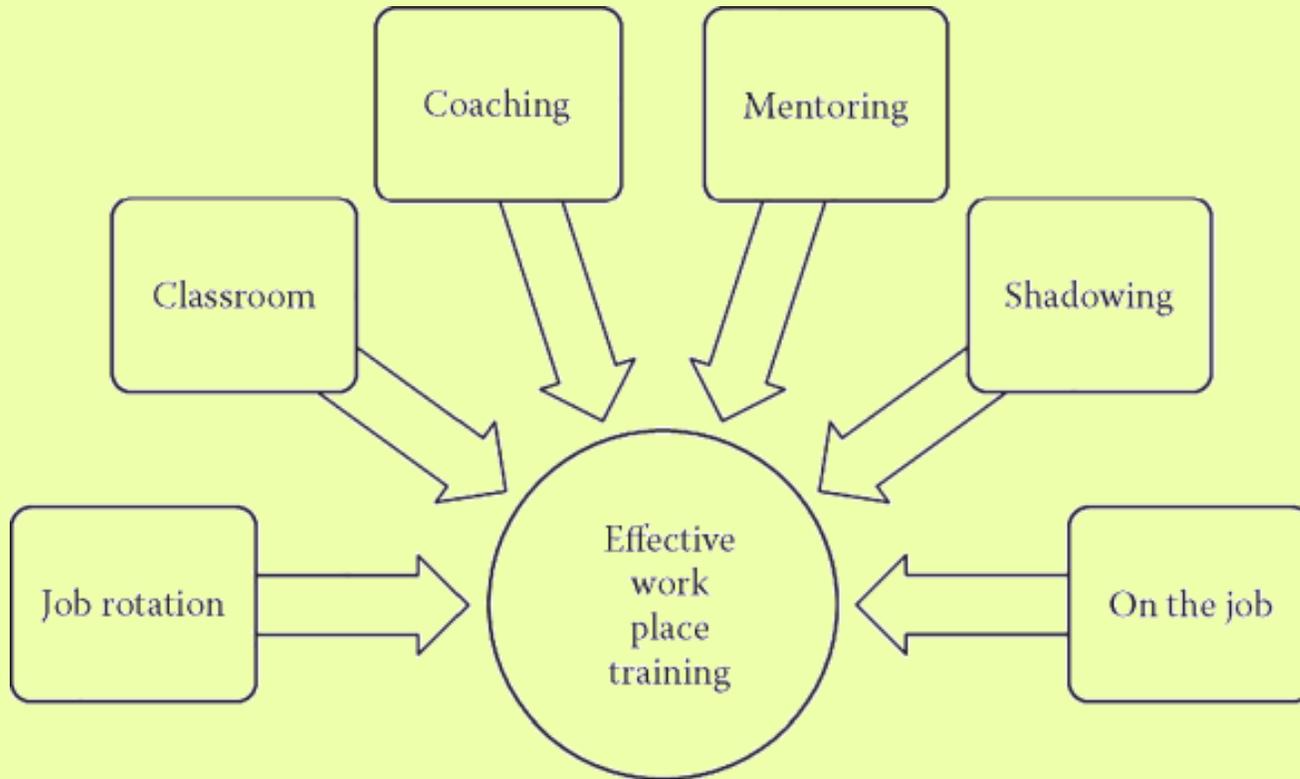
Types:

❑ Induction Training

❑ Job-Specific Training

❑ Refresher Training

❑ Emergency Training

❑ Specialized Training etc.

