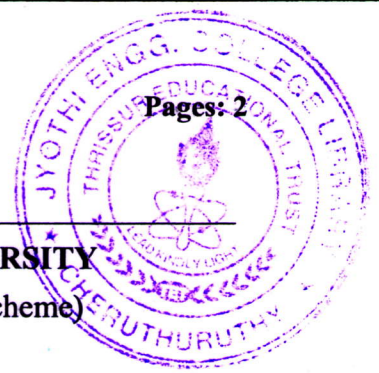


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S5 (S,FE) Examinations June 2026 (2019 Scheme)



Course Code: CCT307

Course Name: APPLIED CRYPTOGRAPHY

Max. Marks: 100

Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks)

		Marks
1	Differentiate between encryption and decryption.	3
2	Define Cryptography and Steganography with an example each.	3
3	Define differential cryptanalysis.	3
4	List the advantages, disadvantages and applications of Blowfish Algorithm.	3
5	Explain any three Authentication Requirements.	3
6	List any three Features of Hash Functions.	3
7	Draw the overview of the KERBEROS.	3
8	Explain any three biometric authentication.	3
9	Define Password Hashing and Salted Password Hashing	3
10	Explain Password Authentication Vulnerabilities	3

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

- | | | |
|----|---|----|
| 11 | a) Encrypt the message "ALL PASS IN THE EXAMINATION" using playfair cipher with a key "SCHOOL". | 10 |
| | b) Using Vigenere Cipher, encrypt the message "I AM A PROFESSIONAL" using the keyword 'COMPUTER'. | 4 |
| 12 | a) Explain the possible types of attacks | 10 |
| | b) Decrypt the message "XQTF PTL OXKR XTLR" using the additive cipher with key =19. | 4 |

Module -2

- | | | |
|----|---|----|
| 13 | a) Explain the feistel cipher structure. | 8 |
| | b) In an RSA cryptosystem, user B chooses two prime numbers: p=11, q=19. If the public key of B is e=7, Calculate the private key of B. | 6 |
| 14 | a) Explain AES Decryption process. | 10 |
| | b) What is Avalanche Effect? Describe the strengths of DES. | 4 |

Module -3

- | | | |
|----|---|----|
| 15 | a) Explain the Cipher-Based Message Authentication Code. | 8 |
| | b) List and explain the Requirements For Message Authentication Codes | 6 |
| 16 | a) With neat sketches explain the working of SHA-512. | 14 |

Module -4

- | | | |
|----|---|----|
| 17 | a) Explain the Digital Signature Model. | 10 |
| | b) Differentiate between Digital certificate and Digital Signature. | 4 |
| 18 | a) How the process of Cryptographic protocols and attacks can be validated? | 7 |
| | b) List the components of Public-Key Infrastructure. Briefly describe each component. | 7 |

Module -5

- | | | |
|----|---|----|
| 19 | a) Explain the Key Management in Cryptography. | 14 |
| 20 | a) Explain the key features and concepts associated with blockchain technology. | 14 |
