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 : 70   **Time : 3:0 Hours**

[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
   c) Aliasing   d) None of the mentioned

(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   d) Band stop
(x) Companding is choose to

a) Increase the information transmission rate   b) Use only one carrier frequency to handle different signals

c) To use different frequency bands for   d) To protect all small signals in PCM from
   different signals   quantizing noise

(xi) Choose, which has greater bandwidth?

a) TDM   b) FDM
c) TDM & FDM   d) None of the mentioned

(xii) Select, which maintains better fidelity?

a) Analog communication   b) Digital communication
c) Analog & Digital communication   d) None of the mentioned

(xiii) The SNR value can be increased byapplying _____ the number of levels.

a) Increasing   b) Decreasing
c) Does not depend on   d) None of the mentioned

(xiv) A cyclic code can be generated applying

a) Generator polynomial   b) Generator matrix
c) Generator polynomial & matrix   d) None of the mentioned

(xv) Linear codes are manage for

a) Forward error correction   b) Backward error correction
c) Forward error detection   d) Backward error detection

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Compare and contrast uniform and non-uniform quantization.   (3)
3. Explain Sampling theorem.   (3)
4. Write the advantage of delta modulation over pulse modulation schemes?   (3)
5. Write a short note on delta modulation.   (3)
6. Write comparative study of DPCM, DM and ADM signals.   (3)
OR
Write the difference between block codes and convolutional codes?   (3)

Group-C
(Long Answer Type Questions)   5 x 8=40

7. Estimate the difference between TDM & FDM.   (5)
8. Explain aliasing.   (5)
9. Explain QPSK with waveforms.   (5)
10. Express QPSK.   (5)
11. Explain delta demodulation technique.   (5)
12. Write a short note on PCM.   (5)
13. Represent 100111010 using following digital data format (1) Polar RZ (2) Bipolar NRZ (3)   (5)
    AMI NRZ
14. Explain repetitive generator.   (5)
OR
Explain the detection of PCM system   (5)

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