

# EDUSUM

#1 Online Certification Guide

## Excel at CAS-005 SecurityX Exam: Proven Study Methods for Triumph

**COMPTIA SECURITYX CERTIFICATION  
QUESTIONS & ANSWERS**

**Get Instant Access to Vital Exam  
Acing Materials | Study Guide |  
Sample Questions | Practice  
Test**

## Table of Contents

<b>Getting Ready for the CAS-005 Exam:</b> .....	2
<b>CompTIA SecurityX Certification Details:</b> .....	2
<b>Explore CAS-005 Syllabus:</b> .....	2
<b>Prepare with CAS-005 Sample Questions:</b> .....	16
<b>Study Tips to Pass the CompTIA SecurityX Exam:</b>	19
Understand the CAS-005 Exam Format: .....	19
Make A Study Schedule for the CAS-005 Exam: .....	19
Study from Different Resources: .....	19
Practice Regularly for the CAS-005 Exam: .....	20
Take Breaks and Rest: .....	20
Stay Organized During the CAS-005 Exam Preparation: .....	20
Seek Clarification from Mentors: .....	20
Regular Revision Plays A vital Role for the CAS-005 Exam: .....	20
Practice Time Management for the CAS-005 Exam: .....	20
Stay Positive and Confident: .....	21
<b>Benefits of Earning the CAS-005 Exam:</b> .....	21
<b>Discover the Reliable Practice Test for the CAS-005 Certification:</b> .....	21
<b>Concluding Thoughts:</b> .....	21

## Getting Ready for the CAS-005 Exam:

Use proven study tips and techniques to prepare for the CAS-005 exam confidently. Boost your readiness, improve your understanding regarding the Cybersecurity, and increase your chances of success in the CompTIA SecurityX with our comprehensive guide. Start your journey towards exam excellence today.

## CompTIA SecurityX Certification Details:

Exam Name	CompTIA SecurityX
Exam Code	CAS-005
Exam Price	\$509 (USD)
Duration	165 mins
Number of Questions	90
Passing Score	Pass/Fail
Schedule Exam	<a href="#">Pearson VUE</a>
Sample Questions	<a href="#">CompTIA SecurityX Sample Questions</a>
Practice Exam	<a href="#">CompTIA CAS-005 Certification Practice Exam</a>

