(3 Hours) [Total Marks : 80]

Instructions:
(1) Question no 1 is Compulsory
(2) Write any Three from Remaining
(3) Assume suitable data if necessary

Question No.		Max. Marks
Q 1 (a)	Differentiate Lossy and Lossless Compression	04
Q 1 (b)	Define Cyclic and BCH codes	04
Q 1 (c)	List four properties of Information	04
Q 1 (d)	Explain three Security Goals of Cryptography.	04
Q 1 (e)	State and explain Fermat's Little theorem with example	04
Q2 (a)	With example explain Convolution codes and Cyclic codes	10
Q2 (b)	Describe AES in relation with cryptography	05
Q2 (c)	Explain Digital Signature	05
Q3 (a)	For (7,4) linear block code $H=\begin{bmatrix} 1&1&1&1&0&1&0 \\ 0&1&1&1&0&1&0 \\ 1&1&1&0&1&0&0 \end{bmatrix}$ Find 1. Generator matrix 2. All code vectors 3. Number of error that can be detected and corrected	10
Q3 (b)	Define different types of Entropy	05

TURN OVER

Q3 (c)	Define different Security attacks that is threat to Integrity	05
Q4 (a)	Consider a Telegraph source having two symbols Dot and Dash .The Dot duration is 0.2 sec and dash duration is 3 times Dot duration .The probability of dot occurring is twice that of Dash and time between symbols is 0.2 sec. Calculate the information rate of Telegraph source	10
Q4 (b)	With block diagram explain JPEG Encoder and Decoder in detail	10
Q5 (a)	Encode the string using LZW Technique bananananan	10
Q5 (b)	Compare Symmetric and Asymmetric key cryptography.	05
Q5 (c)	Use the Euclidean,s algorithm to find gcd (1819,3587).	05
	Write short notes	
Q6 (a)	RSA algorithm	05
Q6 (b)	Dictionary based compression	05
Q6 (c)	Code efficiency and redundancy	05
Q6 (d)	Shannon's Limit	05

9F85E57755816F14DC7954CBB551A1C6