Question Paper

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

VI Semester End Semester Examination
May 2022
CYBER SECURITY [ICT 4306]

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Marks: 50   **Duration: 180 mins.**

Descriptive Questions

Answer all the questions.   Section Duration: 180 mins

Instructions to Candidates:
Answer ALL the questions.
Missing data may be suitably assumed.

1)	A)	What is Single Sign-On (SSO) and how does it work? Mention some of its advantages and disadvantages.	(5)
	B)	What does an E-Mail Bomb do? Elaborate on various ways an attacker can perform E-Mail Bombing.	(3)
	C)	How are White Collar crimes different from other crimes? Exemplify with a suitable case study.	(2)
2)	A)	What does 'digital evidence' imply? What are the various stages of the digital evidence collecting process? Emphasize the significance of maintaining a proper Chain of Custody.	(5)
	B)	Write a brief explanation of why "biometrics" is an appropriate kind of evidence in criminal prosecution. Describe how a biometric inquiry works in general.	(3)
	C)	Describe the necessity for Fuzz Testing and any two types of bugs detected using it.	(2)
3)	A)	What is the purpose of the Same Origin Policy? Using appropriate examples, describe any four ways through which it can be bypassed.	(5)
	B)	In the Indian legal system, what are the several categories of law? Briefly, describe the importance of each.	(3)
	C)	Differentiate between the following:	(2)

   a. Logic Bomb and Trojan Horse

   b. Zombies and Trap Doors

4)	A)	Encrypt the word "Hide the gold under the carpet" using Playfair Cipher with the keyword "Neso Academy". Mention the required rules wherever possible.	(5)
	B)	Mention and describe the different types of intrusion detection systems (IDS) based on the location and detection model.	(3)

C) Differentiate between the following: (2)

    a. Active and Passive attacks

    b. Cross-site scripting (XSS) and Cross-site request forgery (CSRF)

5) What is the difference between a digital signature and a cryptosystem? Illustrate the various types of digital signature forgeries. (5)

A)

B) What is a security attack? Explain any 4 security mechanisms and the appropriate security services they provide. (3)

C) Given the ciphertext" NNODI OCEV TSRA EDVGT WIERY", and the key "APPLE"(Block Size -5). Using keyed transposition cipher (Keyword Columnar Transposition). [Padding character used here is < space>] perform decryption to get the message. (2)

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