



BRAINWARE UNIVERSITY

Term End Examination 2022 Programme – B.Tech.(CSE)-2018/B.Tech.(CSE)-2019 Course Name – Digital Communication Course Code - OEC-701B (Semester VII)

Full Marks: 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15 1. Choose the correct alternative from the following: (i) The process in which the top of each pulse in the output samples retains the shape of the analog segment is analyze as _____ a) Natural sampling b) Ideal sampling c) Aliasing d) None of the mentioned (ii) State, Which process is more economical? a) Undersampling b) Oversampling d) None of the mentioned c) Aliasing (iii) The main sources of corruption observe are a) Sampling and quantizing effects b) Channel effects

c) Sampling, quantizing and channel effects
 d) None of the mentioned
 (iv) The signals which are obtained by encoding each quantized signal into a digital word is written as

a) PAM signal b) PCM signal

c) FM signal d) Sampling and quantization

(v) In PCM encoding, quantization level varies as a function assciated with _____

a) Frequency b) Amplitude

c) Square of frequency d) Square of amplitude

(vi) The size of the quantile interval is nameed as

a) Inter level b) Step size c) Quantile size d) Level width

(vii) In non uniform quantization, the quantization noise is calculated to signal size.

a) Inversely proportional b) Directly proportional

c) Equal d) Double

(viii) State, which modulation scheme is also called as on-off keying method?

a) ASK b) FSK

c) PSK d) GMSK

(ix) In TDM, at the receiver end, _____ filter is located.

a) Low pass b) High pass

c) Band pass (x) Companding is choose to	d) Band stop	
a) Increase the information transmission rate	b) Use only one carrier frequency to had different signals	andle
c) To use different frequency bands for different signals(xi) Choose, which has greater bandwidth?	d) To protect all small signals in PCM fr quantizing noise	om
a) TDMc) TDM & FDM(xii) Select, which maintains better fidelity?	b) FDM d) None of the mentioned	
a) Analog communicationc) Analog & Digital communication(xiii) The SNR value can be increased byapplying	b) Digital communicationd) None of the mentionedthe number of levels.	
a) Increasingc) Does not depend on(xiv) A cyclic code can be generated applying	b) Decreasingd) None of the mentioned	
a) Generator polynomialc) Generator polynomial & matrix(xv) Linear codes are manage for	b) Generator matrixd) None of the mentioned	
a) Forward error correctionc) Forward error detection	b) Backward error correctiond) Backward error detection	
Group-B (Short Answer Type Questions) 3 x 5=15		
 Compare and contrast uniform and non-uniform quantization. Explain Sampling theorem. Write the advantage of delta modulation over pulse modulation schemes? Write a short note on delta modulation. Write comparative study of DPCM, DM and ADM signals. OR Write the difference between block codes and convolutional codes? 		(3) (3) (3) (3) (3)
Group-C (Long Answer Type Questions) 5 x 6		5 x 6=30
 Estimate the difference between TDM & FDM. Explain QPSK with waveforms. Define the following terms: (i) Code word (ii) Block length (iii) Code rate Write a short note on PCM. Represent 100111010 using following digital data format (1) Polar RZ (2) Bipolar NRZ (3) AMI NRZ 		(5) (5) (5) (5) (5)
12. Explain repetitive generator. O Explain the detection of PCM system	R	(5) (5)
