PECB

BEYOND RECOGNITION

Lead Cybersecurity Manager

Candidate Handbook

PECB

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SECTION I: INTRODUCTION

About PECB

PECB is a certification body that provides education[1], certification, and certificate programs for individuals on a wide range of disciplines.

Through our presence in more than 150 countries, we help professionals demonstrate their competence in various areas of expertise by providing valuable evaluation, certification, and certificate programs against internationally recognized standards.

Our key objectives are:

1. Establishing the minimum requirements necessary to certify professionals and to grant designations
2. Reviewing and verifying the qualifications of individuals to ensure they are eligible for certification
3. Maintaining and continually improving the evaluation process for certifying individuals
4. Certifying qualified individuals, granting designations and maintaining respective directories
5. Establishing requirements for the periodic renewal of certifications and ensuring that the certified individuals are complying with those requirements
6. Ascertaining that PECB professionals meet ethical standards in their professional practice
7. Representing our stakeholders in matters of common interest
8. Promoting the benefits of certification and certificate programs to professionals, businesses, governments, and the public

Our mission

Provide our clients with comprehensive examination, certification, and certificate program services that inspire trust and benefit the society as a whole.

Our vision

Become the global benchmark for the provision of professional certification services and certificate programs.

Our values

Integrity, Professionalism, Fairness

[1] Education refers to training courses developed by PECB and offered globally through our partners.

The Value of PECB Certification

Global recognition
PECB credentials are internationally recognized and endorsed by many accreditation bodies, so professionals who pursue them will benefit from our recognition in domestic and international markets.

The value of PECB certifications is validated by the accreditation from the International Accreditation Service (IAS-PCB-111), the United Kingdom Accreditation Service (UKAS-No. 21923) and the Korean Accreditation Board (KAB-PC-08) under ISO/IEC 17024 – General requirements for bodies operating certification of persons. The value of PECB certificate programs is validated by the accreditation from the ANSI National Accreditation Board (ANAB-Accreditation ID 1003) under ANSI/ASTM E2659-18, Standard Practice for Certificate Programs.

PECB is an associate member of The Independent Association of Accredited Registrars (IAAR), a full member of the International Personnel Certification Association (IPC), a signatory member of IPC MLA, and a member of Club EBIOS, CPD Certification Service, CLUSIF, Credential Engine, and ITCC. In addition, PECB is an approved Licensed Partner Publisher (LPP) from the Cybersecurity Maturity Model Certification Accreditation Body (CMMC-AB) for the Cybersecurity Maturity Model Certification standard (CMMC), is approved by Club EBIOS to offer the EBIOS Risk Manager Skills certification, and is approved by CNIL (Commission Nationale de l'Informatique et des Libertés) to offer DPO certification. For more detailed information, click here.

High-quality products and services
We are proud to provide our clients with high-quality products and services that match their needs and demands. All of our products are carefully prepared by a team of experts and professionals based on the best practices and methodologies.

Compliance with standards
Our certifications and certificate programs are a demonstration of compliance with ISO/IEC 17024 and ASTM E2659. They ensure that the standard requirements have been fulfilled and validated with adequate consistency, professionalism, and impartiality.

Customer-oriented service
We are a customer-oriented company and treat all our clients with value, importance, professionalism, and honesty. PECB has a team of experts who are responsible for addressing requests, questions, and needs. We do our best to maintain a 24-hour maximum response time without compromising the quality of the services.

Flexibility and convenience
Online learning opportunities make your professional journey more convenient as you can schedule your learning sessions according to your lifestyle. Such flexibility gives you more free time, offers more career advancement opportunities, and reduces costs.

PECB Code of Ethics

The Code of Ethics represents the highest values and ethics that PECB is fully committed to follow, as it recognizes the importance of them when providing services and attracting clients.

The Compliance Division makes sure that PECB employees, trainers, examiners, invigilators, partners, distributors, members of different advisory boards and committees, certified individuals, and certificate holders (hereinafter "PECB professionals") adhere to this Code of Ethics. In addition, the Compliance Division consistently emphasizes the need to behave professionally and with full responsibility, competence, and fairness in service provision with internal and external stakeholders, such as applicants, candidates, certified individuals, certificate holders, accreditation authorities, and government authorities.

It is PECB's belief that to achieve organizational success, it has to fully understand the clients and stakeholders' needs and expectations. To do this, PECB fosters a culture based on the highest levels of integrity, professionalism, and fairness, which are also its values. These values are integral to the organization, and have characterized the global presence and growth over the years and established the reputation that PECB enjoys today.

PECB believes that strong ethical values are essential in having healthy and strong relationships. Therefore, it is PECB's primary responsibility to ensure that PECB professionals are displaying behavior that is in full compliance with PECB principles and values.

