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BEYOND RECOGNITION

Exam Preparation Guide

ISO 45001 Lead Implementer

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The objective of the "PECB Certified ISO 45001 Lead Implementer" exam is to ensure that the candidate has the necessary competence to support an organization in establishing, implementing, managing, and maintaining an occupational health and safety management system (OH&S MS).

The ISO 45001 Lead Implementer exam is intended for:

- Managers or consultants involved in and concerned with the implementation of the with occupational health and safety management system in an organization
- Project managers, consultants, or expert advisers seeking to master the implementation of an occupational health and safety management system
- Individuals responsible for maintaining conformity with the OH&S MS requirements in an organization
- Members of an OH&S MS implementation team

The exam covers the following competency domains:

- **Domain 1:** Fundamental principles and concepts of an occupational health and safety management system (OH&S MS)
- **Domain 2:** Occupational health and safety management system (OH&S MS)
- **Domain 3:** Planning the OH&S MS implementation
- **Domain 4:** Implementing an OH&S MS
- **Domain 5:** Performance evaluation, monitoring, and measurement of an OH&S MS
- **Domain 6:** Continual improvement of an OH&S MS
- **Domain 7:** Preparing for an OH&S MS certification audit

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The content of the exam is divided as follows:

Domain 1: Fundamental principles and concepts of an occupational health and safety management system (OH&S MS)
Main objective: Ensure that the candidate understands and is able to interpret ISO 45001 principles and concepts

Competencies	Knowledge statements
1. Ability to understand and explain the operations of the ISO organization and the development of Occupational Health and Safety Management standard 2. Ability to identify, analyze, and evaluate the Occupational Health and Safety Management compliance requirements for an organization 3. Ability to explain and illustrate the main concepts in Occupational Health and Safety Management 4. Ability to identify and briefly describe other Occupational Health and Safety related standards 5. Ability to identify and interpret OH&S hazards, risks, and their impact. 6. Ability to understand and set OH&S objectives	1. Knowledge of the application of seven ISO management principles in Occupational Health and Safety Management 2. Knowledge of the main standards in Occupational Health and Safety Management 3. Knowledge of the different sources of Occupational Health and Safety Management requirements for an organization's laws, regulations, international and industry standards, contracts, market practices, and internal policies 4. Knowledge of the main Occupational Health and Safety Management concepts and terminology as described in ISO 45001 5. Knowledge of the concept of risk and its application in Occupational Health and Safety Management. 6. Knowledge of other Occupational Health and Safety related standards 7. Knowledge of OH&S hazards, risks, and their impact. 8. Knowledge of the application of the OH&S objectives to achieve specific results

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Domain 2: Occupational health and safety management system (OH&S MS)

Main objective: Ensure that the ISO 45001 Lead Implementer candidate understands, is able to interpret, and provide guidance on how to implement and manage occupational health and safety management system requirements based on the best practices of ISO 45001

Competencies	Knowledge statements
1. Ability to identify, understand, classify, and explain the requirements of ISO 45001 clauses	1. Knowledge of ISO 45001 requirements
2. Ability to distinguish and illustrate the requirements and best practices through concrete examples	2. Knowledge of the best practices in Occupational Health and Safety Management
3. Ability to compare possible solutions to an Occupational Health and Safety management issue and identify/analyze the strengths and weaknesses of each proposed solution	3. Knowledge of Occupational Health and Safety Management strategies
4. Ability to select and demonstrate the best OH&S management solutions in order to address the OH&S management objectives set by the organization	4. Knowledge of establishment, implementation, and maintenance of Occupational Health and Safety Management procedures
5. Ability to analyze, evaluate, and validate action plans to implement a specific requirement	5. Knowledge of implementation and management action plans to support the OH&S MS

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Domain 3: Planning the OH&S MS implementation

Main objective: Ensure that the candidate is able to plan the implementation of the OH& S MS based on ISO **45001**

