

Ministry of Higher Education and Scientific Research-KRI  
Komar University of Science and Technology  
Final Exam Question Sheet  
Fall 2022 (A)



**Course Title:** Computer Security

**Course Code:** CPE4385

**Instructor:** Susan Al Naqshbandi, PhD

**Date:** January 6, 2023

**Time:** 9:00 am

**Duration:** 2 Hours

**No. of Pages:** 2

**Calculator:** No

**Student Name:**

**Student ID:**

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ALL ANSWERS MUST BE WRITTEN ON THE PROVIDED ANSWER SHEET.

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**Q1) Choose the appropriate word from the following to fill the blanks. (5 Points)**

[Change Control, Authenticity, Masquerade, Nonrepudiation, Virus, Availability, Accountability, Ordinary password, One-time-password, Digital Signature, Firewall, SDNs, Guidelines, Program flaw]

- 1- The use of the CIA triad to define security objectives is well established, some in the security field feel that additional concepts are needed to present a complete picture. Two of the most commonly mentioned are \_\_\_\_\_, \_\_\_\_\_.
- 2- A \_\_\_\_\_ takes place when one entity pretends to be a different entity.
- 3- A \_\_\_\_\_ is a password that is invalidated as soon as it is used.
- 4- A \_\_\_\_\_ is a construct that authenticates both the origin and contents of a message in a manner that is provable to a disinterested third party.
- 5- A \_\_\_\_\_ can be a fault affecting the correctness of the program's result that is, a fault can lead to a failure.
- 6- A \_\_\_\_\_ is a program that can replicate itself and pass on malicious code to other non-malicious programs by modifying them.
- 7- \_\_\_\_\_ is the process of how changes to anything are sourced, analyzed, and managed.
- 8- \_\_\_\_\_ is a computer traffic cop that permits or blocks data flow between two parts of a network architecture. It is the only link between parts.
- 9- Networks are progressively migrating towards automation and virtualization, which opens the door to a new trend in security that is specific to \_\_\_\_\_.

**Q2) 1- A useful means of classifying security attacks, is in terms of passive attacks and active attacks. Define passive and active attacks and write the types and meaning of each of them. (5 Points)**

**2- Illustrate the four aspects of malicious code infections. (2 Points)**

**3- Discuss the functions and components of the layers that define the architecture of an SDN? (3 Points)**

**Q3) From your point of view, analyze in details two of the following and enrich your answer with example: (5 Points)**

- 1- Physical security
- 2- Infrastructure security
- 3- Database or Data center Security
- 4- Network and Internet Security

**Q4)1- The OSI security architecture provides a useful, if abstract, overview of many of the concepts of computer security. The OSI security architecture focuses on security attacks, mechanisms, and services. What are the most important mechanisms? List the mechanisms and describe one of them in detail. (5 Points)**

**2- Instant messaging (IM) is another technology that has seen a change in recent years. Describe, indicate its security issues and support your answer with example. (5 Points)**

**Good Luck**