YMCA UNIVERSITY OF SCIENCE& TECHNOLOGY, FARIDABAD
M.Tech ECE 3rd SEMESTER
Digital Communication (E16C-703)

Time: 3 Hours

Max. Marks:60

Instructions:
1. It is compulsory to answer all the questions (2 marks each) of Part -A in short.
2. Answer any four questions from Part -B in detail.
3. Different sub-parts of a question are to be attempted adjacent to each other.

PART –A

Q1 (a) What rate should be selected for sampling a signal? (2)

(b) Is quantization error a necessary evil? Answer yes or no with justification. (2)

(c) How delta modulation is made adaptive. (2)

(d) Differentiate between baseband and broadband signals. (2)

(e) What are the applications of RZ and NRZ ? (2)

(f) What is the Nyquist criterion for the less baseband signals? (2)

(g) How signals can be represented geometrically? (2)

(h) Differentiate between AM and ASK. (2)

(i) Define symbol error rate. (2)

(j) Define bit, symbol and block. (2)

PART –B

Q2 (a) How many types of samplings are there? Compare them. (5)

(b) Draw and explain the working of PCM system. (5)

Q3 (a) Explain the logic used for delta modulation. (5)

(b) What are the various data formats? Explain. (5)

Q4 What is ISI? What are its various causes? What measures will help in reducing this interference? (10)

Q5 (a) What is AWGN channel? Why and where it is used? Derive an expression for its bandwidth. (8)

(b) Enumerate various PAM formats . (2)

Q6 (a) What is Gram-Schmidt procedure used for? (3)

(b) Why and when do we call a receiver as optimum? (3)

(c) Compare simple modulation and coherent modulation. (4)

Q7 (a) Write short notes on: (6)
   I. BPSK   II. QPSK

(b) Why do we require DPSK and how can we obtain output? (4)

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