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

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