## Explore CAS-005 Syllabus:

Topic	Details
<b>Governance, Risk, and Compliance - 20%</b>	
Given a set of organizational security requirements, implement the appropriate governance components.	<ul style="list-style-type: none"> <li>- Security program documentation               <ul style="list-style-type: none"> <li>• Policies</li> <li>• Procedures</li> <li>• Standards</li> <li>• Guidelines</li> </ul> </li> <li>- Security program management               <ul style="list-style-type: none"> <li>• Awareness and training                   <ul style="list-style-type: none"> <li>- Phishing</li> <li>- Security</li> <li>- Social engineering</li> <li>- Privacy</li> <li>- Operational security</li> <li>- Situational awareness</li> </ul> </li> <li>• Communication</li> <li>• Reporting</li> <li>• Management commitment</li> <li>• Responsible, accountable, consulted, and informed (RACI) matrix</li> </ul> </li> <li>- Governance frameworks               <ul style="list-style-type: none"> <li>• Control Objectives for Information and Related Technologies (COBIT)</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Information Technology Infrastructure Library (ITIL)</li> <li>- Change/configuration management               <ul style="list-style-type: none"> <li>• Asset management life cycle</li> <li>• Configuration management database (CMDB)</li> <li>• Inventory</li> </ul> </li> <li>- Governance risk and compliance (GRC) tools               <ul style="list-style-type: none"> <li>• Mapping</li> <li>• Automation</li> <li>• Compliance tracking</li> <li>• Documentation</li> <li>• Continuous monitoring</li> </ul> </li> <li>- Data governance in staging environments               <ul style="list-style-type: none"> <li>• Production</li> <li>• Development</li> <li>• Testing</li> <li>• Quality assurance (QA)</li> <li>• Data life cycle management</li> </ul> </li> </ul>
<p>Given a set of organizational security requirements, perform risk management activities.</p>	<ul style="list-style-type: none"> <li>- Impact analysis               <ul style="list-style-type: none"> <li>• Extreme but plausible scenarios</li> </ul> </li> <li>- Risk assessment and management               <ul style="list-style-type: none"> <li>• Quantitative vs. qualitative analysis</li> <li>• Risk assessment frameworks</li> <li>• Appetite/tolerance</li> <li>• Risk prioritization</li> <li>• Severity impact</li> <li>• Remediation</li> <li>• Validation</li> </ul> </li> <li>- Third-party risk management               <ul style="list-style-type: none"> <li>• Supply chain risk</li> <li>• Vendor risk</li> <li>• Subprocessor risk</li> </ul> </li> <li>- Availability risk considerations               <ul style="list-style-type: none"> <li>• Business continuity/disaster recovery                   <ul style="list-style-type: none"> <li>- Testing</li> </ul> </li> <li>• Backups                   <ul style="list-style-type: none"> <li>- Connected</li> <li>- Disconnected</li> </ul> </li> </ul> </li> <li>- Confidentiality risk considerations               <ul style="list-style-type: none"> <li>• Data leak response</li> <li>• Sensitive/privileged data breach</li> <li>• Incident response testing</li> <li>• Reporting</li> <li>• Encryption</li> </ul> </li> <li>- Integrity risk considerations               <ul style="list-style-type: none"> <li>• Remote journaling</li> <li>• Hashing</li> <li>• Interference</li> <li>• Antitampering</li> </ul> </li> <li>- Privacy risk considerations               <ul style="list-style-type: none"> <li>• Data subject rights</li> <li>• Data sovereignty</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Biometrics</li> <li>- Crisis management</li> <li>- Breach response</li> </ul>
<p>Explain how compliance affects information security strategies.</p>	<ul style="list-style-type: none"> <li>- Awareness of industry-specific compliance               <ul style="list-style-type: none"> <li>• Healthcare</li> <li>• Financial</li> <li>• Government</li> <li>• Utilities</li> </ul> </li> <li>- Industry standards               <ul style="list-style-type: none"> <li>• Payment Card Industry Data Security Standard (PCI DSS)</li> <li>• International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 27000 series</li> <li>• Digital Markets Act (DMA)</li> </ul> </li> <li>- Security and reporting frameworks               <ul style="list-style-type: none"> <li>• Benchmarks</li> <li>• Foundational best practices</li> <li>• System and Organization Controls 2 (SOC 2)</li> <li>• National Institute of Standards and Technology Cybersecurity Framework (NIST CSF)</li> <li>• Center for Internet Security (CIS)</li> <li>• Cloud Security Alliance (CSA)</li> </ul> </li> <li>- Audits vs. assessments vs. certifications               <ul style="list-style-type: none"> <li>• External</li> <li>• Internal</li> </ul> </li> <li>- Privacy regulations               <ul style="list-style-type: none"> <li>• General Data Protection Regulation (GDPR)</li> <li>• California Consumer Privacy Act (CCPA)</li> <li>• General Data Protection Law (LGPD)</li> <li>• Children’s Online Privacy Act (COPPA)</li> </ul> </li> <li>- Awareness of cross-jurisdictional compliance requirements               <ul style="list-style-type: none"> <li>• e-discovery</li> <li>• Legal holds</li> <li>• Due diligence</li> <li>• Due care</li> <li>• Export controls</li> <li>• Contractual obligations</li> </ul> </li> </ul>
<p>Given a scenario, perform threat-modeling activities.</p>	<ul style="list-style-type: none"> <li>- Actor characteristics               <ul style="list-style-type: none"> <li>• Motivation                   <ul style="list-style-type: none"> <li>- Financial</li> <li>- Geopolitical</li> <li>- Activism</li> <li>- Notoriety</li> <li>- Espionage</li> </ul> </li> <li>• Resources                   <ul style="list-style-type: none"> <li>- Time</li> <li>- Money</li> </ul> </li> <li>• Capabilities                   <ul style="list-style-type: none"> <li>- Supply chain access</li> <li>- Vulnerability creation</li> </ul> </li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>- Knowledge</li> <li>- Exploit creation</li> <li>- Attack patterns</li> <li>- Frameworks               <ul style="list-style-type: none"> <li>• MITRE Adversarial Tactics, Techniques, and Common Knowledge (ATT&amp;CK)</li> <li>• Common Attack Pattern Enumeration and Classification (CAPEC)</li> <li>• Cyber Kill Chain</li> <li>• Diamond Model of Intrusion Analysis</li> <li>• Spoofing, Tampering, Repudiation, Information Disclosure, Denial of Service, and Elevation of Privilege (STRIDE)</li> <li>• Open Web Application Security Project (OWASP)</li> </ul> </li> <li>- Attack surface determination               <ul style="list-style-type: none"> <li>• Architecture reviews</li> <li>• Data flows</li> <li>• Trust boundaries</li> <li>• Code reviews</li> <li>• User factors</li> <li>• Organizational change                   <ul style="list-style-type: none"> <li>- Mergers</li> <li>- Acquisitions</li> <li>- Divestitures</li> <li>- Staffing changes</li> </ul> </li> <li>• Enumeration/discovery                   <ul style="list-style-type: none"> <li>- Internally and externally facing assets</li> <li>- Third-party connections</li> <li>- Unsanctioned assets/accounts</li> <li>- Cloud services discovery</li> <li>- Public digital presence</li> </ul> </li> </ul> </li> <li>- Methods               <ul style="list-style-type: none"> <li>• Abuse cases</li> <li>• Antipatterns</li> <li>• Attack trees/graphs</li> </ul> </li> <li>- Modeling applicability of threats to the organization/environment               <ul style="list-style-type: none"> <li>• With an existing system in place                   <ul style="list-style-type: none"> <li>- Selection of appropriate controls</li> </ul> </li> <li>• Without an existing system in place</li> </ul> </li> </ul>
Summarize the information security challenges associated with artificial intelligence (AI) adoption.	<ul style="list-style-type: none"> <li>- Legal and privacy implications               <ul style="list-style-type: none"> <li>• Potential misuse</li> <li>• Explainable vs. non-explainable models</li> <li>• Organizational policies on the use of AI</li> <li>• Ethical governance</li> </ul> </li> <li>- Threats to the model               <ul style="list-style-type: none"> <li>• Prompt injection</li> <li>• Insecure output handling</li> <li>• Training data poisoning</li> <li>• Model denial of service (DoS)</li> <li>• Supply chain vulnerabilities</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Model theft</li> <li>• Model inversion</li> <li>- AI-enabled attacks               <ul style="list-style-type: none"> <li>• Insecure plug-in design</li> <li>• Deep fake                   <ul style="list-style-type: none"> <li>- Digital media</li> <li>- Interactivity</li> </ul> </li> <li>• AI pipeline injections</li> <li>• Social engineering</li> <li>• Automated exploit generation</li> </ul> </li> <li>- Risks of AI usage               <ul style="list-style-type: none"> <li>• Overreliance</li> <li>• Sensitive information disclosure                   <ul style="list-style-type: none"> <li>- To the model</li> <li>- From the model</li> </ul> </li> <li>• Excessive agency of the AI</li> </ul> </li> <li>- AI-enabled assistants/digital workers               <ul style="list-style-type: none"> <li>• Access/permissions</li> <li>• Guardrails</li> <li>• Data loss prevention (DLP)</li> <li>• Disclosure of AI usage</li> </ul> </li> </ul>
<b>Security Architecture - 27%</b>	
<p>Given a scenario, analyze requirements to design resilient systems.</p>	<ul style="list-style-type: none"> <li>- Component placement and configuration               <ul style="list-style-type: none"> <li>• Firewall</li> <li>• Intrusion prevention system (IPS)</li> <li>• Intrusion detection system (IDS)</li> <li>• Vulnerability scanner</li> <li>• Virtual private network (VPN)</li> <li>• Network access control (NAC)</li> <li>• Web application firewall (WAF)</li> <li>• Proxy</li> <li>• Reverse proxy</li> <li>• Application programming interface (API) gateway</li> <li>• Taps</li> <li>• Collectors</li> <li>• Content delivery network (CDN)</li> </ul> </li> <li>- Availability and integrity design considerations               <ul style="list-style-type: none"> <li>• Load balancing</li> <li>• Recoverability</li> <li>• Interoperability</li> <li>• Geographical considerations</li> <li>• Vertical vs. horizontal scaling</li> <li>• Persistence vs. non-persistence</li> </ul> </li> </ul>
<p>Given a scenario, implement security in the early stages of the systems life cycle and throughout subsequent stages.</p>	<ul style="list-style-type: none"> <li>- Security requirements definition               <ul style="list-style-type: none"> <li>• Functional requirements</li> <li>• Non-functional requirements</li> <li>• Security vs. usability trade-off</li> </ul> </li> <li>- Software assurance               <ul style="list-style-type: none"> <li>• Static application security testing (SAST)</li> <li>• Dynamic application security testing (DAST)</li> <li>• Interactive application security testing (IAST)</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Runtime application self-protection (RASP)</li> <li>• Vulnerability analysis</li> <li>• Software composition analysis (SCA)</li> <li>• Software bill of materials (SBoM)</li> <li>• Formal methods</li> </ul> <p>- Continuous integration/continuous deployment (CI/CD)</p> <ul style="list-style-type: none"> <li>• Coding standards and linting</li> <li>• Branch protection</li> <li>• Continuous improvement</li> <li>• Testing activities                             <ul style="list-style-type: none"> <li>- Canary</li> <li>- Regression</li> <li>- Integration</li> <li>- Automated test and retest</li> <li>- Unit</li> </ul> </li> </ul> <p>- Supply chain risk management</p> <ul style="list-style-type: none"> <li>• Software</li> <li>• Hardware</li> </ul> <p>- Hardware assurance</p> <ul style="list-style-type: none"> <li>• Certification and validation process</li> </ul> <p>- End-of-life (EOL) considerations</p>
<p>Given a scenario, integrate appropriate controls in the design of a secure architecture.</p>	<p>- Attack surface management and reduction</p> <ul style="list-style-type: none"> <li>• Vulnerability management</li> <li>• Hardening</li> <li>• Defense-in-depth</li> <li>• Legacy components within an architecture</li> </ul> <p>- Detection and threat-hunting enablers</p> <ul style="list-style-type: none"> <li>• Centralized logging</li> <li>• Continuous monitoring</li> <li>• Alerting</li> <li>• Sensor placement</li> </ul> <p>- Information and data security design</p> <ul style="list-style-type: none"> <li>• Classification models</li> <li>• Data labeling</li> <li>• Tagging strategies</li> </ul> <p>- DLP</p> <ul style="list-style-type: none"> <li>• At rest</li> <li>• In transit</li> <li>• Data discovery</li> </ul> <p>- Hybrid infrastructures</p> <p>- Third-party integrations</p> <p>- Control effectiveness</p> <ul style="list-style-type: none"> <li>• Assessments</li> <li>• Scanning</li> <li>• Metrics</li> </ul>
<p>Given a scenario, apply security concepts to the design of access, authentication, and authorization systems.</p>	<p>- Provisioning/deprovisioning</p> <ul style="list-style-type: none"> <li>• Credential issuance</li> <li>• Self-provisioning</li> </ul> <p>- Federation</p> <p>- Single sign-on (SSO)</p> <p>- Conditional access</p>



