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3rd Sem.

Subject : Data communication

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) What is byte.

b) What is Latency.

c) What is band width.

d) What is Noise.

e) Write advantage of Data communication.

f) Mention various components of data communication.

g) What is multiplexing. What are its types.

h) What is TDM.

i) Define ASIC, PSIC

j) Define AM, PM.

k) Define LAN, MAN, WAN.

l) Define Topology.

m) Explain star and Ring topology.

n) Write properties of coaxial cable

o) Write characteristics of microwave.

p) Define PCM, DM.

q) Mention transmission modes.

r) What is throughput.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) Explain distributed processing.

ii) Draw block diagram of delta modulation.

iii) Explain data transmission modes.

iv) Explain Network category.

v) Explain Noise and attenuation.

vi) Explain various components of data communication.

vii) Explain various transmission modes.

viii) Explain FDM and WDM.

ix) Write short note on AM and FM.

x) Write short note on ASIC & FSIC.

xi) Write properties of UTP cable.

xii) Difference between analog and digital signal.

xiii) Explain various transmission impairments.

xiv) Explain Analog to Analog Transmission.

xv) Explain performance of data transmission.

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 Explain delta modulation with its components.

Q.4 Explain forward error correction versus retransmission.

Q.5 Explain unguided media with their characteristics.

Q.6 Explain various topology of network.

Q.7 Explain digital to digital conversion with coding and schemes.

or

Explain transmission media in detail.

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3rd Sem. / Comp, IT

Subject : Data Communication

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) Name the components of data communication.

b) Write down two advantage of radio waves.

c) Define propagation time.

d) Define single bit errors.

e) What is multiplexing

f) Define even parity

g) WAN stands for _____

h) What are periodic signals.

i) Define bit length.

j) What is latency ?

k) Write one difference between analog and digital signals.

l) What is time division multiplexing ?

m) What is meant by forward error correction.

n) Write down the disadvantages of coaxial cable.

o) Write one difference between data transmission and data communication

p) Define FDM

q) Define analog data

r) What are burst errors.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) What are disadvantages of fibre optic cable?

ii) Explain delta modulation.

iii) What do you mean by modem ?

iv) What do you understand by the term transmission media ? What are the two main classes of transmission media.

v) Explain the structure and properties of coaxial cable.

vi) Write short note on distributed processing ?

vii) Explain microwave transmission

viii) Redundancy increases the message size but still used, why ?

ix) What is the difference between synchronous and asynchronous time division multiplexing.

x) Differentiate between detection and correction.

xi) Write down the advantages and disadvantages of twisted pair cable

xii) Discuss in brief infrared transmission media.

xiii) What do you understand by ASK ? Explain in brief.

xiv) Differentiate between periodic and Non-periodic signals.

xv) Write short notes on

a) AM b) PM

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 What are serial and parallel transmission. Compare both in terms of speed of data transfer

Q.4 Write down block diagram of PCM system and explain each components of system in detail.

Q.5 Write short note on

a) Attenuation

b) Distortion

c) Noise

Q.6 Explain the method of error detection and correction using cyclic redundancy check.

Q.7 What are difference factors used for performance measure of data transmission ? Explain them in detail.

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3rd Sem. / Comp IT

Subject : Data Communication

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) What are the possible analog to analog modulation techniques.

b) Between AM and FM, which one gives better noise immunity.

c) What are the possible digital to analog modulation techniques.

d) What do you mean by Data communication.

e) List the various guided media used for transmission.

f) What is analog data.

g) Define serial Transmission.

h) Define signals.

i) Define Bandwidth.

j) What are the causes of impairment.

k) What is throughput.

l) Define latency.

m) Define Jitter.

n) What are analog signal.

o) Define MAN.

p) Define Redundancy.

q) Differentiate between error detection and error correction.

r) Write down any two error correction methods.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) Explain five components of a data communication system.

ii) What are the advantages and disadvantages of optical fiber.

iii) Discuss in short twisted pair cable.

iv) Briefly discuss the time division multiplexing.

v) What do you mean by PCM. Explain in brief.

vi) Explain digital to digital conversion coding & schemes?

vii) Explain various topologies.

viii) Give the general principles of error detection and correction using cyclic redundancy check.

ix) Differentiate between LAN and WAN.

x) What do you understand by ASK. Explain in brief.

xi) What are the different factors used for performance measure of data transmission.

xii) Compare serial and parallel data transmissions in term of speed of data transfer.

xiii) What is distributed processing.

xiv) Write short notes on :

a) Attenuation

b) Distortion

c) Noise

xv) Explain coaxial cable system with the help of diagram.

