

# TABLE OF CONTENTS

Chapter No.	Title	Page No.
<b>1</b>	<b>Introduction to Advanced Cloud Security</b>	<b>01-16</b>
	1.1 Cloud evolution and threat landscape	
	1.2 Zero trust architectures	
	1.3 Shared responsibility model	
	1.4 Advanced cloud security challenges	
<b>2</b>	<b>Cloud Infrastructure Security</b>	<b>17-32</b>
	2.1 Virtualization and container security	
	2.2 Hypervisor vulnerabilities	
	2.3 Secure VM orchestration	
	2.4 Kubernetes security essentials	
<b>3</b>	<b>Identity and Access Management (IAM)</b>	<b>33-51</b>
	3.1 Federated identity systems	
	3.2 Advanced authentication mechanisms	
	3.3 Role-based and attribute-based access control	
	3.4 IAM governance and auditing	
<b>4</b>	<b>Data Protection and Privacy</b>	<b>52-68</b>
	4.1 Advanced encryption techniques	
	4.2 Secure key management	
	4.3 Data masking and tokenization	
	4.4 Compliance frameworks (GDPR, HIPAA)	
<b>5</b>	<b>Cloud Network Security</b>	<b>69-88</b>
	5.1 Secure virtual networking	
	5.2 Next-generation firewalls	
	5.3 Micro-segmentation strategies	
	5.4 Secure API gateways	
<b>6</b>	<b>Cloud Application Security</b>	<b>89-106</b>
	6.1 Secure SDLC for cloud apps	
	6.2 Advanced API security	
	6.3 Serverless security	
	6.4 Cloud-native application threats	
<b>7</b>	<b>Threat Detection and Incident Response</b>	<b>107-125</b>
	7.1 Cloud SIEM and SOAR platforms	
	7.2 Real-time threat intelligence	
	7.3 Automated incident response	
	7.4 Forensics in cloud environments	

<b>8</b>	<b>DevSecOps and Automation</b>	<b>126-145</b>
	8.1 Security automation pipelines	
	8.2 Policy as code	
	8.3 Container security scanning	
	8.4 Continuous compliance monitoring	
<b>9</b>	<b>Multi-Cloud and Hybrid Cloud Security</b>	<b>146-164</b>
	9.1 Cross-cloud security challenges	
	9.2 Unified security management	
	9.3 Cloud governance frameworks	
	9.4 Secure workload migration	
<b>10</b>	<b>Emerging Trends in Cloud Security</b>	<b>165-182</b>
	10.1 AI/ML-driven security analytics	
	10.2 Quantum-resistant cryptography	
	10.3 Edge and IoT cloud integration security	
	10.4 Future cloud security architectures	
	<b>Gate Questions (Q1-Q40)</b>	<b>183-187</b>