Topic	Details
	<ul style="list-style-type: none"> <li>- Identity provider</li> <li>- Service provider</li> <li>- Attestations</li> <li>- Policy decision and enforcement points</li> <li>- Access control models               <ul style="list-style-type: none"> <li>• Role-based access control</li> <li>• Rule-based access control</li> <li>• Attribute-based access control (ABAC)</li> <li>• Mandatory access control (MAC)</li> <li>• Discretionary access control (DAC)</li> </ul> </li> <li>- Logging and auditing</li> <li>- Public key infrastructure (PKI) architecture               <ul style="list-style-type: none"> <li>• Certificate extensions</li> <li>• Certificate types</li> <li>• Online Certificate Status Protocol (OCSP) stapling</li> <li>• Certificate authority/registration authority (CA/RA)</li> <li>• Templates</li> <li>• Deployment/integration approach</li> </ul> </li> <li>- Access control systems               <ul style="list-style-type: none"> <li>• Physical</li> <li>• Logical</li> </ul> </li> </ul>
<p>Given a scenario, securely implement cloud capabilities in an enterprise environment.</p>	<ul style="list-style-type: none"> <li>- Cloud access security broker (CASB)               <ul style="list-style-type: none"> <li>• API-based</li> <li>• Proxy-based</li> </ul> </li> <li>- Shadow IT detection</li> <li>- Shared responsibility model</li> <li>- CI/CD pipeline</li> <li>- Terraform</li> <li>- Ansible</li> <li>- Package monitoring</li> <li>- Container security</li> <li>- Container orchestration</li> <li>- Serverless               <ul style="list-style-type: none"> <li>• Workloads</li> <li>• Functions</li> <li>• Resources</li> </ul> </li> <li>- API security               <ul style="list-style-type: none"> <li>• Authorization</li> <li>• Logging</li> <li>• Rate limiting</li> </ul> </li> <li>- Cloud vs. customer-managed               <ul style="list-style-type: none"> <li>• Encryption keys</li> <li>• Licenses</li> </ul> </li> <li>- Cloud data security considerations               <ul style="list-style-type: none"> <li>• Data exposure</li> <li>• Data leakage</li> <li>• Data remanence</li> <li>• Insecure storage resources</li> </ul> </li> <li>- Cloud control strategies               <ul style="list-style-type: none"> <li>• Proactive</li> <li>• Detective</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Preventative</li> <li>- Customer-to-cloud connectivity</li> <li>- Cloud service integration</li> <li>- Cloud service adoption</li> </ul>
<p>Given a scenario, integrate Zero Trust concepts into system architecture design.</p>	<ul style="list-style-type: none"> <li>- Continuous authorization</li> <li>- Context-based reauthentication</li> <li>- Network architecture               <ul style="list-style-type: none"> <li>• Segmentation</li> <li>• Microsegmentation</li> <li>• VPN</li> <li>• Always-on VPN</li> </ul> </li> <li>- API integration and validation</li> <li>- Asset identification, management, and attestation</li> <li>- Security boundaries               <ul style="list-style-type: none"> <li>• Data perimeters</li> <li>• Secure zone</li> <li>• System components</li> </ul> </li> <li>- Deperimeterization               <ul style="list-style-type: none"> <li>• Secure access service edge (SASE)</li> <li>• Software-defined wide area network (SD-WAN)</li> <li>• Software-defined networking</li> </ul> </li> <li>- Defining subject-object relationships</li> </ul>
<b>Security Engineering - 31%</b>	
<p>Given a scenario, troubleshoot common issues with identity and access management (IAM) components in an enterprise environment.</p>	<ul style="list-style-type: none"> <li>- Subject access control               <ul style="list-style-type: none"> <li>• User</li> <li>• Process</li> <li>• Device</li> <li>• Service</li> </ul> </li> <li>- Biometrics</li> <li>- Secrets management               <ul style="list-style-type: none"> <li>• Tokens</li> <li>• Certificates</li> <li>• Passwords</li> <li>• Keys</li> <li>• Rotation</li> <li>• Deletion</li> </ul> </li> <li>- Conditional access               <ul style="list-style-type: none"> <li>• User-to-device binding</li> <li>• Geographic location</li> <li>• Time-based</li> <li>• Configuration</li> </ul> </li> <li>- Attestation</li> <li>- Cloud IAM access and trust policies</li> <li>- Logging and monitoring</li> <li>- Privilege identity management</li> <li>- Authentication and authorization               <ul style="list-style-type: none"> <li>• Security Assertions Markup Language (SAML)</li> <li>• OpenID</li> <li>• Multifactor authentication (MFA)</li> <li>• SSO</li> <li>• Kerberos</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Simultaneous authentication of equals (SAE)</li> <li>• Privileged access management (PAM)</li> <li>• Open Authorization (OAuth)</li> <li>• Extensible Authentication Protocol (EAP)</li> <li>• Identity proofing</li> <li>• Institute for Electrical and Electronics Engineers (IEEE) 802.1X</li> <li>• Federation</li> </ul>
<p>Given a scenario, analyze requirements to enhance the security of endpoints and servers.</p>	<ul style="list-style-type: none"> <li>- Application control</li> <li>- Endpoint detection response (EDR)</li> <li>- Event logging and monitoring</li> <li>- Endpoint privilege management</li> <li>- Attack surface monitoring and reduction</li> <li>- Host-based intrusion protection system/ host-based detection system (HIPS/ HIDS)</li> <li>- Anti-malware</li> <li>- SELinux</li> <li>- Host-based firewall</li> <li>- Browser isolation</li> <li>- Configuration management</li> <li>- Mobile device management (MDM) technologies</li> <li>- Threat-actor tactics, techniques, and procedures (TTPs)               <ul style="list-style-type: none"> <li>• Injections</li> <li>• Privilege escalation</li> <li>• Credential dumping</li> <li>• Unauthorized execution</li> <li>• Lateral movement</li> <li>• Defensive evasion</li> </ul> </li> </ul>
<p>Given a scenario, troubleshoot complex network infrastructure security issues.</p>	<ul style="list-style-type: none"> <li>- Network misconfigurations               <ul style="list-style-type: none"> <li>• Configuration drift</li> <li>• Routing errors</li> <li>• Switching errors</li> <li>• Insecure routing</li> <li>• VPN/tunnel errors</li> </ul> </li> <li>- IPS/IDS issues               <ul style="list-style-type: none"> <li>• Rule misconfigurations</li> <li>• Lack of rules</li> <li>• False positives/false negatives</li> <li>• Placement</li> </ul> </li> <li>- Observability</li> <li>- Domain Name System (DNS) security               <ul style="list-style-type: none"> <li>• Domain Name System Security Extensions (DNSSEC)</li> <li>• DNS poisoning</li> <li>• Sinkholing</li> <li>• Zone transfers</li> </ul> </li> <li>- Email security               <ul style="list-style-type: none"> <li>• Domain Keys Identified Mail (DKIM)</li> <li>• Sender Policy Framework (SPF)</li> <li>• Domain-based Message Authentication Reporting &amp; Conformance (DMARC)</li> <li>• Secure/Multipurpose Internet Mail Extension (S/MIME)</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>- Transport Layer Security (TLS) errors</li> <li>- Cipher mismatch</li> <li>- PKI issues</li> <li>- Issues with cryptographic implementations</li> <li>- DoS/distributed denial of service (DDoS)</li> <li>- Resource exhaustion</li> <li>- Network access control list (ACL) issues</li> </ul>
<p>Given a scenario, implement hardware security technologies and techniques.</p>	<ul style="list-style-type: none"> <li>- Roots of trust               <ul style="list-style-type: none"> <li>• Trusted Platform Module (TPM)</li> <li>• Hardware Security Module (HSM)</li> <li>• Virtual Trusted Platform Module (vTPM)</li> </ul> </li> <li>- Security coprocessors               <ul style="list-style-type: none"> <li>• Central processing unit (CPU) security extensions</li> <li>• Secure enclave</li> </ul> </li> <li>- Virtual hardware</li> <li>- Host-based encryption</li> <li>- Self-encrypting drive (SED)</li> <li>- Secure Boot</li> <li>- Measured boot</li> <li>- Self-healing hardware</li> <li>- Tamper detection and countermeasures</li> <li>- Threat-actor TTPs               <ul style="list-style-type: none"> <li>• Firmware tampering</li> <li>• Shimming</li> <li>• Universal Serial Bus (USB)-based attacks</li> <li>• Basic input/output system/Unified Extensible Firmware Interface (BIOS/UEFI)</li> <li>• Memory</li> <li>• Electromagnetic interference (EMI)</li> <li>• Electromagnetic pulse (EMP)</li> </ul> </li> </ul>
<p>Given a set of requirements, secure specialized and legacy systems against threats.</p>	<ul style="list-style-type: none"> <li>- Operational technology (OT)               <ul style="list-style-type: none"> <li>• Supervisory control and data acquisition (SCADA)</li> <li>• Industrial control system (ICS)</li> <li>• Heating ventilation and air conditioning (HVAC)/environmental</li> </ul> </li> <li>- Internet of Things (IoT)</li> <li>- System-on-chip (SoC)</li> <li>- Embedded systems</li> <li>- Wireless technologies/radio frequency (RF)</li> <li>- Security and privacy considerations               <ul style="list-style-type: none"> <li>• Segmentation</li> <li>• Monitoring</li> <li>• Aggregation</li> <li>• Hardening</li> <li>• Data analytics</li> <li>• Environmental</li> <li>• Regulatory</li> <li>• Safety</li> </ul> </li> <li>- Industry-specific challenges               <ul style="list-style-type: none"> <li>• Utilities</li> <li>• Transportation</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Healthcare</li> <li>• Manufacturing</li> <li>• Financial</li> <li>• Government/defense</li> </ul> - Characteristics of specialized/legacy systems <ul style="list-style-type: none"> <li>• Unable to secure</li> <li>• Obsolete</li> <li>• Unsupported</li> <li>• Highly constrained</li> </ul>
Given a scenario, use automation to secure the enterprise.	- Scripting <ul style="list-style-type: none"> <li>• PowerShell</li> <li>• Bash</li> <li>• Python</li> </ul> - Cron/scheduled tasks           - Event-based triggers           - Infrastructure as code (IaC)           - Configuration files <ul style="list-style-type: none"> <li>• Yet Another Markup Language (YAML)</li> <li>• Extensible Markup Language (XML)</li> <li>• JavaScript Object Notation (JSON)</li> <li>• Tom's Obvious, Minimal Language (TOML)</li> </ul> - Cloud APIs/software development kits (SDKs) <ul style="list-style-type: none"> <li>• Web hooks</li> </ul> - Generative AI <ul style="list-style-type: none"> <li>• Code assist</li> <li>• Documentation</li> </ul> - Containerization           - Automated patching           - Auto-containment           - Security orchestration, automation, and response (SOAR) <ul style="list-style-type: none"> <li>• Runbooks</li> <li>• Playbooks</li> </ul> - Vulnerability scanning and reporting           - Security Content Automation Protocol (SCAP) <ul style="list-style-type: none"> <li>• Open Vulnerability Assessment Language (OVAL)</li> <li>• Extensible Configuration Checklist Description Format (XCCDF)</li> <li>• Common Platform Enumeration (CPE)</li> <li>• Common vulnerabilities and exposures (CVE)</li> <li>• Common Vulnerability Scoring System (CVSS)</li> </ul> - Workflow automation
Explain the importance of advanced cryptographic concepts.	- Post-quantum cryptography (PQC) <ul style="list-style-type: none"> <li>• Post-quantum vs. Diffie-Hellman and elliptic curve cryptography (ECC)</li> <li>• Resistance to quantum computing decryption attack</li> <li>• Emerging implementations</li> </ul> - Key stretching           - Key splitting           - Homomorphic encryption           - Forward secrecy           - Hardware acceleration