Competencies	Knowledge statements
1. Ability to manage an OH&S MS implementation project by following the best practices	1. Knowledge of the main project management concepts, terminology, process, and best practices
2. Ability to collect, analyze, and interpret the necessary information to plan the OH&S MS implementation	2. Knowledge of principal approaches and the methodology framework employed to implement an OH&S MS
3. Ability to observe, analyze, and interpret the internal and external environment of an organization	3. Knowledge of an organization's internal and external environment
4. Ability to perform a gap analysis and clarify the Occupational Health and Safety Management objectives of an organization	4. Knowledge of the main interested parties related to an organization, and their characteristics
5. Ability to ensure workers' participation and consultation in each phase of ISO 45001 implementation	5. Knowledge of the techniques used to gather information on an organization and perform a gap analysis of the management system.
6. Ability to state and justify an OH&S MS scope adapted to the organization's specific OH&S objectives	6. Knowledge of the OH&S MS project team, determining the needed resources, and obtaining formal approval from the management
7. Ability to develop an OH&S MS policy and procedures	7. Knowledge of the characteristics of an OH&S MS scope in terms of organizational, physical, and OH&S boundaries
8. Understand and explain Occupational Health and Safety hazards	8. Knowledge of the techniques and best practices to draft Occupational Health and Safety policies and procedures
9. Ability to perform the different steps of risk assessment	9. Knowledge of identifying and determining hazards, objectives, and compliance obligations
	10. Knowledge of the different approaches and main methodology characteristics to perform a risk assessment

Domain 4: Implementing an OH&S MS

Main objective: Ensure that the candidate is able to implement the processes of an OH&S MS required for an ISO 45001 certification

Competencies	Knowledge statements
1. Ability to manage, estimate, and monitor resources regarding OH&S MS implementation	1. Knowledge of resource management in OH&S MS implementation processes
2. Ability to manage capacity building processes for a successful OH&S MS implementation	2. Knowledge in assessing and building the needed capacities for a successful OH&S MS implementation
3. Ability to understand and analyze the needs, and provide guidance on the attribution of roles and responsibilities in the context of an OH&S MS implementation and management	3. Knowledge of the roles and responsibilities of the key interested parties during and after the implementation and operation of an OH&S MS
4. Ability to define the documentation, and record management processes needed to support the implementation and operations of an OH&S MS	4. Knowledge of the main organizational structures applicable for an organization to manage an Occupational Health and Safety Management System
5. Ability to define and design processes and properly document them	5. Knowledge of the best practices on documentation and record management processes and the documentation management life cycle
6. Ability to recognize the processes and procedures for managing incidents, preventing future impacts on workers' health and safety, and reducing their chance of occurrence	6. Knowledge of the characteristics and the differences between the different documents related to an OH&S MS policy, procedure, guideline, standard, baseline, worksheets, etc.
7. Ability to define and implement appropriate Occupational Health and Safety training, awareness and communication plans	7. Knowledge of implementing controls, process techniques, and best practices
8. Ability to establish an OH&S MS communication plan to assist in the understanding of an organization's OH&S issues, policies, performance, and providing inputs/suggestions for improving the OH&S MS performance	8. Knowledge of the main characteristics of an OH&S MS incident management process based on best practices and the implementation of ways to detect and respond to incidents
	9. Knowledge of the characteristics and the best practices to implement Occupational Health and Safety training, awareness program and communication process
	10. Knowledge of the communication objectives, activities, and interested parties to enhance the shareholder support and confidence

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Domain 5: Monitoring, measurement, analysis and evaluation of an OH&S MS

Main objective: Ensure that the candidate is able to evaluate, monitor, and measure the performance of an OH&S MS

Competencies	Knowledge statements
1. Ability to monitor and evaluate the effectiveness of an OH&S MS 2. Ability to verify the extent to which the identified OH&s MS requirements have been met 3. Ability to define and implement an internal audit program for ISO 45001 4. Ability to perform regular and methodical reviews regarding the suitability, adequacy, effectiveness, and efficiency of an OH&S MS based on the policies and objectives of the organization 5. Ability to define and implement a management review process and counsel the management in this regard	1. Knowledge of the techniques and best practices to monitor the effectiveness of an OH&S MS 2. Knowledge of the main concepts and components related to an Occupational Health and Safety Management Measurement Program measures, attributes, indicators, and dashboards 3. Knowledge of the main concepts and components related to the implementation and operation of an OH&S MS internal audit program 4. Knowledge of the differences between the concepts of major and minor nonconformities. 5. Knowledge of the guidelines and best practices to write a nonconformity report 6. Knowledge of the best practices on how to perform management reviews