PECB professionals are responsible for:

1. Displaying professional behavior in service provision with honesty, accuracy, fairness, and independence
2. Acting at all times in their service provision solely in the best interest of their employer, clients, the public, and the profession in accordance with this Code of Ethics and other professional standards
3. Demonstrating and developing competence in their respective fields and striving to continually improve their skills and knowledge
4. Providing services only for those that they are qualified and competent and adequately informing clients and customers about the nature of proposed services, including any relevant concerns or risks
5. Informing their employer or client of any business interests or affiliations which might influence or impair their judgment
6. Preserving the confidentiality of information of any present or former employer or client during service provision
7. Complying with all the applicable laws and regulations of the jurisdictions in the country where the service provisions were conducted
8. Respecting the intellectual property and contributions of others
9. Not communicating intentionally false or falsified information that may compromise the integrity of the evaluation process of a candidate for a PECB certification or a PECB certificate program
10. Not falsely or wrongly presenting themselves as PECB representatives without a proper license or misusing PECB logo, certifications or certificates
11. Not acting in ways that could damage PECB's reputation, certifications or certificate programs
12. Cooperating in a full manner on the inquiry following a claimed infringement of this Code of Ethics

To read the complete version of PECB's Code of Ethics, go to Code of Ethics | PECB.

Introduction to Lead Cybersecurity Manager

In today's digital landscape, organizations face an ever-increasing array of cyber threats that can jeopardize their sensitive data, operations, and reputation. As a result, they employ cybersecurity managers who assist in ensuring protection against these evolving threats. This training course is designed to equip aspiring cybersecurity managers with the essential skills, knowledge, and strategies needed to establish and oversee effective cybersecurity programs. Throughout this training course, participants will gain a deep understanding of the principles and best practices required to navigate the complex realm of cybersecurity management and the responsibilities of a cybersecurity manager in ensuring the security of information in cyberspace.

The "Certified Lead Cybersecurity Manager" credential is a professional certification for individuals aiming to demonstrate their competence in establishing and managing cybersecurity programs and supporting organizations in safeguarding their systems against ever-evolving threats. This internationally recognized certification will help professionals unlock career advancement opportunities and achieve professional goals.

PECB certifications are not a license or simply a membership. They attest the candidates' knowledge and skills gained through our training courses and are issued to candidates who have the required experience and have passed the exam.

This document specifies the PECB Lead Cybersecurity Manager certification scheme is in compliance with ISO/IEC 17024:2012. It also outlines the steps that candidates should take to obtain and maintain their credentials. As such, it is very important to carefully read all the information included in this document before completing and submitting your application. If you have questions or need further information after reading it, please contact the PECB international office at certification.team@pecb.com

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SECTION II: EXAMINATION PREPARATION, RULES, AND POLICIES

Preparing for and scheduling the exam

All candidates are responsible for their own study and preparation for certification exams. Although candidates are not required to attend the training course to be eligible for taking the exam, attending it can significantly increase their chances of successfully passing the exam.

To schedule the exam, candidates have two options:

1. Contact one of our authorized partners. To find an authorized partner in your region, please go to Active Partners. The training course schedule is also available online and can be accessed on Training Events.
2. Take a PECB exam remotely through the PECB Exams application. To schedule a remote exam, please go to the following link: Exam Events.

To learn more about exams, competency domains, and knowledge statements, please refer to *Section III* of this document.

Rescheduling the exam

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

Application fees for examination and certification

Candidates may take the exam without attending the training course. The applicable prices are as follows:

- Lead Exam: $1000[2]
- Manager Exam: $700
- Foundation Exam: $500
- Transition Exam: $500

The application fee for certification is $500.

For the candidates that have attended the training course via one of PECB's partners, the application fee covers the costs of the exam (first attempt and first retake), the application for certification, and the first year of Annual Maintenance Fee (AMF).

[2] All prices listed in this document are in US dollars.

Competency domains

The objective of the "PECB Lead Cybersecurity Manager" exam is to ensure that the candidate has acquired the necessary competencies to support an organization in establishing and managing a cybersecurity program based on industry best practices.

The Lead Cybersecurity Manager certification is intended for:

- Managers and leaders involved in cybersecurity management
- Individuals tasked with the practical implementation of cybersecurity strategies and measures
- IT and security professionals seeking to advance their careers and contribute more effectively to cybersecurity efforts
- Professionals responsible for managing cybersecurity risk and compliance within organizations
- C-suite executives playing a crucial role in decision-making processes related to cybersecurity

The content of the exam is divided as follows:

- **Domain 1:** Fundamental concepts of cybersecurity
- **Domain 2:** Initiating the cybersecurity program and cybersecurity governance
- **Domain 3:** Defining cybersecurity roles and responsibilities and managing risks
- **Domain 4:** Selecting cybersecurity controls
- **Domain 5:** Establishing cybersecurity communication and training programs
- **Domain 6:** Integrating the cybersecurity program in business continuity management and incident management
- **Domain 7:** Measuring the performance of and continually improving the cybersecurity program

Domain 1: Fundamental concepts of cybersecurity

Main objective: Ensure that the candidate is able to explain the fundamental concepts of cybersecurity.