Mode of Training

The Training Cycle
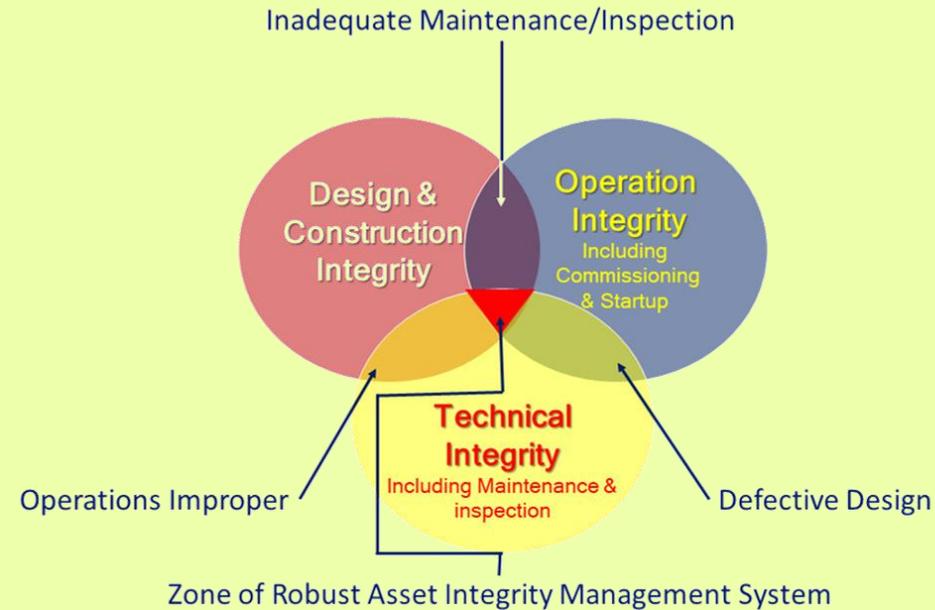
Asset integrity is to ensure that the equipment /facility is constructed, commissioned, operated, inspected and maintained according to its design requirements/parameters.

Examples :

- Correct Unsafe Condition

- PSI checklist

- QSI (Quarterly Safety Inspection)

- QA/C Inspections

- Slings / Overhead Crane Inspection

- Integrity Procedures

- Fire Equipment Integrity

- Safety Suggestion

- MOC

- SMC

- Design Standards Review

- Facility or Equipment Safety Inspection

- Mechanical Completion Certificate (MCC)

- Saudi Aramco Standards Review

Inadequate Maintenance/Inspection

Design & Construction Integrity

Operation Integrity Including Commissioning & Startup

Technical Integrity Including Maintenance & inspection

Operations Improper

Defective Design

Zone of Robust Asset Integrity Management System

2.2.6. SAFE OPERATIONS

This element addresses the employees responsibilities to observe, comply with all safety rules and procedures and see them as minimum standards.

Examples :

- Personal Protective Equipment (PPE)

- Operate/maintain equipment as per standards

- Lock and Hold tag Procedures

- Minimum Safety Rules

- Work permit system

- Safety Behavior Observation

- Driver Observation

- Personal Protection Equipment Selection & Use

- Project Safety Index (PSI)

- Isolation, Lockout and Use of Hold Tags
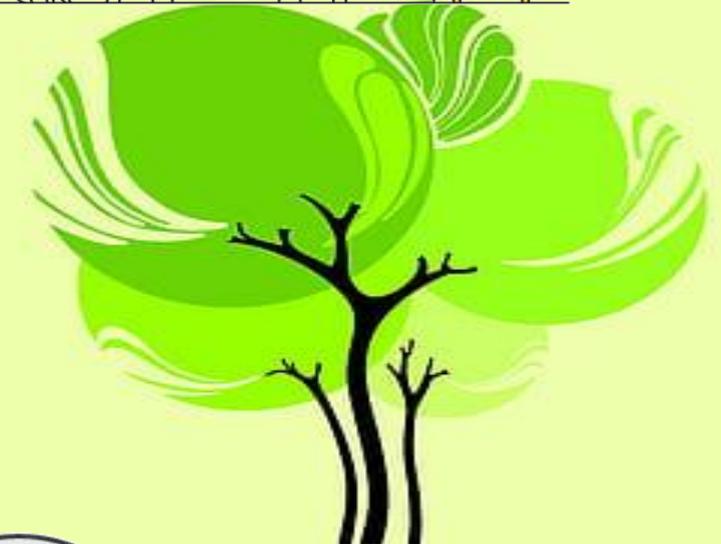
This element discusses managing the safety activities of a third parties like contractors, suppliers and others who could affect Saudi Aramco operations.

