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Air University
(Mid-Term Examination: Spring 2025)
Department of Cyber Security

Subject: Network Security
Course Code: CY223
Class: BSCYS F23
Section: B

BSCYB-4B
231285

Total Marks: 50
Date: -04-2025
Duration: 2 Hours
FM Name: Hina Batool

[Signature]

Instructions:

- This question paper has 3 questions and page count is 2
- Understanding of questions is part of examination.
- Return the question paper along with answer sheet.

Q. No	Questions	Marks	CLO
01	<p>John, a journalist, works for a global news organization that has several offices located in different parts of the world. One day, he tries to access an important news website, but his country's telecommunication authority has blocked access to it. When he tries to visit the website using his regular internet connection, he receives an error message stating that the site is unavailable. Unable to access the website, he uses a VPN and notices that he can now access the website successfully.</p> <p>a) In circumstances where a telecommunication authority has blocked access to a website, and a user is able to successfully access the website through a VPN, what is the reason for the telecommunication authority's inability to block the website, despite its accessibility through the VPN? (8)</p> <p>b) What type of VPN would a global news organization use to allow secure communication between its offices worldwide? Provide a reasoned justification for your answer. (5)</p> <p>c) In the aforementioned scenario, which one would be more suitable when deciding whether to use a proxy or a VPN? provide a reasoned justification for the chosen option. (5)</p> <p>d) Explain the similarities and differences between Virtual Private Networks and proxies (7)</p>	25	2
02	<p>Differentiate between the following with an example of each:</p> <p>a) Firewall and Intrusion Prevention System</p> <p>b) Network Address Control and Data Loss Prevention</p>	10	1

03	<p>Alice is a system administrator who needs to manage a remote server securely. She uses SSH to connect to the server from her laptop. After entering her credentials, she successfully logs in and executes some commands to update software and check system logs.</p> <p>a) What is SSH, and why did Alice use it? (5)</p> <p>b) How does SSH ensure a secure connection? Draw the message flow diagram and list down the contents transferred in each message. (10)</p>	15	2
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***** End of Examination Paper *****