181053/171053

5th Sem./Electronics

Subject:- Digital Communication

Time : 3Hrs.

M.M. : 100

SECTION-A

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

Q.1 Digital signals.
   a) Do not provide a continuous set of values
   b) Represent values at discrete steps
   c) Can utilize decimal or binary systems
   d) All of the above

Q.2 In order to reduce Quantization noise, one should.
   a) Send pulses whose sides are more nearly critical
   b) Increase the number of samples per second
   c) Use an RF amplifier in the receiver
   d) Increase the number of standard amplitudes

Q.3 Main advantage of PCM is.
   a) Lower noise   b) Lower power
   c) Lower bandwidth   d) Larger bandwidth

Q.4 Which of the pulse modulation system is analog?
   a) Delta   b) Differential PCM
   c) PWM   d) PCM

Q.5 In digital transmission the modulation technique that requires the minimum bandwidth is .
   a) PCM   b) PAM
   c) DPCM   d) delta modulation

Q.6 In amplitude shift keying transmission bandwidth is equal to.
   a) Twice base bandwidth
   b) Base bandwidth
   c) Half the base bandwidth
   d) Four times the base bandwidth

Q.7 Adaptive Delta Modulation avoids.
   a) Quantisation error   b) Slope overload error
   c) Both a) and b)   d) None of the above

Q.8 Digital modulation Technique in which step size is not fixed is.
   a) Delta Modulation
   b) Adaptive Delta Modulation
   c) DPCM
   d) PCM

Q.9 The disadvantage of _____switching is processing delay
   a) Time division
   b) Space division
   c) Asynchronous division
   d) b or c

Q.10 In a TST switch, if there are X first stage switches, one second stage switch and Y third stage switches the second stage must have_____ crosspoints.
   a) X^2
   b) Y^2
   c) XY
   d) X/Y

SECTION-B

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

Q.11 What are various modes of data communication?

Q.12 What is PPM?

Q.13 What is a modem?

Q.14 Define modulation.

Q.15 What are Echo suppressors?

Q.16 Differentiate between STS and TST switch.

Q.17 Draw block diagram of Analog Communication System?

Q.18 Name various modes of Modem operation.

Q.19 Give different types of transmission speeds of Modem

Q.20 What is Adaptive Delta Modulation?

SECTION-C

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

Q.21 Compare PCM and Delta Modulation.

Q.22 Explain the process of Quantisation.

Q.23 What is Delta Modulation?

Q.24 With the help of diagram explain Frequency Shift Keying.

Q.25 Differentiate between noise and crosstalk.

Q.26 Define sampling theorem.

Q.27 What is Quantisation error and how can it be reduced?

Q.28 What are disadvantages of DPCM?

Q.29 What are various functions of a modem?

Q.30 What is distortion?

Q.31 Explain the block diagram of Digital Communication System.

Q.32 What are echo suppressors?

Q.33 Classify modems on the basis of transmission speed.

Q.34 What is Nyquist rate?

Q.35 Differentiate between Simplex, duplex and half duplex modes.

SECTION-D

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

Q.36 Explain STS and TST switching techniques.

Q.37 Why do we need a modem? Explain various modes of operation of a modem.

Q.38 Differentiate between ASK, FSK and PSK.