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 (d)

 August/September 2022

 and B.Tech. (ENC) IV SEMESTER

 Digital Communication (ECP-401)

(1.5) What is deta compression? Give its applications. (1.5) (1.5) **[Max. Marks : 75** 

PART-B

## Instructions :

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1.	It is compulsory to answer all the questions (1.5 marks					
patient)	each) of Part-A in short.					
(01) <b>2.</b>	Answer any four questions from Part-B in detail.					
19 <b>13.</b> 9	Different sub-parts of a question are to be attempted					
(5)	adjacent to each other.					

## A tar Meka comparison netween digital and analog

<b>(1.</b> )	(a)	Give salient features of sine and square waves.	(1.5)
ious	(b)	Define connectionless-services. Give its use in d	igital
(01)		communication. signal.	(1.5)
	(c)	What do you understand by NRZ? Give its applic	ation.
)sing	i .ash	Compare refisted pair, co-axial and fiber optic-cab	(1.5)
19165	(d)	State and explain Nyquist theorem.	(1.5)
1217	(e)	What are transmission impairments? Give exam	ples.
			(1.5)

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- (a) Make comparison between virtual circuits and permanent virtual circuits.
   (b) Define FDM and TDM Explain the operation, ments, and applications of ISDN.
- 6. (a) What is meant by transmission errors? By using an example, explain the concept of parity check and birch sum check in data communication. (10)
- (b) Dufferentiate betwasa searet key and public key cryptography
   (5)

Compare Rud iength encoding and Huffman exceeding. Also, by eating an example, explain 10 minute nucleus. Give its merits and domenius.

- (f) What is meant by PSTN? Enlists its salient features. (1.5)
- (g) Define wave division multiplexing. Give its applications. (1.5)
  - (h) What is cyclic redundancy check? Give its merits. (1.5)
  - (i) What is data compression? Give its applications. (1.5)
    (j) Enlists salient features of RS-232. (1.5)

## PART-B

2.	(a)	Define ESD and PSD. Also explain effects of lin						f limited
	1:05	bandwidth on digital signal.					(10)	
sie -	(b)	Differentiate	between	n Four	ier s	eries	and	Fourier
		Transform.		n other		5,1355	$(bd)_{ci}$	(5)

- 3. (a) Make comparisons between digital and analog signals. (5)
  - (b) Define modulation. Using an example, explain various properties of a signal. (10)
- 4. Compare twisted pair, co-axial and fiber optic-cables. Using suitable schematics, explain the operation of Manchester and differential Manchester encoding. (15)

infinitiate province extend by NRZP Give in challed

- 5. (a) Make comparison between virtual circuits and permanent virtual circuits. (5)
  - (b) Define FDM and TDM. Explain the operation, merits and applications of ISDN. (10)
- 6. (a) What is meant by transmission errors? By using an example, explain the concept of parity check and block sum check in data communication. (10)
  - (b) Differentiate between secret key and public key cryptography.(5)
- Compare Run length encoding and Huffman encoding. Also, by using an example, explain Huffman encoding. Give its merits and demerits. (15)

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