Topic	Details
	<ul style="list-style-type: none"> <li>- Envelope encryption</li> <li>- Performance vs. security</li> <li>- Secure multiparty computation</li> <li>- Authenticated encryption with associated data (AEAD)</li> <li>- Mutual authentication</li> </ul>
<p>Given a scenario, apply the appropriate cryptographic use case and/or technique.</p>	<ul style="list-style-type: none"> <li>- Use cases                             <ul style="list-style-type: none"> <li>• Data at rest</li> <li>• Data in transit                                     <ul style="list-style-type: none"> <li>- Encrypted tunnels</li> </ul> </li> <li>• Data in use/processing</li> <li>• Secure email</li> <li>• Immutable databases/blockchain</li> <li>• Non-repudiation</li> <li>• Privacy applications</li> <li>• Legal/regulatory considerations</li> <li>• Resource considerations</li> <li>• Data sanitization</li> <li>• Data anonymization</li> <li>• Certificate-based authentication</li> <li>• Passwordless authentication</li> <li>• Software provenance</li> <li>• Software/code integrity</li> <li>• Centralized vs. decentralized key management</li> </ul> </li> <li>- Techniques                             <ul style="list-style-type: none"> <li>• Tokenization</li> <li>• Code signing</li> <li>• Cryptographic erase/obfuscation</li> <li>• Digital signatures</li> <li>• Obfuscation</li> <li>• Serialization</li> <li>• Hashing</li> <li>• One-time pad</li> <li>• Symmetric cryptography</li> <li>• Asymmetric cryptography</li> <li>• Lightweight cryptography</li> </ul> </li> </ul>
<b>Security Operations - 22%</b>	
<p>Given a scenario, analyze data to enable monitoring and response activities.</p>	<ul style="list-style-type: none"> <li>- Security information event management (SIEM)                             <ul style="list-style-type: none"> <li>• Event parsing</li> <li>• Event duplication</li> <li>• Non-reporting devices</li> <li>• Retention</li> <li>• Event false positives/false negatives</li> </ul> </li> <li>- Aggregate data analysis                             <ul style="list-style-type: none"> <li>• Correlation</li> <li>• Audit log reduction</li> <li>• Prioritization</li> <li>• Trends</li> </ul> </li> <li>- Behavior baselines and analytics                             <ul style="list-style-type: none"> <li>• Network</li> <li>• Systems</li> <li>• Users</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Applications/services</li> <li>- Incorporating diverse data sources               <ul style="list-style-type: none"> <li>• Third-party reports and logs</li> <li>• Threat intelligence feeds</li> <li>• Vulnerability scans</li> <li>• CVE details</li> <li>• Bounty programs</li> <li>• DLP data</li> <li>• Endpoint logs</li> <li>• Infrastructure device logs</li> <li>• Application logs</li> <li>• Cloud security posture management (CSPM) data</li> </ul> </li> <li>- Alerting               <ul style="list-style-type: none"> <li>• False positives/false negatives</li> <li>• Alert failures</li> <li>• Prioritization factors                   <ul style="list-style-type: none"> <li>- Criticality</li> <li>- Impact</li> <li>- Asset type</li> <li>- Residual risk</li> <li>- Data classification</li> </ul> </li> <li>• Malware</li> <li>• Vulnerabilities</li> </ul> </li> <li>- Reporting and metrics               <ul style="list-style-type: none"> <li>• Visualization</li> <li>• Dashboards</li> </ul> </li> </ul>
<p>Given a scenario, analyze vulnerabilities and attacks, and recommend solutions to reduce the attack surface.</p>	<ul style="list-style-type: none"> <li>- Vulnerabilities and attacks               <ul style="list-style-type: none"> <li>• Injection</li> <li>• Cross-site scripting (XSS)</li> <li>• Unsafe memory utilization</li> <li>• Race conditions</li> <li>• Cross-site request forgery</li> <li>• Server-side request forgery</li> <li>• Insecure configuration</li> <li>• Embedded secrets</li> <li>• Outdated/unpatched software and libraries</li> <li>• End-of-life software</li> <li>• Poisoning</li> <li>• Directory service misconfiguration</li> <li>• Overflows</li> <li>• Deprecated functions</li> <li>• Vulnerable third parties</li> <li>• Time of check, time of use (TOCTOU)</li> <li>• Deserialization</li> <li>• Weak ciphers</li> <li>• Confused deputy</li> <li>• Implants</li> </ul> </li> <li>- Mitigations               <ul style="list-style-type: none"> <li>• Input validation</li> <li>• Output encoding</li> </ul> </li> </ul>