Competencies	Knowledge statements
1. Ability to identify the main standards and frameworks that address cybersecurity	1. Knowledge of the ISO/IEC 27000 family of standards, NIST Cybersecurity Framework, and NIST SP 800 publications
2. Ability to explain the main concepts of cybersecurity, such as cyberspace and cybercrime	2. Knowledge of the definitions of cyberspace, cybercrime, and information security, among others
3. Ability to differentiate cybersecurity from information security	3. Knowledge of the differences between cybersecurity and information security
4. Ability to discuss the main elements of cybersecurity, such as cloud security, perimeter security, network security, endpoint security, application security, data security, and disaster recovery	4. Knowledge of the elements of cybersecurity, such as cloud security, perimeter security, network security, endpoint security, application security, data security, and disaster recovery
5. Ability to explain information security principles: confidentiality, integrity, and availability	5. Knowledge of the definitions of data confidentiality, integrity, and availability
6. Ability to explain the relationship between a vulnerability and a threat	6. Knowledge of the concepts of vulnerability and threat
7. Ability to define information security risk	7. Knowledge of the definition of information security risk
8. Ability to categorize security controls by function and type	8. Knowledge of the types of security controls based on function and type

Domain 2: **Initiating the cybersecurity program and cybersecurity governance**

Main objective: Ensure that the candidate is able to initiate the implementation of a cybersecurity program and align it with industry best practices.

Competencies	Knowledge statements
1. Ability to initiate the implementation of a cybersecurity program	1. Knowledge of the required activities to initiate the implementation of a cybersecurity program
2. Ability to define and apply different approaches for the implementation of the cybersecurity program	2. Knowledge of approaches for cybersecurity program implementation
3. Ability to identify industry best practices and integrate them into the cybersecurity program	3. Knowledge of industry best practices for implementing the cybersecurity program
4. Ability to distinguish an organization's mission, objectives, values, and strategies	4. Knowledge of the differences between an organization's mission, objectives, values, and strategies
5. Ability to determine cybersecurity objectives	5. Knowledge of aspects to consider when determining the cybersecurity objectives
6. Ability to analyze the internal and external environment of an organization, including key processes, business requirements, and relevant interested parties	6. Knowledge of approaches for analyzing the internal and external environment of an organization, including its key processes, business requirements, and relevant interested parties
7. Ability to conduct a gap analysis and prepare a gap analysis report	7. Knowledge of steps for conducting a gap analysis and content of the gap analysis report
8. Ability to discuss the benefits of complying with cybersecurity best practices	8. Knowledge of the benefits of complying with cybersecurity best practices
9. Ability to explain the structure and differences between ISO/IEC 27032 and NIST Cybersecurity Framework	9. Knowledge of cybersecurity frameworks, such as ISO/IEC TS 27110 and NIST Cybersecurity Framework
10. Ability to identify cybersecurity policy models and establish and review the cybersecurity policy	10. Knowledge of the cybersecurity policy establishment and review process and the cybersecurity policy models

Domain 3: Defining cybersecurity roles and responsibilities and managing risks

Main objective: Ensure that the candidate is able to explain the roles and responsibilities of stakeholders in cybersecurity and manage risks.

Competencies	Knowledge statements
1. Ability to explain traditional and other cybersecurity organizational structures	1. Knowledge of the traditional and other cybersecurity organizational structures
2. Ability to explain the role of stakeholders in the implementation and improvement of a cybersecurity program	2. Knowledge of the roles and responsibilities of key stakeholders in the implementation and improvement of a cybersecurity program
3. Ability to explain the roles and responsibilities of the board of directors, executive management, and the CISO regarding the cybersecurity program	3. Knowledge of the roles and responsibilities of the board of directors, executive management, and the CISO regarding the cybersecurity program
4. Ability to explain the role and responsibilities of the information security manager and cybersecurity manager	4. Knowledge of the roles and responsibilities of information security manager and cybersecurity manager
5. Ability to explain asset management system and asset management	5. Knowledge of the relationship of the asset management system and asset management
6. Ability to establish a cybersecurity asset management program	6. Knowledge of main steps for managing assets in cyberspace
7. Ability to differentiate between ISO 31000 and ISO/IEC 27005	7. Knowledge of the differences between ISO 31000 and ISO/IEC 27005
8. Ability to assess, treat, and monitor risks	8. Knowledge of the risk assessment approaches, risk treatment strategies, and risk monitoring and review processes

Domain 4: Selecting cybersecurity controls

Main objective: Ensure that the candidate is able to identify and explain main cyber threats and their mitigation vectors, and implement key cybersecurity controls in accordance with best practices.