Examples :

- Contractor Competition program

- Contractor Safety Orientation

- Pre-Job Meetings

- Contractor Evaluation

- Hazard Identification Plan Review

- Contractor Pre-Bid Award-Selection

- Contractor Performance Monitoring

- Contractor Incident Reporting and Investigation

- Contractor Safety Management Program Post-Job Evaluation

HEALTH & SAFETY PRACTICES FOR A CONTRACTOR AND/OR SUPPLIER

CONTRACTORS & SUPPLIERS

This element outlines the development, execution and maintenance of the emergency response plan.

Examples :

- Reporting Emergency

- Emergency Response Plan

- Incident Command Post Training

- Emergency drills

- Contingency plan

PREPAREDNESS

ASSESSMENT

PLANNING

PREPARATION

EVALUATION

Emergency Management Cycle

MITIGATION
RECOVERY
RESPONSE
PREPAREDNESS

This elements highlights the need to report and investigate incident no matter how minor to improve safety performance

Examples :

- Report Incidents Immediately

- Participating in Incidents investigation

- Follow up and track corrective actions

- Share Lesson learned from Loss Prevention Bulletin

- Reporting & learning from near misses

This element supports and enforces Saudi Aramco historical commitment to safety outside the boundaries of its operations such as community awareness campaigns and off-the- job safety

Examples :

- Use high quality Extension Cords that properly rated for the intended load

- Off Job Safety for Biking, Driving and Motorcycles

- Environmental Campaign

- Swimming Pool Safety

- Recycling

- Traffic Week

2.2.11. Continuous Improvement

This element reinforces the need for a regular review for the SMS elements for continuous improvement

Examples :

- Team Safety Recognition & Motivation Program

- Safety Suggestion

- Innovation Management System (IMS)

- Employees Survey

- Contractor Safety Competition Program

- External Review & Internal Review
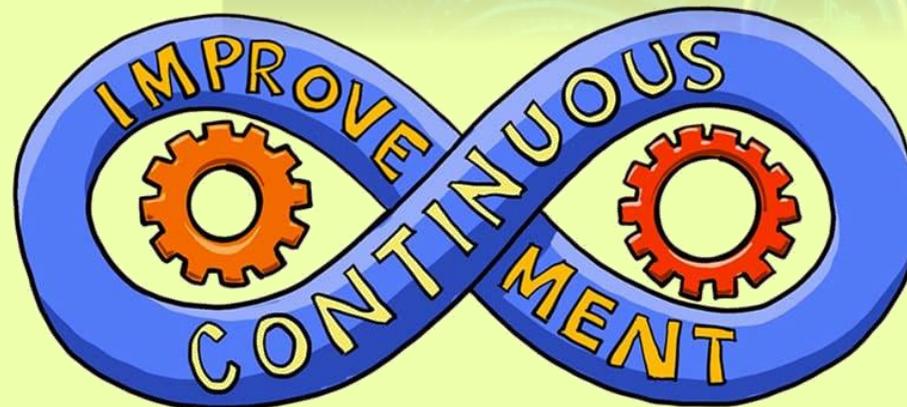
SAFETY MANAGEMENT SYSTEM

ELEMENT NUMBER	ELEMENT NAME	SUMMARY
1. Leadership & Accountability	Visible safety leadership, roles & responsibilities for all levels.	Foundation of the SMS; ensures safety is prioritized and enforced across the organization
2. Risk Assessment & Management	Identification, evaluation, and mitigation of risks.	Ensures potential hazards are systematically addressed
3. Communications	Two-way effective communication of safety information.	Includes meetings, bulletins, safety films, and committees
4. Competency & Training	Ensuring personnel are trained and qualified.	Covers orientation, on-the-job training, e-learning, certification
5. Asset Integrity	Maintaining safe and reliable operating equipment & infrastructure.	Focuses on physical and operational reliability.
6. Safe Operations	Executing tasks under defined safety procedures.	Standardizing operations to minimize hazard exposure.
7. Contractors, Suppliers & Others	Extending safety expectations to external parties.	Contractors and suppliers must comply with SMS requirements.
8. Emergency Preparedness	Readiness to respond to emergencies.	Plans, drills, and resources to effectively manage crises.
9. Incident Reporting & Analysis	Capturing and learning from safety incidents.	Processes to report, investigate, and improve from events.
10. Community Awareness & Off-the-Job Safety	Extending safety culture beyond the workplace.	Reach to families and communities to promote safety at home.
11. Continuous Improvement	Ongoing enhancement of safety performance.	Integrates feedback, audits, and reviews to evolve the system

