JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-6th Semester (CSE/IT)

COURSE CODE (CREDITS): 19B1WCI632 (2) MAX. MARKS: 15

COURSE NAME: Information Security

COURSE INSTRUCTOR: Dr Pankaj Dhiman MAX. TIME: 1 Hour

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculators is not allowed

Q.No	Question	CO	Marks
Q1	Analyze the symmetric cipher model and explain why secure key distribution is considered its weakest component. Propose realistic solutions and discuss their limitations.	2	3
Q2	Encrypt the plaintext "INFORMATIONSECURITYPROTECTS" using the Vigenère cipher with the key "CRYPTOGRAPHYIS". Show the numerical mapping of letters (A = 0 to Z = 25) and compute the final ciphertext.	1	3
Q3	Explain how the CIA triad (Confidentiality, Integrity, Availability) can be mutually conflicting. Provide scenarios where strengthening one weakens another.	1	3
Q4	The plain text is "BIRMINGHAMMAJOR" with keyword as "DIAMOND" (assuming j is combined with i), find out the cipher text using Playfair Cipher Algorithm.	1	3
Q5	An organization deploys advanced security tools but still experiences data breaches. Analyze possible reasons.	2	3

89