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 Explain FSK and PSK with the help of neat and clean diagram.

Q.4 How amplitude modulation is different from frequency modulation.

Q.5 Explain following modes of transmission in detail :

a) Simplex mode

b) Half duplex mode

c) Full duplex mode

Q.6 Discuss error detection through parity bit. Also discuss how block parity is used to detect double errors and correct single errors.

Q.7 What is unguided media? What are the different types of unguided media? Explain them in detail.

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3rd Sem. / Computer Engg, I.T.

Subject : Data Communication

Time : 3 Hrs. M.M. : 100

SECTION-A

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

(Course Outcome/CO)

Q.1 LAN stands For_____. (CO-1)

Q.2 MAN Stands For _____. (CO-1)

Q.3 Why signal is corrupted, it is due to _____. (CO-2)

Q.4 Data can be represented as Digital Signal (T/F). (CO-2)

Q.5 PAM means Pulse Amplitude Modulation (T/F). (CO-2)

Q.6 TDM stands for _____. (CO-4)

Q.7 Unguided Media consists of Radio Wave (T/F). (CO-3)

Q.8 CRC STANDS FOR_____. (CO-5)

Q.9 LRC is Longitudinal Redundancy Check (T/F). (CO-5)

Q.10 Mention Unguided Media Types. (CO-3)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts. 10x2=20

Q.11 Name the different types of network. (CO-1)

Q.12 What is distributed processing. (CO-1)

Q.13 State Bus Topology. (CO-1)

Q.14 What are the types of composite signal. (CO-2)

Q.15 Explain the term throughput. (CO-2)

Q.16 Define an echo. (CO-3)

Q.17 Define Synchronous Transmission. (CO-4)

Q.18 Define Modulation. (CO-4)

Q.19 Define coaxial cable. (CO-4)

Q.20 List various Unguided Media. (CO-4)

Q.21 Define Multi Bit Error. (CO-5)

Q.22 State Error Detection. (CO-5)

SECTION-C

Note: Short answer type questions. Attempt any eight questions. 8x5=40

Q.23 Write the advantage of Distributed processing. (CO-1)

Q.24 Explain Local Area network briefly. (CO-1)

Q.25 Explain AM , FM. (CO-2)

Q.26 Explain Digital to Analog conversion. (CO-2)

Q.27 Write characteristics of Coaxial Cable. (CO-3)

Q.28 Explain Satellite Transmission. (CO-3)

Q.29 Explain UTP with its Types. (CO-3)

Q.30 Explain Synchronous Frame Format. (CO-4)

Q.31 Compare TDM with FDM. (CO-4)

Q.32 What do you mean by error correction. Explain the Method to correct single bit error. (CO-5)

SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.33 Describe simplex , Half-Duplex, Full - Duplex communication. (CO-1)

Q.34 Explain types of Modulation with AM , FM, PM, PCM. (CO-2)

Q.35 Explain guided Media with types and characteristics. (CO-3)

Q.36 Explain TDM, FDM, WDM with characteristics. (CO-4)

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3rd Sem. / Computer Engineering

Subject : Data Communication

Time : 3 Hrs. M.M. : 100

SECTION-A

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

(Course Outcome/CO)

Q.1 LAN stands for_____? (CO-1)

Q.2 ARPA stands for_____? (CO-2)

Q.3 PAM stands for _____? (CO-3)

Q.4 WDM stands for _____? (CO-4)

Q.5 What is protocol? (CO-2)