❑ Hiring Based Only on Qualification (Not on Competency)

❑ Rejecting Candidates Only Due to Qualification (Ignoring Practical Experience)

❑ Hiring Only Reference / Internal Recommended Candidates

❑ Job Allocation Based on Money or Favouritism

❑ Termination / Action on Safety Personnel Based on Other Departments' Pressure or complain

❑ Safety Personnel Assigned Non-Safety Jobs

❑ No involvement of workers in safety Program

❑ No involvement of Mgt. in safety Program

❑ No Budget for safety Program or resiurces

4. WHY DOES A SAFETY MANAGEMENT SYSTEM BECOME INEFFECTIVE IN AN ORGANISATION

Leadership Commitment & Management Responsibility
Visible commitment, resource allocation, and accountability from top management

Safety Policy & Objectives
Clearly defined HSE policy, goals, and measurable safety objectives.

Hazard Identification & Risk Assessment (HIRA)
Systematic identification, evaluation, and control of workplace hazards.

Legal & Regulatory Compliance
Identification and compliance with applicable laws, standards, and permits.

Roles, Responsibilities & Accountability
Defined safety roles at all levels with clear authority and responsibility.

Competency, Training & Awareness
Skill-based training, induction programs, and continuous safety awareness.

Employee Participation & Consultation
Worker involvement in safety committees, toolbox talks, and decision-making.

Operational Controls & Safe Work Procedures
SOPs, PTW systems, Job Safety Analysis (JSA), and work instructions.

Contractor & Supplier Safety Management
Prequalification, induction, supervision, and performance monitoring.

Communication & Safety Reporting
Effective internal communication, near-miss reporting, and feedback systems.

Incident Reporting, Investigation & Learning
Root cause analysis, corrective actions, and sharing of lessons learned.

Emergency Preparedness & Response
Emergency plans, drills, firefighting, first aid, and crisis management.

Health Surveillance & Occupational Health Programs
Medical surveillance, ergonomics, exposure monitoring, and wellness programs.