Competencies	Knowledge statements
1. Ability to identify and describe common attack vectors 2. Ability to identify and mitigate internal attacks 3. Ability to identify and mitigate external attacks 4. Ability to implement key cybersecurity controls, such as application security controls, cryptographic controls, vulnerability management controls, endpoint and change management controls, controls against malware, access controls, and network management controls 5. Ability to establish privacy protection over the internet	1. Knowledge of common attack vectors 2. Knowledge of internal attacks and strategies to mitigate them 3. Knowledge of types of external attacks (malware, ransomware, social engineering, threats against data, denial of service, disinformation and misinformation, internet threats, and supply chain attacks) and strategies to mitigate them 4. Knowledge of application security controls, cryptographic controls, vulnerability management controls, endpoint and change management controls, controls against malware, access controls, and network management controls 5. Knowledge of practices to ensure privacy protection over the internet, such as information deletion, anonymization, pseudonymization, data leakage prevention, information backup, and use of cloud service models

Domain 5: Establishing cybersecurity communication and training programs

Main objective: Ensure that the candidate is able to establish a framework for information sharing and a competence development program that meets organizational needs.

Competencies	Knowledge statements
1. Ability to explain the importance of establishing a framework for information sharing and coordination in cybersecurity	1. Knowledge of the benefits of establishing an information sharing and coordination framework in cybersecurity
2. Ability to identify the information sharing and coordination network community	2. Knowledge of main steps to be taken for identifying the information sharing and coordination community
3. Ability to categorize and classify information to be shared	3. Knowledge of main activities for categorizing and classifying information to be shared
4. Ability to establish policies, procedures, processes, and methods for information sharing and coordination	4. Knowledge of techniques and best practices for establishing policies, procedures, processes, and methods for information sharing and coordination
5. Ability to explain and define the technical controls and standardization of information sharing and coordination	5. Knowledge of main technical controls and standardization of information sharing and coordination
6. Ability to discuss the benefits of testing systems and identify types of testing systems	6. Knowledge of key benefits of testing systems and types of testing systems, such as performance, usability, load, transgression, migration, functionality, scalability, and recovery testing
7. Ability to differentiate between training and awareness	7. Knowledge of the difference between training and awareness
8. Ability to undertake training and awareness activities as part of the training and awareness programs, respectively	8. Knowledge of steps for establishing an awareness program and conducting awareness activities, determining competence development needs, establishing a competence development program, and planning, conducting, and evaluating competence development activities

Domain 6: Integrating the cybersecurity program in business continuity management and incident management

Main objective: Ensure that the candidate is able to integrate the cybersecurity program in the business continuity management plan and incident management processes of the organization.

Competencies	Knowledge statements
1. Ability to determine business continuity objectives	1. Knowledge of the steps for determining business continuity objectives
2. Ability to discuss the role of ICT readiness for business continuity (IRBC) in business continuity management (BCM)	2. Knowledge of the role of the IRBC in BCM
3. Ability to determine the principles, elements, and phases of IRBC	3. Knowledge of the principles, elements, and phases of IRBC
4. Ability to plan, prepare, detect, report, communicate, and respond to cybersecurity incidents	4. Knowledge of main phases of incident management, including planning and preparation, detection and report, assessment and decision-making, response to incidents, and learning of lessons from incidents
5. Ability to develop a cybersecurity incident management policy and plan	5. Knowledge of the content of the cybersecurity incident management policy and plan
6. Ability to measure and review cybersecurity incident management	6. Knowledge of the steps for measuring and reviewing cybersecurity incident management

Domain 7: Measuring the performance of and continually improving the cybersecurity program

Main objective: Ensure that the candidate is able to evaluate the effectiveness of the cybersecurity program.

Competencies	Knowledge statements
1. Ability to determine cybersecurity testing stages and techniques 2. Ability to identify and validate technical weaknesses based on NIST SP 800-115 3. Ability to prepare the test and documentation for testing 4. Ability to conduct post-testing activities 5. Ability to measure the performance of the cybersecurity program, determine measurement objectives, define what needs to be monitored and measured, and establish performance indicators 6. Ability to continually improve the cybersecurity program	1. Knowledge of testing stages and techniques for cybersecurity testing, such as penetration testing and vulnerability assessment 2. Knowledge of NIST SP 800-115 recommendations for identifying and validating technical weaknesses 3. Knowledge of preparation and documentation processes for tests 4. Knowledge of post-testing activities, such as test reporting and mitigation recommendations 5. Knowledge of the monitoring, measurement, analysis, and evaluation methods for the cybersecurity program 6. Knowledge of activities that continually improve the cybersecurity program