Q.6 Write any one name of errors. (CO-6)

Q.7 Define modem. (CO-3)

Q.8 Define Transmission time. (CO-5)

Q.9 What is data encryption? (CO-6)

Q.10 What is TDM? (CO-4)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts 10x2=20

Q.11 Define topology. (CO-1)

Q.12 Name the different types of network. (CO-1)

Q.13 What is Latency? (CO-2)

Q.14 Define Baseband transmission. (CO-2)

Q.15 What is Noise? (CO-3)

Q.16 Write advantages of data communication. (CO-4)

Q.17 Define Modulation. (CO-4)

Q.18 Write two advantages of co-axial cable. (CO-4)

Q.19 Define multi bit error. (CO-5)

Q.20 Describe flow integrity error. (CO-4)

Q.21 What is data transfer? (CO-5)

Q.22 Explain the term throughout. (CO-)

SECTION-C

Note: Short answer type questions. Attempt any eight questions. 8x5=40

Q.23 What are the advantages of distributed processing. (CO-1)

Q.24 What are the four fundamental characteristic of data communication system. (CO-1)

Q.25 Explain digital to analog conversion. (CO-2)

Q.26 What is guided media? Explain in brief. (CO-3)

Q.27 Explain briefly sin wave. (CO-2)

Q.28 Explain UTP with its types. (CO-3)

Q.29 Compare TDM with FDM. (CO-4)

Q.30 What is distributed processing? (CO-4)

Q.31 What do you mean by error correction? Explain the method to correct single bit error. (CO-5)

Q.32 What is the need of modulator? (CO-4)

SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.33 Describe simplex, half duplex, full duplex communication. (CO-1)

Q.34 Explain analog & digital data & signals. Write the difference between analog and digital Signals. (CO-2)

Q.35 Explain types of modulation with AM, FM, PM, & PCM. (CO-2)

Q.36 Discuss LAN, MAN and WAN in details. (CO-5)

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3rd Sem. / Computer Engg.

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SECTION-A

Note: Objective type questions. All questions are compulsory 8×2 (10x1=10)

(Course Outcome/CO)

Q.1 MAN stands for _____. (CO-1)

Q.2 The block of data is known as_____.(CO-2)

Q.3 Data can be represented as digital signal.(T/P) (CO-3)

Q.4 TDM stands for_____. (CO-4)

Q.5 WDM stands for_____. (CO-4)

Q.6 LRC stands for_____. (CO-5)

Q.7 CRC stands for_____. (CO-4)

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Q.8 Mention unguided media types. (CO-5)

Q.9 What is byte. (CO-2)

Q.10 Define Topology. (CO-1)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts 8×3 10x2=20

Q.11 What is bandwidth. (CO-1)

Q.12 Mention various components of data communication. (CO-1)

Q.13 What is multiplexing? (CO-2)

Q.14 Define data communication. (CO-2)

Q.15 Define Distortion. (CO-2)

Q.16 Define Modulation. (CO-4)

Q.17 Define metallic media. (CO-3)

Q.18 Define phase jitter. (CO-5)

Q.19 State error detection . (CO-5)

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Q.20 Define synchronous trnasmission. (CO-4)

Q.21 Explain the term throughput. (CO-3)

Q.22 State Bus topology. (CO-1)

SECTION-C

Note: Short answer type questions. Attempt any five questions. 5×8 5x8=40

Q.23 Explain LAN briefly. (CO-1)

Q.24 Write characteristics of Co-axial cable. (CO-3)

Q.25 Explain synchronous frame format. (CO-4)

Q.26 Explain LAN with diagram. (CO-1)

Q.27 Explain different data encryption standards (CO-5)

Q.28 Explain FDM in details. (CO-3)

Q.29 State transmission characteristic of optical fiber. (CO-3)

Q.30 Explain delta Modulation with block Diagram. (CO-3)

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Q.31 Short notes on

i) Attenuation ii) Distortion (CO-4)

Q.32 Explain in brief twisted pair & Co-axial cable. (CO-5)