Monitoring, Measurement & Performance Evaluation
Inspections, audits, KPIs, leading & lagging indicators.
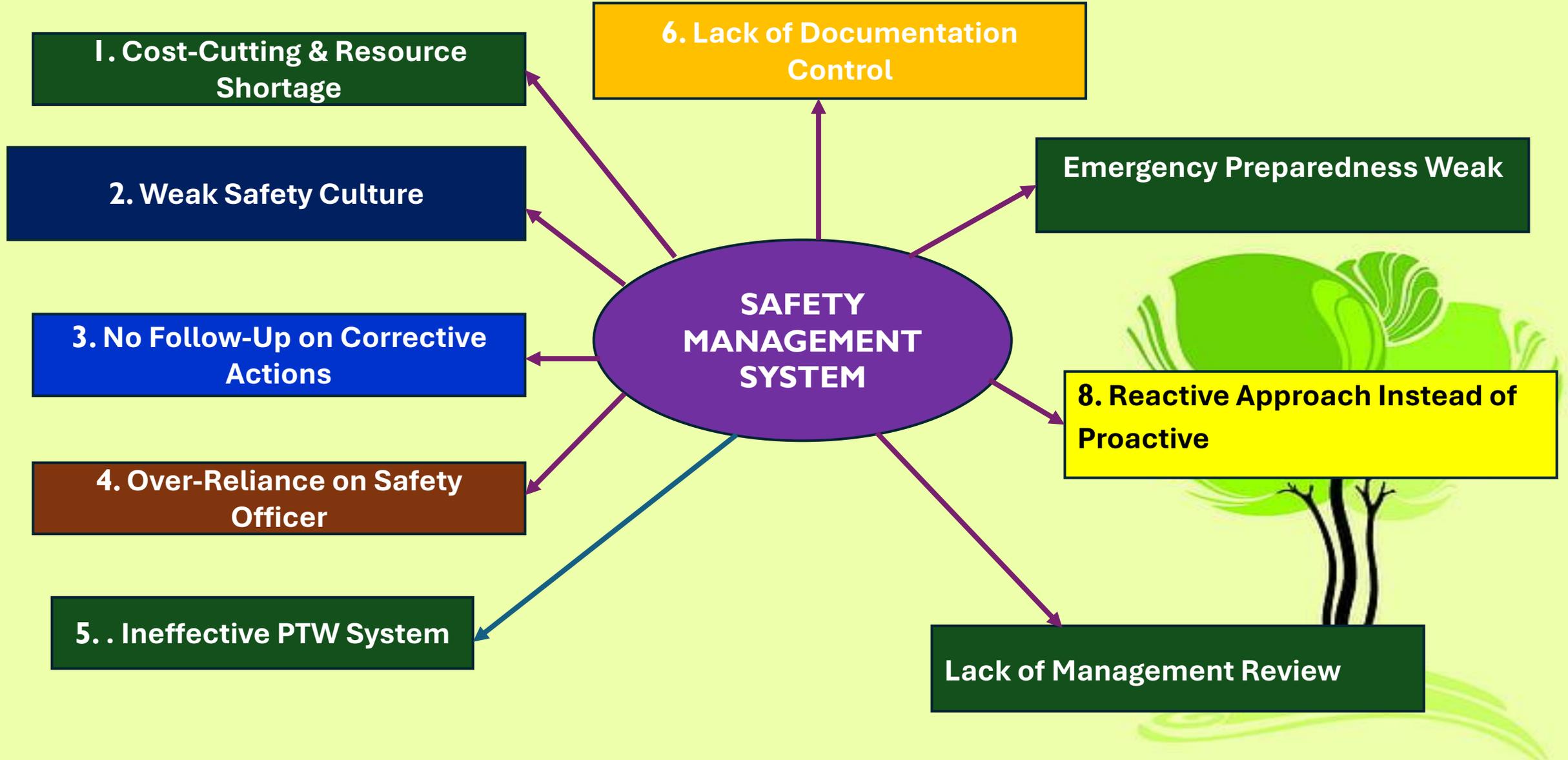
Management Review & Continual Improvement
Periodic reviews, corrective actions, and system improvement cycles (PDCA).

5. WHY DOES A SAFETY MANAGEMENT SYSTEM BECOME INEFFECTIVE IN AN ORGANISATION

1. Poor Leadership Commitment

2. Safety Responsibilities Not Clearly Defined

3. Paperwork-Heavy & No Real Implementation

4. Lack of Worker Engagement

5. Insufficient Training & Competency

Reason of ineffectiveness of SMS in an organisation

6. Weak Communication

7. Poor Hazard Identification

8. Ineffective Incident Investigation

Non-Compliance to Basic Safety Controls   10.