Based on the above-mentioned domains and their relevance, the exam contains 80 multiple-choice questions, as summarized in the table below:

				Level of understanding (Cognitive/Taxonomy) required	
		Number of questions/points per competency domain	% of the exam devoted/points to/for each competency domain	Questions that measure comprehension, application, and analysis	Questions that measure evaluation
Competency domains	Fundamental concepts of cybersecurity	7	8.75	X	
	Initiating the cybersecurity program and cybersecurity governance	10	12.5	X	
	Defining cybersecurity roles and responsibilities and managing risks	15	18.75	X	
	Selecting cybersecurity controls	20	25		X
	Establishing cybersecurity communication and training programs	8	10	X	
	Integrating the cybersecurity program in business continuity management and incident management	10	12.5		X
	Measuring the performance of and continually improving the cybersecurity program	10	12.5		X
	Total	**80**	**100%**		
	Number of questions per level of understanding			**40**	**40**
	% of the exam devoted to each level of understanding (cognitive/taxonomy)			**50%**	**50%**

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

After successfully passing the exam, candidates will be able to apply for obtaining the "PECB Certified Lead Cybersecurity Manager" credential.

Taking the exam

General information about 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 Partner 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 information about online exams, go to the PECB Online Exam Guide.

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

This exam comprises multiple-choice questions: The multiple-choice exam can be used to evaluate candidates' understanding on both simple and complex concepts. It comprises both stand-alone and scenario-based questions. Stand-alone questions stand independently within the exam and are not context-depended, whereas scenario-based questions are context-dependent, i.e., they are developed based on a scenario which a candidate is asked to read and is expected to provide answers to five questions related to that scenario. When answering stand-alone and scenario-based questions, candidates will have to apply various concepts and principles explained during the training course, analyze problems, identify and evaluate alternatives, combine several concepts or ideas, etc.

Each multiple-choice question has three options, of which one is the correct response option (keyed response) and two incorrect response options (distractors).

This is an open-book exam. The candidate is allowed to use the following reference materials:

- Training course materials (accessed through the PECB Exams app and/or printed)
- Any personal notes taken during the training course (accessed through the PECB Exams app and/or printed)
- A hard copy dictionary

A sample of exam questions will be provided below.

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).

For specific information about exam types, languages available, and other details, please contact examination.team@pecb.com or go to the List of PECB Exams.

Sample exam questions

Blue9, a medium-sized technology company, offers a wide range of services and solutions, including software development, cloud computing, and data analytics. Renowned for its innovative practices and dedication to client-oriented solutions, the company has established a strong reputation in the industry. In the current digital landscape, where cyber threats can have significant consequences, *Blue9* has taken a proactive approach to ensure the security and reliability of its systems by implementing a comprehensive cybersecurity program. The approach it used for the implementation of the cybersecurity program entailed an overall implementation of the cybersecurity processes, not by isolating certain processes.

The information security manager (ISM) was assigned the responsibility for ensuring the implementation and operational management of the company's cybersecurity practices. When implementing the cybersecurity program, the ISM undertook a review of *Blue9*'s cybersecurity governance, which was based on four principles: clear roles and responsibilities for each department, a comprehensive cyber-tailored strategy to meet the company's needs, the integration of cybersecurity into the existing risk management processes, and planning for cybersecurity incidents.

Last month, *Blue9*'s information security team detected unusual activity on the company's network, which impacted multiple departments that were unable to access crucial information. Employing an open-source network sniffer and packet analyzer tool, the team conducted a thorough investigation, identified the source and nature of the activity, and swiftly implemented temporary solutions to restore normal network functionality.

Furthermore, to prepare for similar incidents in the future, the company decided to reassess its incident response procedures and policies. One of the modifications it made was regarding the authority of the incident response team (IRT) — in the future, in case of incidents, the IRT would only be responsible for providing advice to other teams without having authority over them. According to the company's top management, this model would promote collaboration over command, ensuring all departments could function autonomously while still benefiting from the expertise of the IRT.

