CBCS SCHEME

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BCY402

Fourth Semester B.E./B.Tech. Degree Examination, June/July 2024
Elements of Cyber Security

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	What is cyber security? Why is cyber security important? Explain the fundamentals of cyber security.	10	L2	CO1
	b.	Discuss web-based and system based attacks in detail.	10	L2	CO1
		OR			
Q.2	a.	Differentiate between cyber threat and vulnerability. Explain the seven layers of cyber security.	10	L2	CO1
	b.	Define the following: (i) Cyber warfare (ii) Cyber terrorism (iii) Cyber espionage	06	L2	CO1
	c.	Explain any two types of active and passive attacks.	04	L2	CO1
		Module – 2			
Q.3	a.	Discuss security challenges related to a mobile device.	10	L2	CO3
	b.	Explain any 6 types of attacks on mobile devices.	06	L2	CO3
	c.	Define the following: (i) Banking card ; (ii) Unified Payment Interface (UPI) ; (iii) Unstructured Supplementary Service Data (USSD) ; (iv) e-wallets	04	L2	CO3
		OR			
Q.4	a.	Discuss the components of mobile device management tools.	08	L2	CO3
	b.	Explain the common frauds and preventive measures related to digital payments.	12	L2	CO3
		Module – 3			
Q.5	a.	Explain how PGP is used to provide both confidentiality and authentication with a neat figure.	10	L2	CO4
	b.	Explain IPSec Architecture with a neat figure.	05	L2	CO4
	c.	Explain the five header fields defined in MIME.	05	L2	CO4
		OR			
Q.6	a.	Explain PGP message generation and reception depicting the use of public and private key rings with a neat figure.	10	L2	CO4
	b.	Discuss the limitations of SMTP mail exchange protocol.	05	L2	CO4
	c.	Discuss various cases of basic combinations of security associations.	05	L2	CO4
		Module – 4			
Q.7	a.	Explain SSL architecture with a neat figure of SSL protocol stack.	10	L2	CO5
	b.	Discuss IEEE 802 protocol architecture.	10	L2	CO5
		OR			
Q.8	a.	Explain the connection initiation and connection closure of HTTPs.	10	L2	CO5
	b.	Discuss IEEE 802.11i phases of operation in brief with a neat figure.	10	L2	CO5
		Module – 5			
Q.9	a.	Explain Caesar cipher and modified version of Caesar cipher substitution techniques.	10	L2	CO6
	b.	Describe Diffie-Hellman key exchange algorithm.	10	L2	CO6
		OR			
Q.10	a.	Explain simpler columnar transposition basic technique and technique with multiple rounds.	10	L2	CO6
	b.	Discuss the five types of attacks on message that is encrypted.	10	L2	CO6

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