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Domain 6: Continual improvement of an OH&S MS

Main objective: Ensure that the candidate is able to provide guidance on the continual improvement of an OH&S MS

Competencies	Knowledge statements
1. Ability to track and take action on incidents and nonconformities 2. Ability to identify and analyze the root causes of incidents and nonconformities, and propose action plans to treat them 3. Ability to counsel an organization on how to continually improve the effectiveness and efficiency of an OH&S MS 4. Ability to implement continual improvement processes in an organization 5. Ability to determine the appropriate business improvement tools to support the continual improvement processes of an organization	1. Knowledge of the main processes, tools, and techniques used by professionals to identify the root causes of incidents and nonconformities. 2. Knowledge of processes that resolve incidents and nonconformities 3. Knowledge of the characteristics and the difference between corrective and preventive actions 4. Knowledge of the main processes, tools, and techniques used by professionals to develop and propose the best corrective and preventive action plans 5. Knowledge of the main concepts related to continual improvement 6. Knowledge of the continuous monitoring processes of change factors 7. Knowledge of the maintenance and improvement of an OH&S MS 8. Knowledge of the continual update of documentation and records

Domain 7: Preparing for an OH&S MS certification audit

Main objective: Ensure that the ISO 45001 Lead Implementer candidate is able to prepare an organization for the certification against ISO 45001

Competencies	Knowledge statements
1. Ability to understand the main steps, processes, and activities related to an ISO 45001 certification audit 2. Ability to understand, explain, and illustrate the audit evidence approach in the context of an ISO 45001 audit 3. Ability to counsel an organization in identifying and selecting a certification body that meets their needs 4. Ability to review the readiness of an organization for an ISO 45001 certification audit 5. Ability to coach and prepare an organization's personnel for an ISO 45001 certification audit 6. Ability to argue and challenge the audit findings and conclusions with external auditors	1. Knowledge of the evidence-based approach to an audit 2. Knowledge of the differences between Stage 1 and Stage 2 audits 3. Knowledge of Stage 1 audit requirements, steps, and activities 4. Knowledge of the documentation review criteria 5. Knowledge of Stage 2 audit requirements, steps, and activities 6. Knowledge of follow-up audit requirements, steps, and activities 7. Knowledge of surveillance audits and recertification audit requirements, steps, and activities 8. Knowledge of the requirements, guidelines, and best practices to develop action plans following an ISO 45001 certification audit

Based on the above-mentioned domains and their relevance, 12 questions are included in the exam, as summarized in the table below:

	Points per question	Questions that measure comprehension, application, and analysis	Questions that measure synthesis and evaluation	Number of questions per competency domain	% of the exam devoted to each competency domain	Number of points per competency domain	% of points per competency domain
			Level of understanding (Cognitive/Taxonomy) required				
Fundamental principles and concepts of the Occupational Health and Safety Management System (OH&S MS)	5	X		1	8.33	5	6.67
Occupational Health and Safety Management	10	X		2	16.67	15	20.00
	5	X					
Planning the OH&S MS implementation	5	X		2	16.67	15	20.00
	10		X				
Implementing the OH&S MS based on ISO 45001	5		X	3	25.00	20	26.68
	5	X					
	10		X				
Performance evaluation, monitoring and measurement of the OH&S MS based on ISO 45001	5		X	2	16.67	10	13.34
	5		X				
Continual improvement of the OH&S MS	5		X	1	8.33	5	6.67
Preparing for the OH&S MS certification audit	5		X	1	8.33	5	6.67
Total points	75						
Number of questions per level of understanding		5	7				
% of the exam devoted to each level of understanding (cognitive/taxonomy)		41.67	58.33				

The exam passing score is **70%**.

After successfully passing the exam, candidates will be able to apply for the "PECB Certified ISO 45001 Lead Implementer" credential depending on their level of experience.

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Taking the Exam

General Information on the Exam

Candidates are required to arrive/be present at least 30 minutes before the exam starts. Candidates who arrive late will not be given additional time to compensate for the late arrival and may not be allowed to sit for the exam.

Candidates are required to bring a valid identity card (a national ID card, driver's license, or passport) and show it to the invigilator.

