U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E. **Semester: VI**

Branch: Electronics and Telecommunication Engineering **Duration: 3 hrs.**

Course Code: 19ET6PE3NS **Max Marks: 100**

Course: Network Security

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			UNIT - I	CO	PO	Marks
1	a)		Derive an expression for Elgamal digital signature scheme and verify the signature at receiver end	CO2	PO 1	**10**
	b)		Derive an expression for DSA along with relevant key generation, signature creation and verification	CO2	PO1	**10**
			OR			
2	a)		With diagram explain External and Internal error control in MAC	CO1	-	**10**
	b)		Derive an expression for Schnorr digital signature scheme	CO2	PO1	**10**
			UNIT - II			
3	a)		With diagram explain public key authority	CO1	-	**10**
	b)		With diagram explain PGP transmission and receiving service	CO1	-	**10**
			OR			
4	a)		With protocol stack explain SSH protocol	CO1	-	**10**
	b)		Explain the different rule which need to be followed by the sending agent	CO1	-	**10**
			UNIT - III			
5	a)		Explain different elements cloud security	CO1	-	**10**
	b)		With diagram explain elements of network access control (NAC)	CO1	-	**10**
			OR			
6	a)		Explain different network access enforcement methods	CO1	-	**07**
	b)		Explain five essential characteristics of cloud computing	CO1	-	**05**
	c)		Explain deployment models of NIST	CO1	-	**08**

B.M.S.C.E. - EVEN SEM 2024-25

			UNIT - IV			
	7	a)	With diagram explain centralized and distributed system in block chain	*CO1*	-	**06**
		b)	With an example explain smart contract	*CO1*	-	**08**
		c)	Explain types of failures in distributed systems	*CO1*	-	**06**
			OR			
	8	a)	What is block chain and explain benefits of block chain	*CO1*	-	**06**
		b)	What are the tasks of cryptographic hash function	*CO1*	-	**06**
		c)	With an example explain cryptocurrency transaction	*CO2*	*PO1*	**08**
			UNIT - V			
	9	a)	With relevant expression explain verifiable random function (VRF)	*CO1*	-	**10**
		b)	With diagram explain Proof-of-Work Consensus Model	*CO1*	-	**10**
			OR			
	10	a)	With diagram explain Zero-knowledge proof	*CO1*	-	**10**
		b)	Briefly explain Bitcoin and features of blockchain	*CO1*	-	**10**

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