Central Administration for General Education

Educational Computer Material Development Department

Under the patronage of His Excellency the Minister of Education,

Mr. Mohamed Abdel Latif

Weekly Assessments for Programming and Artificial Intelligence for General Education (First Secondary Grade)

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Third Week

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Weekly assessment

First test

First:

1. **Explain the concept of "Social Engineering" in general, and how it targets the human element in cracking(hacking)**
2. **Compare "Denial of Service" (DoS) attacks and "Distributed Denial of Service" (DDoS) attacks in terms of execution method and impact on servers.**
3. **Explain the meaning of the HTTP encryption protocol and how it secures data transmitted over the Internet compared to HTTP.**
4. **A Byte represents the basic storage unit for a single character; specify the number of Bits in one Byte, and explain the corresponding electrical state for each bit.**
5. **Calculate the total size of a text file containing ٢٠٤٨ characters measured in Kilobytes (KB)**

Second:

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

1. **The binary system relies on the digits 0 and 1 because the computer's electronic circuits understand electrical states represented by the presence or absence of voltage. ( )**

Choose the correct answer:

2. **Which of the following technologies applies the principle of "something you know and something you have" to enhance account security?**

   (A) Antivirus Software

   (B) Two-Factor Authentication 2FA

   (C) Firewall

   (D) Symmetric Encryption System

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Second test

First:

1. **Define Ransomware, and state the preventive steps that should be taken to mitigate its risks before a breach occurs.**
2. **Explain the principle of "Least Privilege" in access management within organizations and its importance in data protection.**
3. **Clarify the role that Data Backup plays in a disaster recovery plan and cyber threat mitigation.**
4. **State the mathematical formula 2n used to calculate probabilities in the binary system, then calculate the number of available probabilities when using 4 bits**
5. **Convert the decimal number 13 into its binary system equivalent, showing the conversion steps.**

Second:

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

1. **Phishing attacks always rely on exploiting software vulnerabilities in operating systems without interacting with the user.( )**

Choose the correct answer:

2. **Which of the following units is equivalent to 1024 Megabytes (MB)?**

   A) KB

   B) GB

   C) TB

   D) Byte

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Third test

First:

1. **Discuss the importance of continuous operating system and application updates System Updates in patching software vulnerabilities.**
2. **Explain what is meant by "Acceptable Use Policy" and the user's legal and regulatory responsibility when interacting with educational platforms.**
3. **Explain the process of Data Encryption, indicating the difference between plaintext and cipher text.**
4. **Clarify the difference between the ASCII coding table and Unicode encoding in terms of their capacity to represent world languages.**
5. **Calculate the total decimal value of the binary number.(١٠١١)**

Second:

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

1. **Increasing the number of bits used to represent data decreases the number of available encoding possibilities. ( )**

Choose the correct answer:

2. **The device that acts as a security barrier to monitor and filter incoming and outgoing network traffic is called:**

   (A) Cloud Server

   (B) Firewall

   (C) Switch

   (D) Central Processing Unit (CPU)

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Classroom Assessment:

First:

1. **Give a real-world example illustrating how a user can distinguish between a fake phishing link and a secure link to an official educational website.**
2. **How do cloud computing and its security mechanisms contribute to saving student files and preventing data loss compared to local storage media?**
3. **If you have 3 bits write down all possible binary combinations for them.**

Second:

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

1. **Data encryption means converting data into unreadable symbols to protect it from unauthorized viewing during transmission ( )**

Choose the correct answer:

2. **The smallest unit of data measurement inside a computer that holds the value 0 or 1 is:**

   (A) Byte

   (B) Bit

   (C) Kilobyte$) KB($

   (D) Megabyte$) MB($

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Homework Assignment:

First:

1. **Write a paragraph proposing a personal security plan to protect your home computer from viruses and cyber threats based on what you studied.**
2. **Define the relationship between national cybercrime laws and ensuring the safe use of technology in society.**
3. **How many Bytes are in a file with a size of 5 KB Show the calculation steps.**

Second:

Put (√) mark in front of the correct statement and (×) mark in front of the wrong statement:

1. **Ransomware can be used as a safe method to run trusted software on a computer ( )**

Choose the correct answer:

2. **The correct ascending order of data measurement units is:**

A) Bit > Byte > KB > MB > GB > TB

B) Byte > Bit > KB > GB > MB > TB

C) TB > GB > MB > KB > Byte > Bit

D) KB > MB > Byte > Bit > GB > TB

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