Topic	Details
	<ul style="list-style-type: none"> <li>• Safe functions <ul style="list-style-type: none"> <li>- Atomic functions</li> <li>- Memory-safe functions</li> <li>- Thread-safe functions</li> </ul> </li> <li>• Security design patterns</li> <li>• Updating/patching <ul style="list-style-type: none"> <li>- Operating system (OS)</li> <li>- Software</li> <li>- Hypervisor</li> <li>- Firmware</li> <li>- System images</li> </ul> </li> <li>• Least privilege</li> <li>• Fail secure/fail safe</li> <li>• Secrets management <ul style="list-style-type: none"> <li>Key rotation</li> </ul> </li> <li>• Least function/functionality</li> <li>• Defense-in-depth</li> <li>• Dependency management</li> <li>• Code signing</li> <li>• Encryption</li> <li>• Indexing</li> <li>• Allow listing</li> </ul>
<p>Given a scenario, apply threat-hunting and threat intelligence concepts.</p>	<ul style="list-style-type: none"> <li>- Internal intelligence sources <ul style="list-style-type: none"> <li>• Adversary emulation engagements</li> <li>• Internal reconnaissance</li> <li>• Hypothesis-based searches</li> <li>• Honeypots</li> <li>• Honeynets</li> <li>• User behavior analytics (UBA)</li> </ul> </li> <li>- External intelligence sources <ul style="list-style-type: none"> <li>• Open-source intelligence (OSINT)</li> <li>• Dark web monitoring</li> <li>• Information sharing and analysis centers (ISACs)</li> <li>• Reliability factors</li> </ul> </li> <li>- Counterintelligence and operational security</li> <li>- Threat intelligence platforms (TIPs) <ul style="list-style-type: none"> <li>• Third-party vendors</li> </ul> </li> <li>- Indicator of compromise (IoC) sharing <ul style="list-style-type: none"> <li>• Structured Threat Information eXchange (STIX)</li> <li>• Trusted automated exchange of indicator information (TAXII)</li> </ul> </li> <li>- Rule-based languages <ul style="list-style-type: none"> <li>• Sigma</li> <li>• Yet Another Recursive Acronym (YARA)</li> <li>• Rita</li> <li>• Snort</li> </ul> </li> <li>- Indicators of attack <ul style="list-style-type: none"> <li>• TTPs</li> </ul> </li> </ul>
<p>Given a scenario, analyze data and artifacts in support of incident response activities.</p>	<ul style="list-style-type: none"> <li>- Malware analysis <ul style="list-style-type: none"> <li>• Detonation</li> <li>• IoC extractions</li> </ul> </li> </ul>



