

MIDTERM EXAMINATION
Spring 2010
CS601- Data Communication

Time: 60 min
Marks: 40

Question No: 1 (Marks: 1) - Please choose one

The information to be communicated in a data communications system is the

- Medium
- Protocol
- Message p_5
- Transmission

Question No: 2 (Marks: 1) - Please choose one

Which is not an element of protocol

- semantics
- timing
- communication service module p_17-18
-

Question No: 3 (Marks: 1) - Please choose one

Line configuration refers to the way two or more devices attach to a _____.

- Link p_24
- Circuit
- Route
- Node

Question No: 4 (Marks: 1) - Please choose one

_____ requires the maximum number of I/O ports.

- Bus
- Star
- Mesh p_28-29
- Ring

Question No: 5 (Marks: 1) - Please choose one

Which topology requires a central controller or hub?

- Mesh
- Star p_29
- Bus
- Ring

Question No: 6 (Marks: 1) - Please choose one

Layers 5, 6 and 7 also called as network support layers.

- True
- False p_42

Question No: 7 (Marks: 1) - Please choose one

Internet with small "i" specifies the world wide Network the actual internet.

- True
- False p_39

Question No: 8 (Marks: 1) - Please choose one

Data link layer deals with mechanical and electrical specifications of transmission medium and interface

- True
- False p_44

Question No: 9 (Marks: 1) - Please choose one

Data synchronization is a function related with _____

- session layer p_52
- presentation layer
- transport

Question No: 10 (Marks: 1) - Please choose one

OSI model was developed prior to TCP/IP model.

- True
- False p_56

Question No: 11 (Marks: 1) - Please choose one

Fourier transform tells us that any digital signal can be decomposed into infinite number of periodic signals

- True p_61
- False

Question No: 12 (Marks: 1) - Please choose one

A signal that repeats a pattern over a regular interval of time is called_____.

- periodic signal p_60
- analog signal
- composite signal

Question No: 13 (Marks: 1) - Please choose one

Frequency band in which 99% of the total power resides is called_____

- power bandwidth p_70
- half power bandwidth
- 3dB bandwidth

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F.M.

Question No: 14 (Marks: 1) - Please choose one

In differential Manchester we require two transition or signal changes to represent binary _____

- zero p_78
- one
- both zero and one

Question No: 15 (Marks: 1) - Please choose one

In Alternate mark inversion the term mark comes from _____

- telegraphy p_79
- telephony
- digital telephony

Question No: 16 (Marks: 1) - Please choose one

A 56k modem can download at a rate of _____ Kbps and upload at a rate of _____ Kbps.

- 33.6: 33.6
- 33.6: 56.6 p_122
- 56.6: 33.6
- 56.6: 56.6

Question No: 17 (Marks: 1) - Please choose one

The bit rate always equals the baud rate in which type of signal?

- FSK p_92
- QAM
- 4-PSK
- PSK

Question No: 18 (Marks: 1) - Please choose one

Asynchronous transmission is _____

- slow p_103
- costly
- non-effective
- fast

Question No: 19 (Marks: 1) - Please choose one

At the _____ layer, a DCE takes data generated by a DTE.

- physical p_106
- transport
- data link
- application

Question No: 20 (Marks: 1) - Please choose one

_____ requires more bandwidth.

FSK

ASK

PSK p_94

QAM

Question No: 21 (Marks: 2)

Define Sampling Rate.

Solution: p_85

The accuracy of any digital production of an analog signal depends upon the o. of samples taken

How many samples are sufficient?

<Nyquist theorem>

The sampling rate must be at least twice the highest frequency

Question No: 22 (Marks: 2)

Write down the types of digital to analog modulation.

Solution: p_88

Types of digital to analog modulation

ASK

FSK

PSK

QAM

Question No: 23 (Marks: 3)

What is periodic signal?

Solution: p_60

A signal is called Periodic if it completes a pattern within a measurable time frame called a Period and then repeats that pattern over identical subsequent Periods

The completion of one full pattern is called a CYCLE

Period: Time required (in Seconds) to complete one full cycle, represented by 'T'.

Question No: 24 (Marks: 3)

How bandwidth of a Modem is measured?

Solution: p_115

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Question No: 25 (Marks: 5)

Briefly describe Return to Zero (RZ) encoding scheme?

Solution: p_77

Question No: 26 (Marks: 5)

Compare Phase Modulation(PM) with Frequency Modulation(FM)?

Solution:

Lecture # 19, p_99

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