If requested on the day of the exam (paper-based exams), additional time can be provided to candidates taking the exam in a non-native language, as follows:

- 10 additional minutes for Foundation exams
- 20 additional minutes for Manager exams
- 30 additional minutes for Lead exams

PECB Exam Format and Type

1. Paper-based: Exams are provided on paper, where candidates are not allowed to use anything but the exam paper and a pen. The use of electronic devices, such as laptops, tablets, or phones, is not allowed. The exam session is supervised by a PECB approved Invigilator at the location where the Reseller has organized the training course.

2. Online: Exams are provided electronically via the PECB Exams application. The use of electronic devices, such as tablets and cell phones, is not allowed. The exam session is supervised remotely by a PECB Invigilator via the PECB Exams application and an external/integrated camera.

For more detailed information about the online format, please refer to the [PECB Online Exam Guide](#).

PECB exams are available in two types:
1. Essay-type question exam
2. Multiple-choice question exam

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This exam comprises essay-type questions. They are used to determine and evaluate whether a candidate can clearly answer questions related to the defined competency domains. Additionally, problem-solving techniques and arguments that are supported with reasoning and evidence will also be evaluated.

The exam is open book and is not intended to measure memorizing or recalling information. It aims to evaluate candidates' comprehension, analytical skills, and applied knowledge. Therefore, candidates are required to provide logical and convincing answers and explanations in order to demonstrate that they have understood the content and the main concepts of the competency domains.

Since the exam is "open book," candidates are authorized to use the following reference materials:

- A hard copy of ISO 45001 standard
- Training course materials(accessed through PECB Exams app and/or printed)
- Any personal notes made by the candidate during the training course(accessed through PECB Exams app and/or printed)
- A hard copy dictionary

Any attempt to copy, collude, or otherwise cheat during the exam session will lead to automatic failure.

PECB exams are available in English and other languages. For the availability of the exam in a particular language, please contact examination@pecb.com.

Note: PECB will progressively transition to multiple-choice exams. They will also be open book and comprise scenario-based questions that will allow PECB to evaluate candidates' knowledge, abilities, and skills to use information in new situations (apply), draw connections among ideas (analyze), and justify a stand or decision (evaluate). All PECB multiple-choice exams have one question and three alternatives, of which only one is correct.

For specific information about exam types, languages available, and other details, visit the List of PECB Exams.

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Receiving the Exam Results

Exam results will be communicated via email. The only possible results are *pass* and *fail;* no specific grade will be included.

- The time span for the communication starts from the exam date and lasts three to eight weeks for essay type exams and two to four weeks for multiple-choice paper-based exams

- For online multiple-choice exams, candidates receive their results instantly

Candidates who successfully complete the exam will be able to apply for one of the credentials of the respective certification scheme.

For candidates who fail the exam, a list of the domains where they have performed poorly will be added to the email to help them prepare better for a retake.

Candidates that disagree with the results may request for a re-evaluation by writing to results@pecb.com within 30 working days of receiving the results. Re-evaluation requests received after 30 days will not be processed. If candidates do not agree with the results of the reevaluation, they have 30 working days from the date when they received the reevaluated exam results to file a complaint through the PECB Ticketing System. Complaints received after 30 days will not be processed.

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Exam Retake Policy

There is no limit on the number of times that a candidate may retake an exam. However, there are certain limitations in terms of the allowed time frames between exam retakes.

- If a candidate does not pass the exam on the 1st attempt, they must wait 15 days from the initial date of the exam for the next attempt (1st retake). Retake fees apply.
  Note: Candidates who have completed the training course but failed the exam are eligible to retake the exam once for free within a 12-month period from the initial date of the exam.
- If a candidate does not pass the exam on the 2nd attempt, they must wait three months after the initial date of the exam for the next attempt (2nd retake). Retake fees apply.
  Note: For candidates that fail the exam in the 2nd retake, PECB recommends them to attend a training course in order to be better prepared for the exam.
- If a candidate does not pass the exam on the 3rd attempt, they must wait six months after the initial date of the exam for the next attempt (3rd retake). Retake fees apply.
- After the 4th attempt, the waiting period for further retake exams is 12 months from the date of the last attempt. Retake fees apply.

To arrange exam retakes (date, time, place, costs), candidates need to contact the PECB Reseller/Distributor who has initially organized the session.

