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181053/171053

**5th Sem / Branch : Eltx.  
Sub. : Digital Communication**

Time : 3Hrs. M.M. : 100

**SECTION-A**

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

**Q.1** The modulation techniques used to convert analog signal into digital signal are

- a) Pulse code Modulation
- b) Delta Modulation
- c) Adaptive delta Modulation
- d) All

**Q.2** The factors that cause quantizing error in delta modulation are:

- a) Slope overload distortion
- b) Granular Noise
- c) A & B both
- d) None

**Q.3** Which type of demodulator is used in the frequency hopping technique?

- a) Coherent
- b) Non coherent

- c) Coherent And Non coherent
- d) None of the above

**Q.4** MODEM stands for

- a) Modifying Electromagnetic Waves
- b) Delta Modulation
- c) Modulator=Demodulator
- d) None

**Q.5** Types of Mudulation used in MODEMs.

- a) FSK b) QPSK
- c) QAM d) All above

**Q.6** Blocking is not a problem in a \_\_\_\_\_ switch

- a) Single stage b) Two stage
- c) Multistage d) Three stage

**Q.7** Which one of the following is analog?

- a) PCM b) PWM
- c) Delta Modulation d) Differential PCAM

**Q.8** The advantage of space switching is that is \_\_\_\_\_?

- a) Is instantaneous b) is error free
- c) Need no flow control d) is free from blocking

**Q.9** In differential Pulse Code modulation techniques, the decoding is performed by \_\_\_\_\_

- a) Sampler b) Accumulator
- c) PLL d) Quantizer

**Q.10** Advantages of digital communication are :

- a) Easy multiplexing b) Easy processing
- c) Reliable d) All of mentioned

## **SECTION-B**

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

- Q.11 Define PPM.
- Q.12 Define DPCM.
- Q.13 Define FSK.
- Q.14 Define QPSK.
- Q.15 Define Data Communication.
- Q.16 Define Quantization
- Q.17 Define Crosstalk
- Q.18 Define Equalizers.
- Q.19 Define ICW.
- Q.20 STS\_\_\_\_\_.

## **SECTION-C**

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

- Q.21 Explain basic block diagram of data communication system.
- Q.22 Write a short note on working principle of ASK.
- Q.23 Write a note on working principle of QPSK.
- Q.24 Write a note on bandwidth requirements of data transmission circuits.
- Q.25 Write a note on equalizers.
- Q.26 Explain the concept of COMPANDING.
- Q.27 What is need and function of MODEM.
- Q.28 Explain working principle of TST switch.

- Q.29 Explain various modes of modem Operations.
- Q.30 Explain the concept of noise in data communication circuit.
- Q.31 State and prove low pass sampling theorem.
- Q.32 List the advantages and disadvantages of PCM.
- Q.33 Explain the error of quantization.
- Q.34 Compare analog and digital communication systems.
- Q.35 Explain two tone modulation

## **SECTION-D**

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

- Q.36 Explain various Frequency hopping spread spectrum techniques.
- Q.37 Explain various modem Modulation methods.
- Q.38 Explain PAM, PPM and PWM.