Reg. No: 21BIT0661

Z/K/TX

VIT
Vellore Institute of Technology

Final Assessment Test – November 2024

Course: BITE413L - Cyber Security
Slot: A2+TA2
Class NBR(s): 3549/ 3552
Max. Marks: 100
Time: Three Hours

- KEEPING MOBILE PHONE/ANY ELECTRONIC GADGETS, EVEN IN 'OFF' POSITION IS TREATED AS EXAM MALPRACTICE
- DON'T WRITE ANYTHING ON THE QUESTION PAPER

Answer ALL Questions
(10 X 10 = 100 Marks)

1. **"People are the identified weakest link"** for any cyber crime incidents. To support the above quote, from the sample conversation provided identify below and discuss the attack with its categories.

Conversation

Mr. A : Hello?
Mr. B : Hi, This is Thomas from Tech support. Due to some disk space constraints on the file server, we will be moving a few user's home directories to another disk. Your account will be a part of this move and will be unavailable temporarily.
Mr. A : Oh, ok. No problem, I will be at my home by then, anyway.
Mr. B : We just need to check a couple of things. What is your username ?
Mr. A : User name is "A". None of my files will be lost in the move, right?, Mr.B
Mr. B : No sir, but we will have to check your account the same. What is the password of that account?
***Mr. A :** My password is "ABCD123".*
***Mr. B :** Ok, Mr.A. Thank you for your cooperation.*
***Mr. A :** Thank you, Bye*
Call disconnected...

2. *3G internet mobile phones is a set of standards for wireless mobile communication systems that promises to deliver quality multimedia services along with high quality voice transmission. 3G features are more attractive for popular attacks based on its types of mobility. Discuss various types of mobility along with attacks against 3G mobile networks.*

3. *As an attacker, explain the process involved in manual password cracking with their types and list out easily guessable passwords. Also, explain any five password cracking tools along with their functionalities.*

4. *Cyber criminals have been caught for various issues such as delivering offensive messages, Identity Theft, Impersonation, Violation of Privacy and cyber terrorism. To support the development of cyber security infrastructure, amendments also focus on, Defining penalties for violation, Defining appropriate level of compensation, Setting up an authority for implementation. Discuss the changes made to Indian (IT) ACT 2000 and 2008.*

5. Cyber forensics is the most important part of investigation of cyber-crimes. Digital evidence also plays a major role which is produced in the court of Law. One of the US sports-celebrity has received an email content which affects his reputation in sports field. Apply forensic analysis for an e-mail and trace the invalid email address using Request for Comment (RFC) documentation.

6. Illustrate the real life use of forensics with a case study.

7. Social media marketing has become dominant in the industry which gives raise to privacy issues. Apply online social media tools and analyse best practices that suits your business.

8. Networking devices of an organization is frequently exploited to unavailability because of an unauthorized access by attackers. They generate distinct attacks based on nature of the victim like (or) such as an individual, society, organization etc, As a security analyst discuss any five cyber crime issues against an individual with suitable examples.

9.a) Mobile computing is stepping into 6G technologies with variety of applications and speedier networks. Mobile security is utmost important for its intended users. Discuss various technical challenges of mobile security with respect to AuthN security service providing suitable illustration.

OR

9.b) Protecting data with cover images, water marking and secret code results the field "Steganography". List out and explain various steganography and steganalysis tools used for safeguarding of data. Apply the logic of steganography for sudoku puzzle game and illustrate the game on revealing data patterns.

10.a) Cyber-crimes and its legal landscape around distinct regions will vary based on the severity of crime. According to court of law, legal measures have been constituted for handling such cyber crime issues. Discuss cyber-crime laws proposed by asian-pacific countries to handle such cyber incidents.

OR

10.b) Evidence plays a major role in forensic analysis. Physical context of evidences will be accepted by court of law as per Indian IT ACT 2000. From the second schedule of Indian IT ACT 2000, digital evidence is also accepted by the court of law. Discuss various guidelines proposed by cyber court for collecting digital evidence to investigate such cyber-attacks.

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