SECTION-D

Note: Long answer type questions. Attempt any three questions. 2×10 3x10=30

Q.33 Compare LAN, MAN,& WAN. (CO-1)

Q.34 Explain transmission mode? List the various types of transmission modes with diagrams. (CO-2)

Q.35 Explain unguided media with their characteristics. (CO-5)

Q.36 Explain the concept of TDM with the help of diagram. (CO-4)

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3rd Sem. / Comp., IT

Subject : Data Communications

Time : 3 Hrs. M.M. : 100

SECTION-A

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

(Course Outcome/CO)

Q.1 Which of the following is not a category of data transmission mode. (CO-1)

a) Half duplex b) Full duplex
c) Simplex d) Half Simplex

Q.2 Physical arrangement of devices on the network is called _____. (CO-8)

a) Protocols b) Topology
c) Trailer d) LAN

Q.3 Which of the following is not a transmission impairment. (CO-2)

a) Attenuation b) Distortion
c) Noise d) Bandwidth

Q.4 In _____ encoding, we use three levels: positive, zero and negative. (CO-3)

a) Unipolar b) Polar
c) Bipolar d) None of above

Q.5 In _____ transmission, bits are transmitted simultaneously, each across its own wire.(CO-8)

a) Synchronous serial
b) Asynchronous serial
c) Parallel d) None of above

Q.6 In cycleic redundancy check, what is the CRC? (CO-6)

a) The divisor b) The quotient
c) The remainder d) The dividend

Q.7 In _____ error correction, the receiver corrects errors without requesting retransmission. (CO-8)

a) Onward b) Backward
c) Forward d) None of above

Q.8 Signals with a frequency of less than 2 MHz uses _____ propagation. (CO-5)

a) Ground b) Sky
c) Line of sight d) None of above

Q.9 _____ consist of a central conductor and a shield. (CO-5)

a) Coaxial b) Fibre optics
c) Twisted pair d) None of above

Q.10 PCM is an example of _____. (CO-3)

a) Digital to digital b) Analog to analog
c) Analog to digital d) Digital to analog

SECTION-B

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

Q.11 WAN stands for _____. (CO-1)

Q.12 When the data is in continuous manner then it is known as analog data. (T/F) (CO-2)

Q.13 _____ signals accomplish a pattern in a period and then change the pattern in the other interval. (T/F) (CO-2)

Q.14 Amplitude shift keying is a type of digital to analog conversion. (T/F) (CO-3)

Q.15 Name any two analog to digital conversion schemes. (CO-3)

Q.16 FDM stands for _____. (CO-4)

Q.17 Microwave is a type of unguided media. (CO-5)

Q.18 _____ transmits signals in the form of light from sender to receiver. (CO-5)

Q.19 Block parity is not a type of error correction method. (T/F) (CO-6)

Q.20 Define parity bits. (CO-6)

SECTION-C

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

Q.21 Define topology. Differentiate between star and bus topology. (CO-1)

Q.22 Give any five differences between analog and digital signals. (CO-2)

Q.23 Explain asynchronous serial transmission technique with diagram. (CO-3)

Q.24 What are twisted pair cables. Explain its any one type. (CO-5)

Q.25 Explain parallel transmission with its advantages and disadvantages. (CO-3)

Q.26 Explain terms bandwidth and throughout related to network performance. (CO-2)

Q.27 What are radio waves? Give its five characteristics. (CO-5)

Q.28 Discuss the process of parity re-computation. (CO-2)

Q.29 Differentiate between synchronous and asynchronous TDM. (CO-3)

Q.30 Describe simplex, half duplex and full duplex communications. (CO-1)

Q.31 Explain amplitude shift keying with diagram. (CO-3)

Q.32 Differentiate between guided and unguided media. (CO-5)

Q.33 Discuss parity bit method for detecting errors. (CO-6)

Q.34 Discuss CRC method for error detection and correction. (CO-6)

Q.35 Differentiate forward error correction and retransmission. (CO-6)

