First Semester 2022-2023
COMPREHENSIVE EXAMINATION

Course No. : CS ZG524
Course Title : Cybersecurity
Nature of Exam : Closed Book
Weightage : 40%
Duration : 2½ Hours
Date of Exam : Sunday, 27/11/2022 (FN)
No. of Pages = 2
No. of Questions = 3

Q.1 Answer the following questions related to Cybersecurity Concepts:
(a) Define and differentiate between symmetric and asymmetric encryption. Provide examples.
(b) Discuss the role of firewalls in network security. How do they prevent cyber threats?
(c) Explain how social engineering attacks work and how to mitigate them.
(d) What is multi-factor authentication (MFA), and why is it important in cybersecurity?
(e) Discuss the implications of ransomware attacks and preventive measures.
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Q.2 Answer the following questions related to Cyber Threats and Defense Mechanisms:
(a) Explain the impact of Distributed Denial-of-Service (DDoS) attacks on network infrastructure.
(b) What is a zero-day vulnerability? How can organizations protect against it?
(c) Discuss the role of ethical hacking and penetration testing in cybersecurity.
(d) What are security policies, and how do they help organizations maintain cybersecurity?
(e) How does blockchain technology enhance cybersecurity in financial transactions?
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Q.3 State True or False providing due justification for your answers:
(a) A strong password policy is sufficient to prevent all cyber threats.
(b) Antivirus software can detect and stop all types of malware.
(c) Encrypted data cannot be intercepted by cybercriminals.
(d) Cybersecurity training for employees is unnecessary if strong firewalls are in place.
(e) Public Wi-Fi networks are always safe to use with VPN.
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