Reschedule the Exam

For any changes with regard to the exam date, time, location, or other details, please contact examination@pecb.com.

Closing a Case

If candidates do not apply for certification within three years, their case will be closed. Even though the certification period expires, candidates have the right to reopen their case. However, PECB will no longer be responsible for any changes regarding the conditions, standards, policies, and candidate handbook that were applicable before the case was closed. A candidate requesting their case to reopen must do so in writing and pay the required fee.

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Exam Security

A significant component of a successful and respected professional certification credential is maintaining the security and confidentiality of the exam. PECB relies upon the ethical behavior of certificate holders and applicants to maintain the security and confidentiality of PECB exams. Any disclosure of information about the content of PECB exams indicates violation of PECB's Code of Ethics. PECB will take action against individuals who violate PECB Policies and the Code of Ethics. These actions include permanently barring individuals from pursuing PECB credentials and revoking the awarded credentials. PECB will also pursue legal action against individuals or organizations who infringe upon its copyrights, proprietary rights, and intellectual property.

Sample Exam Questions

Question 1:

Determine how you would verify each of the following control measures. You must provide examples of evidence you would look for to have a reasonable guarantee that the control measure has been effectively implemented. State at least two elements of proof for each.

- *Policies for information security (A.5.1.1):*

Possible answers:

- Documentation review of the information security policy to validate the content
- Interview with the person in charge of information security to validate the approval and distribution process of the policy
- Verification of the policy distribution media (Website, hard copy version, information in the employee manual, etc.)

Question 2:

You have received a plan for corrective actions. Evaluate the adequacy of the proposed corrective actions. If you agree with the corrective actions, explain why. If you disagree, explain why and propose what you think would be adequate corrective actions.

- **A non-conformity was observed because the Human Resources team was not aware of the procedure that requires them to validate all future employee references before hiring them**

- **Corrective action: Inform (Timeframe: immediately) and train (Timeframe: within 6 months) the Human Resources team with this procedure and require that each member of the team follow it**

Possible answers:

I agree. This solves the problem that was ignorance of the procedure. As auditor, a sampling will be performed during the surveillance audit to find out if the procedure is followed.

Question 3:

Determine threats and vulnerabilities associated to the following situations and indicate the possible impacts. Also indicate if the risks would affect confidentiality, data integrity and/or availability.
For each risk identified, provide the appropriate controls (by providing the clause number of the control) which allows to reduce, transfer or avoid risks.

Possible answers:

Statements	Vulnerabilities	Threats	C	I	A	Potential Impacts	Controls
The webmaster who designed the corporate Website takes care of the updates and the uploading of the site	Absence of segregation of duties. Only one person is available for this function	Treatment errors Malicious act Webmaster leaves the company or becomes sick		X		Website containing erroneous information: loss of credibility Unavailable website: loss in revenues	A.12.1.1 A.6.1.2 A.9.2.3 A.14.1.2 A.12.4.3 A.14.2.2

Question 4:

For each of the following 5 controls, indicate if it used as a preventive, corrective, and/or detective control; and indicate, if the control is an administrative, technical, managerial or legal measure. Explain your answer.

- **Encryption of electronic communications**

Possible answers:

Preventive control: prevents unauthorized people reading messages

Technical (could be legal) measure: encryption is a technical solution to ensure information confidentiality (could be a law requirement)

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Question 5:

Write a test plan to validate the following control identifying the different applicable audit procedures (observation, documentation review, interview, technical verification and analysis):

- **Protection of journalized information (A.12.4.2). Logging facilities and log information shall be protected against tampering and unauthorized access**

Possible answers:

Protection of logged information (A.12.4.2): Logging facilities and log information shall be protected against tampering and unauthorized access.	
Observation	Observation of protection measures implemented against sabotage and unauthorized accesses
Document	Documentation of controls in place to protect information logged against sabotage and unauthorized accesses, information logging policy and related procedures, intrusion test reports
Interview	Interview with the information security manager and validate the logging policy objectives, interview with the network administrator to validate the operation of the controls in place to protect the logged information against sabotage and unauthorized accesses
Technical verification	Observation of logging equipment configurations to verify their compliance to the organization's policies and procedures
Analysis	Analysis of a sample of logged information