

# Certificate in Process Safety Management



# Certificate in Process Safety Management

Process safety management (PSM) is a vital tool or a program for prevention of release or incidents related to highly hazardous chemicals. The chemicals may be gases or liquids, are flammable, toxic, explosive or reactive. The effective management is aimed at reduction of incidents and their severity so as to prevent harm to workers and the public.

## Why should one take this certification?

The certificate facilitates candidate to distinguish him amongst peers and other PSM professionals. The certificate also enables in enhancing and brushing one's knowledge and skills in process safety management.

The course covers

- PSM Principles
- Process Hazards Analysis (PHA)
- LOPA
- OSHA 14 Regulations

## Who will benefit from taking this certification?

The certification is suitable for safety managers, OSH professionals and managers, HSE engineers, management systems consultants, professionals in ISO-18001 or ISO-45001 certified companies, quality managers, safety auditors and anyone interested in occupational health and safety.

## Test Details

- **Duration:** 60 minutes
- No. of questions: 50
- Maximum marks: 50, Passing marks: 25 (50%)

There is no negative marking in this module.

### Fee Structure

Rs. 2,499/- (Excludes taxes)  $^*$ 

\*Fees may change without prior notice, please refer http://www.vskills.in for updated fees

## Table of Contents

## 1. Process Safety Basics

1.1 Process Safety History

- 1.2 Process Safety Basics and Need
- 1.3 Safety Management Principles
- 1.4 Risk Assessment
- 1.5 Human Error and Error Reduction
- 1.6 Behavior Based Safety
- 1.7 Safety Management Systems
- 1.8 Leadership and Employee Engagement
- 1.9 Safety Excellence

## 2. PSM Standards

2.1 ANSI Z10

- 2.2 OSHA 14 Regulatory Requirements
- 2.3 CCPS 20 Elements

## 3. Safety Management

- 3.1 Process Safety Culture
- 3.2 Understanding Process Hazards
- 3.3 Safer System Design
- 3.4 Risk Management Tools
- 3.5 Quantitative Analysis Methods
- 3.6 LOPA (Layer of Protection Analysis)
- 3.7 Incident Investigation

## 4. Hazardous Chemicals

- 4.1 Hazardous Chemicals Basics
- 4.2 Flammables and Explosives
- 4.3 **PSI**
- 4.4 RAGAGEP
- 4.5 Mechanical Integrity, Inspection and Testing, and QA
- 4.6 Hazards and Controls

## 5. Process Hazards Analysis (PHA)

- 5.1 FMEA
- 5.2 HAZOP
- 5.3 What-if/checklist
- 5.4 Fault Tree Analysis
- 5.5 Bowtie Analysis
- 5.6 PHA Planning
- 5.7 Conducting PHA5.8 PHA Reporting

## 6. Management of Change

6.1 Management of change (MOC) Basics

6.2 Application

6.3 Replacement in kind

6.4 Operating Procedures

6.5 Safe Work Practices

## 7. Auditing

7.1 Process Safety Audit Process

7.2 Process Safety Audit Protocol

- 7.3 Process Safety Audit Report
- 7.4 Backup and Recovery

## Sample Questions

### 1. Process Safety incidents can cause

- A. Multiple injuries and/or fatalities
- B. Massive asset damage
- C. Environmental consequence
- D. All of the above

## 2. Process Safety incidents are generally caused by failure of

- A. A single barrier
- B. Multiple barriers
- C. Sometimes single but sometimes multiple barriers
- D. None of the above

## 3. A safe plant is the one in which

- A. Integrity is established at the design stage
- B. Technical integrity is maintained throughout the life cycle of the asset
- C. Operating integrity is maintained all the time
- D. All of the above

## 4. If you see any leaks or spills what should you do

- A. Walk past as it is not your job to report it.
- B. Report the leak immediately
- C. Report only if the leak seems to be getting worse
- D. Report only if the leak is big

## 5. Which helmet provides electrical protection from high-voltage conductors?

- A. Class A helmets
- B. Class B helmets
- C. Class C helmets
- D. Class D helmets

Answers: 1 (D), 2 (B), 3 (D), 4 (B), 5 (B)

## Certifications

## Accounting, Banking & Finance - Certified GSTProfessional

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- Certified BASEL III Professional
- Certified GAAP Accounting Standards Professional
- Certified Treasury Markets Professional

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- Certified Hadoop and Mapreduce Professional

#### Cloud Computing

- Certified Cloud Computing Professional

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- Certified Interior Designer

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- Certified Inbound Marketing Professional
- Certified Digital Marketing Professional

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- Certified Human Resources Manager
- Certified Performance Appraisal Manager

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  - Certified iPhone Apps Developer

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