Based on the scenario above, answer the following questions:

1. **What approach did *Blue9* follow to implement the cybersecurity program?**
   A. Systematic approach
   B. **Systems approach**
   C. Integrated approach

2. **Which information security principle was affected due to the unusual network activity's impact?**
   A. Confidentiality
   B. Integrity
   C. **Availability**

3. ***Blue9*'s cybersecurity governance is based on four main principles. Is this a good practice to follow?**
   A. Yes, *Blue9*'s cybersecurity governance follows all principles that should be prioritized to ensure security
   B. **No, the cybersecurity governance principles should also include fostering a culture of cyber resilience**
   C. No, cybersecurity governance principles should not include the integration of cybersecurity into the existing risk management processes as this depends on the implementation approach of the cybersecurity program

4. **The ISM was assigned the responsibility for ensuring the effective implementation and operational management of *Blue9*'s cybersecurity practices. Is this acceptable?**
   A. **Yes, the ISM is responsible for ensuring the successful implementation and operational management of cybersecurity practices**
   B. No, an ISM is responsible only for the implementation of cybersecurity practices but not for their operational management
   C. No, the organization must appoint a cybersecurity manager to ensure the effective implementation and operational management of cybersecurity practices

5. ***Blue9* assigned the IRT with the responsibility for providing advice to other teams without having authority over them. Which of the following structures of the incident response team did *Blue9* choose in this case?**
   A. Central IRT
   B. Distributed IRT
   C. **Coordinating team**

Exam Security Policy

PECB is committed to protect the integrity of its exams and the overall examination process, and relies upon the ethical behavior of applicants, potential applicants, candidates and partners to maintain the confidentiality of PECB exams. This Policy aims to address unacceptable behavior and ensure fair treatment of all candidates.

Any disclosure of information about the content of PECB exams is a direct violation of this Policy and PECB's Code of Ethics. Consequently, candidates taking a PECB exam are required to sign an Exam Confidentiality and Non-Disclosure Agreement and must comply with the following:

1. The questions and answers of the exam materials are the exclusive and confidential property of PECB. Once candidates complete the submission of the exam to PECB, they will no longer have any access to the original exam or a copy of it.
2. Candidates are prohibited from revealing any information regarding the questions and answers of the exam or discuss such details with any other candidate or person.
3. Candidates are not allowed to take with themselves any materials related to the exam, out of the exam room.
4. Candidates are not allowed to copy or attempt to make copies (whether written, photocopied, or otherwise) of any exam materials, including, without limitation, any questions, answers, or screen images.
5. Candidates must not participate nor promote fraudulent exam-taking activities, such as:
    - Looking at another candidate's exam material or answer sheet
    - Giving or receiving any assistance from the invigilator, candidate, or anyone else
    - Using unauthorized reference guides, manuals, tools, etc., including using "brain dump" sites as they are not authorized by PECB

Once a candidate becomes aware or is already aware of the irregularities or violations of the points mentioned above, they are responsible for complying with those, otherwise if such irregularities were to happen, candidates will be reported directly to PECB or if they see such irregularities, they should immediately report to PECB.

Candidates are solely responsible for understanding and complying with PECB Exam Rules and Policies, Confidentiality and Non-Disclosure Agreement and Code of Ethics. Therefore, should a breach of one or more rules be identified, candidates will not receive any refunds. In addition, PECB has the right to deny the right to enter a PECB exam or to invite candidates for an exam retake if irregularities are identified during and after the grading process, depending on the severity of the case.

Any violation of the points mentioned above will cause PECB irreparable damage for which no monetary remedy can make up. Therefore, PECB can take the appropriate actions to remedy or prevent any unauthorized disclosure or misuse of exam materials, including obtaining an immediate injunction. PECB will take action against individuals that violate the rules and policies, including permanently banning them from pursuing PECB credentials and revoking any previous ones. PECB will also pursue legal action against individuals or organizations who infringe upon its copyrights, proprietary rights, and intellectual property.

Exam results

Exam results will be communicated via email.

- 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 a re-evaluation by writing to examination.team@pecb.com within 30 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 days from the date they received the reevaluated exam results to file a complaint through the PECB Ticketing System. Any complaint received after 30 days will not be processed.

Exam Retake Policy

There is no limit to the number of times a candidate can retake an exam. However, there are certain limitations in terms of the time span between exam retakes.

If a candidate does not pass the exam on the 1st attempt, they must wait 15 days after the initial date of the exam for the next attempt (1st retake).

Note: Candidates who have completed the training course with one of our partners, and failed the first exam attempt, are eligible to retake for free the exam within a 12-month period from the date the coupon code is received (the fee paid for the training course, includes a first exam attempt and one retake). Otherwise, retake fees apply.

For candidates that fail the exam retake, PECB recommends they attend a training course in order to be better prepared for the exam.

To arrange exam retakes, based on exam format, candidates that have completed a training course, must follow the steps below:

1. Online Exam: when scheduling the exam retake, use initial coupon code to waive the fee
2. Paper-Based Exam: candidates need to contact the PECB Partner/Distributor who has initially organized the session for exam retake arrangement (date, time, place, costs).

Candidates that have not completed a training course with a partner, but sat for the online exam directly with PECB, do not fall under this Policy. The process to schedule the exam retake is the same as for the initial exam.

