CBCS SCHEME

BIC401

USN ☐☐☐☐☐☐☐☐☐☐

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

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.	Explain symmetric encryption with one example.	10	L2	CO1
	b.	Explain the basic fire walled network.	10	L2	CO1
		OR			
Q.2	a.	Explain the hierarchical structure of the Domain Name System (DNS).	10	L2	CO1
	b.	Explain the concept of how to find the IP address manually and also explain IP address configuration.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the concept of centralized botnet infrastructures.	10	L2	CO2
	b.	Explain the race condition with an example.	10	L2	CO2
		OR			
Q.4	a.	Explain how victim interaction to fast flux infrastructure.	10	L2	CO2
	b.	Explain Brute Force and Dictionary Attacks.	10	L2	CO2
		Module – 3			
Q.5	a.	Explain the concept of Domain Name System (DNS) amplification attacks.	7	L2	CO3
	b.	Explain Charlie performs a man in the middle attacks against Bob and his bank.	7	L2	CO3
	c.	Explain the term virtual machine obfuscation.	6	L2	CO3
		OR			
Q.6	a.	Explain the concept of spyware.	7	L2	CO3
	b.	Explain the concept of token kidnapping.	7	L2	CO3
	c.	Explain the concept of load library steps and reflective injection steps.	6	L2	CO3

		Module – 4			
Q.7	a.	Justify how IOT and Digitization are having the key differences.	8	L2	CO4
	b.	Explain the concept of sensor network.	7	L2	CO4
	c.	Explain the different IOT challenges.	5	L2	CO4
		OR			
Q.8	a.	Explain the different IOT impacts on various technological aspects and environment.	8	L2	CO4
	b.	Define sensors and actuators also explain the different types of sensors.	7	L2	CO4
	c.	Explain design constraints for Wireless Smart Objects (WSO) with data aggregation.	5	L2	CO4
		Module – 5			
Q.9	a.	With the help of physical layer, MAC layer and security concept explain how 802.15.4 c/g differ from 802.15.4 zigbac.	12	L2	CO5
	b.	With the help of subscribe frame work explain Message Queuing Telemetry Transport (MQTT).	8	L2	CO5
		OR			
Q.10	a.	Explain Supervisory Control And Data Acquisition (SCADA) how it directly communicate over a raw socket and Ethernet interface.	12	L2	CO5
	b.	With the help of physical layer explain IEEE 1901.2a.	8	L2	CO5

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