Reg. No.															

Question Paper Code	13587

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2025

Sixth Semester

Computer Science and Business Systems

20CBPC602 - INFORMATION SECURITY

Regulations - 2020

Duration: 3 Hours Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	A collection of permissions attached to a system object is called the..... (a) Access control list (b) Access control matrix (c) Access control data (d) Access control model	1	K1	CO1
2.	When only authorized users are capable of accessing the information this concept of security is called..... (a) Confidentiality (b) Availability (c) Integrity (d) Non-repudiation	1	K1	CO1
3.	Which of the following is not typically considered in evaluating a system for security assurance? (a) Threat Modeling (b) Risk Assessment (c) System Performance (d) Security Controls	1	K1	CO2
4.	A system for security assurance involves assessing it's _____ against security requirements. (a) performance (b) vulnerabilities (c) compliance (d) usability	1	K1	CO2
5.	Consider a scenario: A user downloads a file from an untrusted website and executes it, after which their computer becomes slow and unresponsive. What type of malware infection is likely responsible for this behavior? (a) Virus (b) Worm (c) Trojan horse (d) Rootkit	1	K1	CO3
6.	Which of the following is the main purpose of an audit trail? (a) To record system and network activity (b) To increase network performance (c) To compress data for faster transmission (d) To enhance system reliability	1	K1	CO3
7.	..... is NOT a principle of secure program design. (a) Least privilege (b) Defense in depth (c) Transparency (d) Simplicity	1	K1	CO4
8.	What is the principle of least privilege in secure program design? (a) Users and processes should only have access to resources necessary for their function (b) Security measures should be layered to protect against multiple threats (c) Programs should be designed to be easily understood and maintained (d) Programs should be designed to be as simple as possible	1	K1	CO4
9.	_____ is database auditing. (a) The process of creating a database (b) The process of modifying a database (c) The process of tracking and logging all database activities (d) The process of restoring a database to a previous state	1	K1	CO5
10.	Who is responsible for using that the database remains in a consistent state despite system failure? (a) Storage manager (b) Transaction manager (c) End user (d) Sophisticated	1	K1	CO5

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

11.	Define specification.	2	K1	CO1
12.	Compare Integrity and Availability.	2	K2	CO1

13.	What are the goals of security?		*2*	*K1*	*CO1*
14.	List out the types of security policies.		*2*	*K1*	*CO2*
15.	Classify the goals of confidentiality policies.		*2*	*K2*	*CO2*
16.	Relate the concepts of formal evaluation methodology.		*2*	*K2*	*CO2*
17.	Recall the acceptance of notifier.		*2*	*K1*	*CO3*
18.	What is Logging?		*2*	*K1*	*CO3*
19.	Define process privileges.		*2*	*K1*	*CO4*
20.	List the types of Data Classes.		*2*	*K1*	*CO4*
21.	Infer the similarities between Linux and windows.		*2*	*K2*	*CO5*
22.	Label the two violations for threatening system security.		*2*	*K1*	*CO5*

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Outline the Specification and Implementation concept in Assurance.	*11*	*K2*	*CO1*
		OR			
	b)	Discuss the stages of life cycle in security.	*11*	*K2*	*CO1*
24.	a)	Compare Bell-LaPadula and Chinese Wall Models.	*11*	*K2*	*CO2*
		OR			
	b)	Extend the process of Detection of Convert Channels with example.	*11*	*K2*	*CO2*
25.	a)	Apply intrusion detection system with architecture diagram.	*11*	*K3*	*CO3*
		OR			
	b)	Develop Flaw Hypothesis Methodology in penetration studies.	*11*	*K3*	*CO3*
26.	a)	Outline Users Files and Devices with security mechanisms.	*11*	*K2*	*CO4*
		OR			
	b)	Infer the case study of common security related programming problems.	*11*	*K2*	*CO4*
27.	a)	Utilize the concepts of operating system security.	*11*	*K3*	*CO5*
		OR			
	b)	Make use of Security Mechanisms and Services in security architecture.	*11*	*K3*	*CO5*
28.	a) (i)	Organize the several ways for Internal Network.	*6*	*K3*	*CO4*
	(ii)	Identify Key components of database security architecture.	*5*	*K3*	*CO5*
		OR			
	b) (i)	Build a web server system in the DMZ.	*6*	*K3*	*CO4*
	(ii)	Model the process of database auditing.	*5*	*K3*	*CO5*