10. Lack of Monitoring & Safety Enforcement

11. Contractor Management Failure

5. WHY DOES A SAFETY MANAGEMENT SYSTEM BECOME INEFFECTIVE IN AN ORGANISATION

1. Cost-Cutting & Resource Shortage

2. Weak Safety Culture

3. No Follow-Up on Corrective Actions

4. Over-Reliance on Safety Officer

5. . Ineffective PTW System

SAFETY MANAGEMENT SYSTEM

6. Lack of Documentation Control

Emergency Preparedness Weak

8. Reactive Approach Instead of Proactive

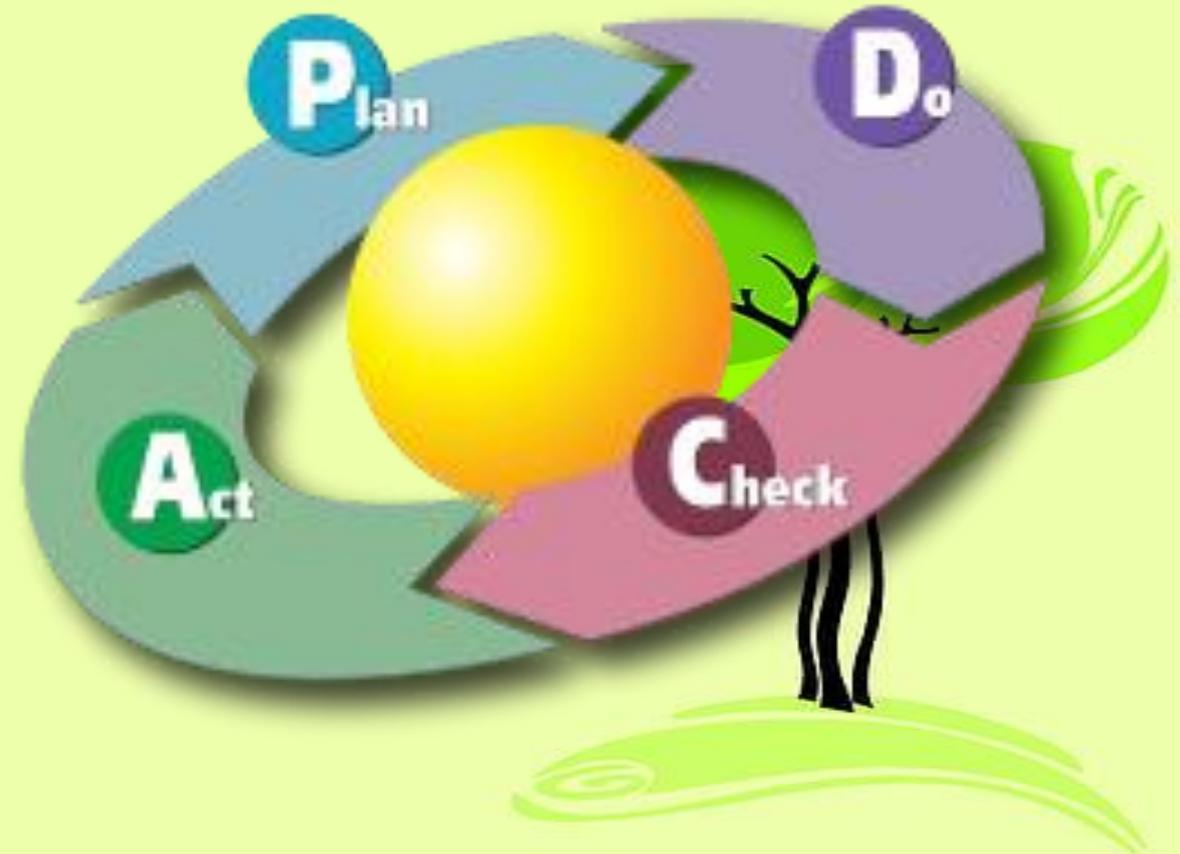**Lack of Management Review**

PDCA Cycle

PLAN   DO   CHECK   ACT

A Framework for Continuous Improvement

➤ **Plan** = Identify & prepare.

➤ **Do** = Implement safety measures.

➤ **Check** = Monitor & evaluate.

➤ **Act** = Improve & sustain.

OBJECTIVE & TARGET OF SAFETY (WITH EXAMPLES)

A **safety objective** is a broad statement of what an organization aims to achieve in terms of preventing accidents, protecting people, property, and the environment.
Example – Safety Objective:
To create a safe and healthy workplace by preventing injuries, occupational illnesses, and unsafe conditions.

A **safety target** is a **specific, measurable, and time-bound goal** set to achieve the safety objective.
Examples – Safety Targets:
1. Reduce **Lost Time Injuries (LTI)** by **30%** within the next **12 months**.
2. Achieve **zero fatal accidents** during the project duration.
3. Conduct **100% safety induction training** for all employees and contractors within **one month of joining**.
4. Complete **one safety audit per quarter** in all departments.
5. Ensure **95% compliance** in PPE usage at all worksites by year-end.