Topic	Details
	<ul style="list-style-type: none"><li>• Sandboxing</li><li>• Code stylometry<ul style="list-style-type: none"><li>- Variant matching</li><li>- Code similarity</li><li>- Malware attribution</li></ul></li><li>- Reverse engineering<ul style="list-style-type: none"><li>• Disassembly and decompilation</li><li>• Binary</li><li>• Byte code</li></ul></li><li>- Volatile/non-volatile storage analysis</li><li>- Network analysis</li><li>- Host analysis</li><li>- Metadata analysis<ul style="list-style-type: none"><li>• Email header</li><li>• Images</li><li>• Audio/video</li><li>• Files/filesystem</li></ul></li><li>- Hardware analysis<ul style="list-style-type: none"><li>• Joint test action group (JTAG)</li></ul></li><li>- Data recovery and extraction</li><li>- Threat response</li><li>- Preparedness exercises</li><li>- Timeline reconstruction</li><li>- Root cause analysis</li><li>- Cloud workload protection platform (CWPP)</li><li>- Insider threat</li></ul>

## Prepare with CAS-005 Sample Questions:

### Question: 1

After an increase in adversarial activity, a company wants to implement security measures to mitigate the risk of a threat actor using compromised accounts to mask unauthorized activity. Which of the following is the best way to mitigate the issue?

- a) Web application firewall
- b) Threat intelligence platforms
- c) Reverse engineering
- d) User and entity behavior analytics

Answer: d

### Question: 2

Which of the following AI concerns is most adequately addressed by input sanitation?

- a) Model inversion
- b) Prompt Injection
- c) Data poisoning
- d) Non-explainable model

Answer: b

**Question: 3**

A company runs a DAST scan on a web application. The tool outputs the following recommendations:

- Use Cookie prefixes.
- Content Security Policy - SameSite=strict is not set.

Which of the following vulnerabilities has the tool identified?

- RCE
- XSS
- CSRF
- TOCTOU

**Answer: c**

**Question: 4**

Which of the following best explains the importance of determining organization risk appetite when operating with a constrained budget?

- Risk appetite directly impacts acceptance of high-impact low-likelihood events.
- Organizational risk appetite varies from organization to organization
- Budgetary pressure drives risk mitigation planning in all companies
- Risk appetite directly influences which breaches are disclosed publicly

**Answer: a**

**Question: 5**

An organization receives OSINT reports about an increase in ransomware targeting fileshares at peer companies. The organization wants to deploy hardening policies to its servers and workstations in order to contain potential ransomware. Which of the following should an engineer do to best achieve this goal?

- Enable biometric authentication mechanisms on user workstations and block port 53 traffic.
- Allow only interactive log-in for users on workstations and restrict port 445 traffic to fileshares.
- Instruct users to use a password manager when generating new credentials and secure port 443 traffic.
- Give users permission to rotate administrator passwords and deny port 80 traffic.

**Answer: b**

**Question: 6**

Which of the following best describes the challenges associated with widespread adoption of homomorphic encryption techniques?

- a) Incomplete mathematical primitives
- b) No use cases to drive adoption
- c) Quantum computers not yet capable
- d) insufficient coprocessor support

**Answer: d**

**Question: 7**

A compliance officer is reviewing the data sovereignty laws in several countries where the organization has no presence. Which of the following is the most likely reason for reviewing these laws?

- a) The organization is performing due diligence of potential tax issues.
- b) The organization has been subject to legal proceedings in countries where it has a presence.
- c) The organization is concerned with new regulatory enforcement in other countries.
- d) The organization has suffered brand reputation damage from incorrect media coverage.

**Answer: c**

**Question: 8**

An organization's load balancers have reached EOL and are scheduled to be replaced. The organization identified a new, critical vulnerability that affects an unused function of the load balancers. Which of the following are the best ways to address the risk to the organization? (Choose two.)

- a) Disable the vulnerable service.
- b) Request a risk acceptance for the vulnerability indefinitely.
- c) Exclude the devices from vulnerability scans.
- d) Immediately decommission the hardware.
- e) Do not allow any network traffic to or from the hardware.
- f) Request a risk acceptance for the vulnerability for 90 days.