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SECTION III: CERTIFICATION PROCESS AND REQUIREMENTS

PECB Lead Cybersecurity Manager credential

All PECB certifications have specific requirements regarding education and professional experience. To determine which credential is right for you, take into account your professional needs and analyze the criteria for the certifications.

The credentials in the PECB Lead Cybersecurity Manager scheme have the following requirements:

Credential	Education	Exam	Professional experience	Cybersecurity project experience	Other requirements
PECB Certified Provisional Cybersecurity Manager	At least secondary education	PECB Certified Lead Cybersecurity Manager exam or equivalent	None	None	Signing the PECB Code of Ethics
PECB Certified Cybersecurity Manager		PECB Certified Lead Cybersecurity Manager exam or equivalent	Two years: One year of work experience in cybersecurity	At least 200 hours of cybersecurity activities	
PECB Certified Lead Cybersecurity Manager		PECB Certified Lead Cybersecurity Manager exam or equivalent	Five years: Two years of work experience in cybersecurity	At least 300 hours of cybersecurity activities	
PECB Certified Senior Lead Cybersecurity Manager		PECB Certified Lead Cybersecurity Manager exam or equivalent	Ten years: Seven years of work experience in cybersecurity	At least 1,000 hours of cybersecurity activities	

To be considered valid, the cybersecurity activities should follow best cybersecurity management practices and include the following:

1. Conducting a gap analysis on the cybersecurity program
2. Developing a cybersecurity policy
3. Assessing and treating cybersecurity risks
4. Implementing cybersecurity controls
5. Measuring and reporting cybersecurity performance

Applying for certification

All candidates who successfully pass the exam (or an equivalent accepted by PECB) are entitled to apply for the PECB credential they were assessed for. Specific educational and professional requirements need to be fulfilled in order to obtain a PECB certification. Candidates are required to fill out the online certification application form (that can be accessed via their PECB account), including contact details of individuals who will be contacted to validate the candidates' professional experience. Candidates can submit their

application in English, French, German, Spanish or Korean languages. They can choose to either pay online or be billed. For additional information, please contact certification.team@pecb.com.

The online certification application process is very simple and takes only a few minutes:

- Register your account
- Check your email for the confirmation link
- Log in to apply for certification

For more information on how to apply for certification, click here.

The Certification Department validates that the candidate fulfills all the certification requirements regarding the respective credential. The candidate will receive an email about the application status, including the certification decision.

Following the approval of the application by the Certification Department, the candidate will be able to download the certificate and claim the corresponding Digital Badge. For more information about downloading the certificate, click here, and for more information about claiming the Digital Badge, click here.

PECB provides support both in English and French.

Professional experience

Candidates must provide complete and correct information regarding their professional experience, including job title(s), start and end date(s), job description(s), and more. Candidates are advised to summarize their previous or current assignments, providing sufficient details to describe the nature of the responsibilities for each job. More detailed information can be included in the résumé.

Professional references

For each application, two professional references are required. They must be from individuals who have worked with the candidate in a professional environment and can validate their cybersecurity management experience, as well as their current and previous work history. Professional references of persons who fall under the candidate's supervision or are their relatives are not valid.

Cybersecurity project experience

The candidate's cybersecurity project log will be checked to ensure that the candidate has the required number of project hours.

Evaluation of certification applications

The Certification Department will evaluate each application to validate the candidates' eligibility for certification or certificate program. A candidate whose application is being reviewed will be notified in writing and, if necessary, given a reasonable time frame to provide any additional documentation. If a candidate does not respond by the deadline or does not provide the required documentation within the given time frame, the Certification Department will validate the application based on the initial information provided, which may lead to the candidates' credential downgrade.

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SECTION IV: CERTIFICATION POLICIES

Denial of certification

PECB can deny certification/certificate program if candidates:

- Falsify the application
- Violate the exam procedures
- Violate the PECB Code of Ethics

Candidates whose certification/certificate program has been denied can file a complaint through the complaints and appeals procedure. For more detailed information, refer to **Complaint and Appeal Policy** section.

The application payment for the certification/certificate program is nonrefundable.

Certification status options

Active

Means that your certification is in good standing and valid, and it is being maintained by fulfilling the PECB requirements regarding the CPD and AMF.

Suspended

PECB can temporarily suspend candidates' certification if they fail to meet the requirements. Other reasons for suspending certification include:

- PECB receives excessive or serious complaints by interested parties (suspension will be applied until the investigation has been completed.)
- The logos of PECB or accreditation bodies are willfully misused.
- The candidate fails to correct the misuse of a certification mark within the determined time by PECB.
- The certified individual has voluntarily requested a suspension.
- PECB deems appropriate other conditions for suspension of certification.

