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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-V Semester (CSE/IT)

COURSE CODE (CREDITS): 25B1WCI538 MAX. MARKS: 15

COURSE NAME: Introduction to Blockchain Technology

COURSE INSTRUCTOR: Dr. Amit, Ms. Palak 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 calculator is not allowed

Q.No	Question	CO	Marks
Q1	Draw the working principle of DES with suitable details and also mention the limitation of this algorithm	1	4
Q2	Outline the working of a Digital Signature with the help of a neat, well- labeled diagram, clearly illustrating the processes of signature generation and signature verification.	2	3
Q3	Compare and critically evaluate different type of blockchain networks with respect to access, control, permission, decentralization, transparency, privacy, transaction speed, scalability, and major use cases.	1	3
Q4	Consider an AES encryption system using a 192-bit key and a plaintext message of length 1289 bits. Determine the number of blocks required to accommodate the plaintext, the data bits and padding bits in the last block, and the total number of blocks after padding.	2	2
Q5	As you know, there are thousands of blocks added in the blockchain network and each block is also having thousands of transaction in it. Then what is the effective way to find out the transaction and verify the block is not altered even by the partial node. Show the scenario with a suitable diagram with the required complexity to search and verify.	2	3

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