**Answer: a, f**

**Question: 9**

A company detects suspicious activity associated with external connections. Security detection tools are unable to categorize this activity. Which of the following is the best solution to help the company overcome this challenge?

- a) Implement an Interactive honeypot
- b) Map network traffic to known IoCs.
- c) Monitor the dark web
- d) implement UEBA

**Answer: d**

**Question: 10**

Which of the following best describes the advantage of homomorphic encryption when compared to other encryption methodologies?

- a) The need for a pre-shared key is removed.
- b) Resource utilization is lower.
- c) Support for field-specific tokenization is added.
- d) Data integrity is protected by advanced hashing routines.

**Answer: a**

## Study Tips to Pass the CompTIA SecurityX Exam:

### Understand the CAS-005 Exam Format:

Before diving into your study routine, it's essential to familiarize yourself with the CAS-005 exam format. Take the time to review the [exam syllabus](#), understand the test structure, and identify the key areas of focus. Prior knowledge of what to expect on exam day will help you tailor your study plan.

### Make A Study Schedule for the CAS-005 Exam:

To effectively prepare for the CAS-005 exam, make a study schedule that fits your lifestyle and learning style. Set specific time slots for studying each day and focus on the topics based on their importance and your proficiency level. Consistency is a must, so stick to your schedule and avoid procrastination.

### Study from Different Resources:

Make sure to expand beyond one source of study material. Utilize multiple resources such as textbooks, online courses, practice exams, and study guides

to understand the CAS-005 exam topics comprehensively. Each resource offers unique insights and explanations that can enhance your learning experience.

### **Practice Regularly for the CAS-005 Exam:**

Practice makes you perfect for the CAS-005 exam preparation as well. Regular practice allows you to reinforce your knowledge of key concepts, enhance your problem-solving skills, and familiarize yourself with the exam format. Dedicate time to solving practice questions and [sample tests](#) to gauge your progress.

### **Take Breaks and Rest:**

While it's essential to study, taking breaks and allowing yourself to rest is equally important. Overloading your brain with information without adequate rest can lead to burnout and decreased productivity. Set short breaks during your study sessions to recharge and maintain focus.

### **Stay Organized During the CAS-005 Exam Preparation:**

Stay organized throughout your CAS-005 study journey by keeping track of your progress and materials. Maintain a tidy study space, use folders or digital tools to organize your notes and resources, and create a checklist of topics to cover. An organized approach helps you stay on track and minimize stress.

### **Seek Clarification from Mentors:**

Feel free to seek clarification if you encounter any confusing or challenging concepts during your study sessions. Reach out to peers, instructors, or online forums for assistance. Clarifying doubts early on will prevent misunderstandings and ensure you have a [solid grasp](#) of the material.

### **Regular Revision Plays A vital Role for the CAS-005 Exam:**

Consistent revision is essential for the long-term retention of information. Review previously covered topics to reinforce your understanding and identify any areas requiring additional attention. Reviewing regularly will help solidify your knowledge and boost your confidence.

### **Practice Time Management for the CAS-005 Exam:**

Effective time management is crucial on exam day to ensure you complete all sections within the allocated time frame. During your practice sessions, simulate CAS-005 exam conditions and practice pacing yourself accordingly. Develop strategies for tackling each section efficiently to maximize your score.

## Stay Positive and Confident:

Lastly, always have a positive mindset and believe in your abilities. Stay confident in your preparation efforts and trust that you have adequately equipped yourself to tackle the CAS-005 exam. Visualize success, stay focused, and approach the exam calmly and confidently.

## Benefits of Earning the CAS-005 Exam:

- Achieving the CAS-005 certification opens doors to new career opportunities and advancement within your field.
- The rigorous preparation required for the CAS-005 exam equips you with in-depth knowledge and practical skills relevant to your profession.
- Holding the CAS-005 certification demonstrates your expertise and commitment to excellence, earning recognition from peers and employers.
- Certified professionals often grab higher salaries and enjoy greater earning potential than their non-certified counterparts.
- Obtaining the CAS-005 certification validates your proficiency and credibility, instilling confidence in clients, employers, and colleagues.

## Discover the Reliable Practice Test for the CAS-005 Certification:

[sitename] brings you comprehensive information about the CAS-005 exam. We offer genuine practice tests tailored for the CAS-005 certification. What benefits do these practice tests offer? You'll encounter authentic exam-like questions crafted by industry experts, providing an opportunity to enhance your performance in the actual exam. Count on [sitename] for rigorous, unlimited access to CAS-005 practice tests over two months [[link to product page](#)], enabling you to bolster your confidence steadily. Through dedicated practice, many candidates have succeeded in streamlining their journey towards obtaining the CompTIA SecurityX.

## Concluding Thoughts:

Preparing for the CAS-005 exam requires dedication, strategy, and effective study techniques. These study tips can enhance your preparation, boost your confidence, and improve your chances of passing the exam with flying colors. Remember to stay focused, stay organized, and believe in yourself. Good luck!

## Here is the Trusted Practice Test for the CAS-005 Certification

EduSum.com offers comprehensive details about the CAS-005 exam. Our platform provides authentic practice tests designed for the CAS-005 exam. What benefits do these practice tests offer? By accessing our practice tests, you will encounter questions closely resembling those crafted by industry experts in the exam. This allows you to enhance your performance and readiness for the real exam. Count on [sitename] to provide rigorous practice opportunities, offering unlimited attempts over two months for the CAS-005 practice tests. Through consistent practice, many candidates have found success and simplified their journey towards attaining the CompTIA SecurityX.

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