Simple Difference
Objective: What you want to achieve (general)
Target: How much, by when, and how it will be measured (specific)
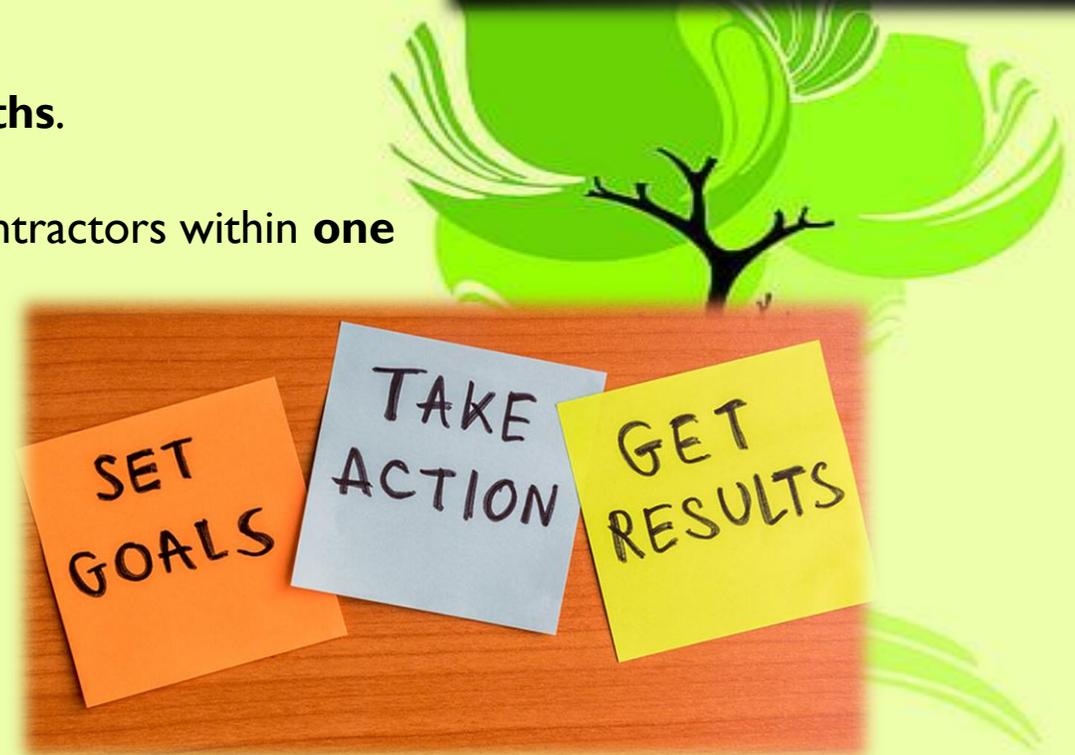
PROGRAMS / ACTIVITIES TO CONTROL ACCIDENTS

1. Safety Policy & Leadership Programs

•Safety policy communication and display

•Visible leadership safety walks (Management Safety Tours)

•Safety committee meetings

2. Risk Identification & Control

•Hazard Identification & Risk Assessment (HIRA / JSA)

•Job Safety Analysis / Safe Work Method Statements

•Permit to Work (Hot work, Confined space, Electrical, Work at height)

3. Training & Competency Development

•Safety induction for employees and contractors

•Toolbox talks / Safety talks

•Specialized training (fire fighting, first aid, work at height, confined space)

•Behavior-Based Safety (BBS) programs

4. Safe Work Practices

•Standard Operating Procedures (SOPs)

•Lockout–Tagout (LOTO) program

•PPE selection, training, and enforcement

•Contractor safety management

5. Inspection & Monitoring

•Routine safety inspections and audits

•Machine guarding inspections

•Electrical safety inspections

•Housekeeping audits (5S)

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PROGRAMS / ACTIVITIES TO CONTROL ACCIDENTS

6. Incident Prevention & Learning

➢ Near-miss reporting and analysis

➢ Accident/incident investigation

➢ Root Cause Analysis (RCA)

➢ Corrective and preventive actions (CAPA)

7. Health & Well-being Programs

➢ Occupational health check-ups

➢ Ergonomics assessments

➢ Mental health & stress management programs

8. Emergency Preparedness

➢ On-site emergency response plan

➢ Mock drills (fire, chemical spill, evacuation)

➢ Fire detection and firefighting system maintenance

9. Communication & Engagement

➢ Safety campaigns and theme-based months

➢ Safety posters, signage, and alerts

➢ Safety suggestion schemes

➢ Safety competitions, quizzes, and awards

10. Performance Measurement

➢ Safety KPIs (LTI, TRIR, near misses)

➢ Safety dashboard and reporting

➢ Reward & recognition for safe behavior

Thank you