Q.28 Differentiate between Natural and Flat top Sampling.

Q.29 Discuss the concept of Pulse Code Modulation.

Q.30 Compare CDMA and FDMA.

Q.31 Explain frequency hop spread spectrum.

Q.32 List the uses of parity for error detection system.

Q.33 Explain Basic Digital Communication system.

Q.34 Write note on Channel Coding.

Q.35 Explain M-ary encoding.

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions.          (2x10=20)

Q.36 Explain Adaptive Delta Modulation with the help of neat block diagram. List its advantages and disadvantages.

Q.37 Compare the various pulse Analog modulation methods in detail.

Q.38 Explain the working of TDM system with the help of block Diagram.

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### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory                         (10x1=10)

Q.1 In a TDM bus, the_____ opens an input gate and output gate to allow data transfer
a) RAM                b) ROM
c) BUS                d) Control Unit

Q.2 Granular Noise occurs when
a) Step size is too small
b) Step size is too large
c) Bandwidth is large
d) None

Q.3 Which one of the following is analog?
a) PCM                b) PWM
c) PPM                d) None

Q.4 _____ is used for multiplexing in analog communication?
a) TDM                b) FDM
c) CDM                d) None

Q.5 The factors that cause quantizing error in delta modulation are:
a) Slope overload distortion
b) Granular noise
c) White noise
d) Both A and B

Q.6 _____ adds some redundant bits (Error Correcting Bits) to the transmitted data:
a) Channel encoder    b) Source encoder
c) Sampler    d) None

Q.7 The digital modulation technique in which the step size is varied according to the variation in the slope of the input is called_____.
a) Delta Modulation
b) PCM
c) Adaptive Delta Modulation
d) TDM

Q.8 The data rate of QPSK is _____ of BPSK.
a) Thrice    b) Four times
c) Twice    d) None

Q.9 The first step of PCM is _____
a) Quantization    b) Sampling
c) Modulation    d) None

Q.10 Minimum Sampling rate is called_____
a) Baud rate    b) Nyquist rate
c) Bit rate    d) None

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 What is the unit of information capacity.

Q.12 DPSK stands for _____

Q.13 What is the full form of ASCII?

Q.14 Draw ASK waveform.

Q.15 NRZ is unipolar coding. (True/False)

Q.16 What is bit rate.

Q.17 Define PAM.

Q.18 DPCM _____

Q.19 CDMA.

Q.20 What is source coding.

## SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain Shannon Hartley theorem.

Q.22 Explain Sampling theorem?

Q.23 What is Manchester coding? Explain in brief.

Q.24 What is Quantization error and companding?

Q.25 What is delta modulation? Explain the working.

Q.26 Explain the generation of FSK.

Q.27 What is inter symbol interference in digital modulation?