SECTION-D

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

Q.36 What are transmission impairments? What are different types of transmission impairments in detail. (CO-2)

Q.37 Define modulation. Explain AM, PM and FM with the help of diagram. (CO-3)

Q.38 What do you mean by multiplexing. Explain any one type of multiplexing in detail. (CO-4)

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3rd Sem. / Comp, IT

Subject : Data Communication

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 The information to be communicated in a data communications system is the _____ (CO-1)

a) Medium b) Protocol
c) Transmission d) Message

Q.2 In asynchronous transmission, the gap time between bytes is _____ (CO-4)

a) Variable b) Fixed
c) Zero d) A function of the data rate

Q.3 Which multiplexing technique transmits digital signals? (CO-2)

a) WDM b) FDM
c) TDM d) None of the above

Q.4 A _____ error means that two or more bits in the data unit have changed. (CO-5)

a) burst b) double-bit
c) single-bit d) none of the above

Q.5 _____ cable consists of an inner copper core and a second conducting outer sheath. (CO-3)

a) Twisted-pair b) Shielded twisted-pair
c) Coaxial d) Fiber-optic

Q.6 Transmission media are usually categorized as _____ (CO-3)

a) determinate or indeterminate
b) fixed or unfixed
c) guided or unguided
d) metallic or nonmetallic

Q.7 _____ can impair a signal. (CO-4)

a) Noise b) Attenuation
c) Distortion d) All of the above

Q.8 _____ is the rate of change with respect to time. (CO-4)

a) Time b) Frequency
c) Amplitude d) Voltage

Q.9 Data can be _____. (CO-2)

a) digital b) analog
c) (a) or (b) d) none of the above

Q.10 _____ are used for short-range communications such as those between a pc and a peripheral device. (CO-3)

a) Radio waves b) Infrared waves
c) Microwaves d) None of the above

SECTION-B

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

Q.11 Define the term bandwidth. (CO-2)

Q.12 LAN stands for _____ (CO-1)

Q.13 Mention the advantage of twisted pair cable. (CO-3)

Q.14 The _____ is the physical path over which message travels. (CO-1)

Q.15 A _____ is a data communication system within a building, plant, or campus, or between nearby buildings. (LAN / WAN). (CO-1)

Q.16 _____ conversion is the process of changing one of the characteristics of an analog signal based on the information in the digital data. (CO-2)

Q.17 Define the term throughput. (CO-1)

Q.18 Why analog -to-analog modulation technique is required. (CO-2)

Q.19 Define periodic signals. (CO-2)

Q.20 What are burst errors. (CO-5)

SECTION-C

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

Q.21 What are the component of data communication model. Discuss is brief. (CO-1)

Q.22 What is amplitude shift keying (ASK) Explain in brief. (CO-2)

Q.23 Explain in brief digital to digital conversion schemes. (CO-2)

Q.24 Write short notes on a (CO-3)

a) Radio wave b) microwave

Q.25 Explain in brief that how parties is use in error detection. (CO-5)

Q.26 Write short note on transmission impairment. (CO-4)

Q.27 Differentiate between : (CO-2)

a) Periodic and non periodic signals
b) analog and digital signals.

Q.28 What do you understand by PCM. (CO-2)

Q.29 Compare wave length division multiplexing and time Division multiplexing. (CO-2)

Q.30 Discuss in brief infrared Transmission media. (CO-3)

Q.31 What is Modulation and why we need modulation. (CO-2)

Q.32 Write short notes on: (a) AM (b) PM (CO-2)

Q.33 Write down the advantages and dis-advantages of twisted pair cable. (CO-3)

Q.34 Differentiate between detection and correction. (CO-5)

Q.35 Differentiate between Guided and Unguided media. (CO-3)

SECTION-D

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

Q.36 What is guided media? What are the different types of guided media. Explain them in detail. (CO-3)

Q.37 Compare LAN, WAN, and MAN. (CO-1)

Q.38 What are different error correction methods. Explain any one in detail. (CO-5)

Note: Course Outcome (CO) mentioned in the question paper is for official purpose only.