

GYANMANJARI INNOVATIVE UNIVERSITY

GYANMANJARI INSTITUTE OF TECHNOLOGY

B.Tech.-Mid Semester Examination (MSE)- S2026

Enrollment No.: _____

Subject Code: BETCE16327

Date: 23-03-2026

Subject Name: Information Security

Semester: 6

Time: 2:30 PM to 4:30 PM

Total Marks: 60

Instructions:

1. Question No. 1 is compulsory.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

	Marks
Q.1 (a) Explain the CIA triad with examples.	05
(b) Explain the structure of a block cipher.	05
(c) Explain Different Types of Security Attacks	10
Q.2 (a) Use Playfair cipher to encrypt the plaintext "INSTRUMENTS" using the key "MONARCHY". Show all steps clearly.	05
(b) Explain the working of Hill cipher encryption with an example	05
OR	
(b) Using the Hill cipher, encrypt the message ACT with the key GYBNQKURP	05
(c) Explain the DES algorithm with neat block diagram.	10
OR	
(c) Explain the AES algorithm including structure and key expansion.	10
Q.3 (a) Explain the working of public key cryptography with an example.	05
(b) Explain the properties of a cryptographic hash function	05
(c) Explain RSA algorithm with key generation, encryption, and decryption.	10
OR	
Q.3 (a) Explain the requirements of a cryptographic hash function.	05
(b) Define Man-in-the-Middle attack.	05
(c) Explain SHA-1 or SHA-256 algorithm in detail.	10

***** All the Best *****