Revoked

PECB can revoke (that is, to withdraw) the certification if the candidate fails to satisfy its requirements. In such cases, candidates are no longer allowed to represent themselves as PECB Certified Professionals. Additional reasons for revoking certification can be if the candidates:

- Violate the PECB Code of Ethics
- Misrepresent and provide false information of the scope of certification
- Break any other PECB rules
- Any other reasons that PECB deems appropriate

Candidates whose certification has been revoked can file a complaint through the complaints and appeals procedure. For more detailed information, refer to **Complaint and Appeal Policy** section.

Other statuses
Besides being active, suspended, or revoked, a certification can be voluntarily withdrawn or designated as Emeritus. To learn more about these statuses and the permanent cessation status, go to Certification Status Options.

Upgrade and downgrade of credentials

Upgrade of credentials
Professionals can upgrade their credentials as soon as they can demonstrate that they fulfill the requirements.

To apply for an upgrade, candidates need to log into their PECB account, visit the "My Certifications" tab, and click on "Upgrade." The upgrade application fee is $100.

Downgrade of credentials
A PECB Certification can be downgraded to a lower credential due to the following reasons:

- The AMF has not been paid.
- The CPD hours have not been submitted.
- Insufficient CPD hours have been submitted.
- Evidence on CPD hours has not been submitted upon request.

Note: *PECB certified professionals who hold Lead certifications and fail to provide evidence of certification maintenance requirements will have their credentials downgraded. The holders of Master Certifications who fail to submit CPDs and pay AMFs will have their certifications revoked.*

Renewing the certification

PECB certifications are valid for three years. To maintain them, PECB certified professionals must meet the requirements related to the designated credential, e.g., they must fulfill the required number of continual professional development (CPD) hours. In addition, they need to pay the annual maintenance fee ($120). For more information, go to the Certification Maintenance page on the PECB website.

Closing a case

If candidates do not apply for certification within one year, 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 to certification.team@pecb.com and pay the required fee.

Complaint and Appeal Policy

Any complaints must be made no later than 30 days after receiving the certification decision. PECB will provide a written response to the candidate within 30 working days after receiving the complaint. If candidates do not find the response satisfactory, they have the right to file an appeal.

For more information about the Complaint and Appeal Policy, click here.

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SECTION V: GENERAL POLICIES

Exams and certifications from other accredited certification bodies

PECB accepts certifications and exams from other recognized accredited certification bodies. PECB will evaluate the requests through its equivalence process to decide whether the respective certification(s) or exam(s) can be accepted as equivalent to the respective PECB certification (e.g., Lead Cybersecurity Manager certification).

Non-discrimination and special accommodations

All candidate applications will be evaluated objectively, regardless of the candidates' age, gender, race, religion, nationality, or marital status.

To ensure equal opportunities for all qualified persons, PECB will make reasonable accommodations[3] for candidates, when appropriate. If candidates need special accommodations because of a disability or a specific physical condition, they should inform the partner/distributor in order for them to make proper arrangements[4]. Any information that candidates provide regarding their disability/special needs will be treated with confidentiality. To download the Candidates with Disabilities Form, click here.

Behavior Policy

PECB aims to provide top-quality, consistent, and accessible services for the benefit of its external stakeholders: distributors, partners, trainers, invigilators, examiners, members of different committees and advisory boards, and clients (trainees, examinees, certified individuals, and certificate holders), as well as creating and maintaining a positive work environment which ensures safety and well-being of its staff, and holds the dignity, respect and human rights of its staff in high regard.

The purpose of this Policy is to ensure that PECB is managing unacceptable behavior of external stakeholders towards PECB staff in an impartial, confidential, fair, and timely manner. To read the Behavior Policy, click here.

Refund Policy

PECB will refund your payment, if the requirements of the Refund Policy are met. To read the Refund Policy, click here.

[3] According to ADA, the term "reasonable accommodation" may include: (A) making existing facilities used by employees readily accessible to and usable by individuals with disabilities; and (B) job restructuring, part-time or modified work schedules, reassignment to a vacant position, acquisition or modification of equipment or devices, appropriate adjustment or modifications of examinations, training materials or policies, the provision of qualified readers or interpreters, and other similar accommodations for individuals with disabilities.

[4] ADA Amendments Act of 2008 (P.L. 110–325) Sec. 12189. Examinations and courses. [Section 309]: Any person that offers examinations or courses related to applications, licensing, certification, or credentialing for secondary or post-secondary education, professional, or trade purposes shall offer such examinations or courses in a place and manner accessible to persons with disabilities or offer alternative accessible arrangements for such individuals.

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Emails:

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Certification:
certification.team@pecb.com

Customer Service:
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PECB Help Center

Visit our Help Center to browse Frequently Asked Questions (FAQ), view manuals for using PECB website and applications, read documents related to PECB processes, or to contact us via Support Center's online tracking system.

www.pecb.com