SRM INSTITUTE OF SCIENCE AND TECHNOLOGY, RAMAPURAM
DEPARTMENT OF ---ECE---

ANSWER KEY SUBMISSION

Date of Exam & Session	03-06-2022 FN	Category of Exam	CLA1/CLA2/CLA3/SURPRISE TEST
Course Name	Computer Communication	Course Code	18CSS202J
Name of the Faculty submitting	Dr. M. Shunmugathand	Date of submission of Answer Key	08-06-2022
Department to which the Faculty belongs to	ECE	Total Marks	50

Part A (20 × 1 = 20)

1. a) 4 bytes
2. c) IP Addressing
3. c) wasted
4. a) Physical and Data link layers
5. d) class F
6. a) 121.12.12.248
7. a) Switch
8. a) Router
9. b) Subnetting
10. a) Physical layer
11. a) High in data is represented by a positive pulse
12. a) Complete pulse duration.
13. c) Wireless LAN.

Signature of the Faculty

14) b) 2

15) a) Analog to digital

16) d) QAM

17) b) bit ; baud

18) c) Ask

19) b) Unipolar

20) c) In phase & Quadrature.

Part B (3×10 = 30)

21) (a) Given is class 'C' address.

192.16.2.0/24

Need to Create 4 Subnets.

To find 'n'

$2^n \geq$ no of Subnets.

No of network bits $n = 2$

$n \Rightarrow$ no of host bits to be borrowed.

∴ 2 bits to be borrowed.

(2.5 marks)

i) To find Subnet mask.

192.16.2.00000000

net id | Host Id

Subnet mask is

11111111 11111111 11111111 11000000

(or)

255 . 255 . 255 . 192

(2) To find no of host in each subnet(h) (2.5 marks)

No of host bits = 6

∴ Total no of hosts = $2^6 = 64$.

No of usable (or) Valid host = $2^n - 2 = 64 - 2$

= 62. (Excluding network + Broadcast addres)

(3) To find 1st host, last host, Network and Broadcast addess. (2.5marks)

192.16.2. 00000000

01

10 => Four subnets.

11

Remains unchanged

(4) (2.5 marks)

Subnet (1)

net id : 192.16.2.00000000

192.16.2.0/26

Broad cast : 192.16.2.00111111

192.16.2.63/26.

∴ first host : 192.16.2.1/26

Last host : 192.16.2.62/26.

Subnet (2)

net id : 192.16.2.01|000000

192.16.2.64/26.

Broadcast : 192.16.2.01/111111

192.16.2.127/26

First host : 192.16.2.65/26

Last host : 192.16.2.126/26.

Subnet (3)

First Host :

192.16.2.129/26

last Host :

192.16.2.190

Subnet (4)

F.H : 192.16.2.193/26

L.H : 192.16.2.254/26

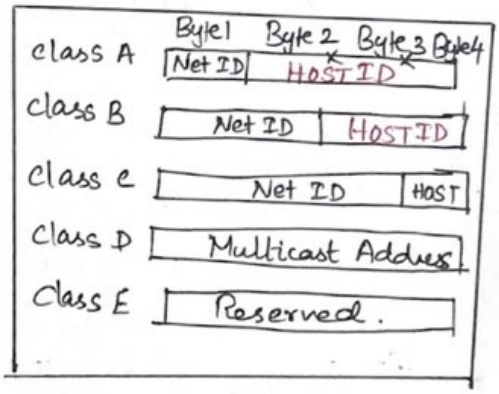
21(b) Classfull addressing with relevant example.

1) 32 bit IP address is divided into fave Subclasses. These are. (5 marks)

- Class A
- class B
- class C
- class D
- class E.

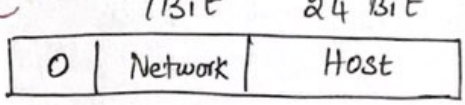
IPV4 addusss is divided into 2 parts.

- Network ID
- Host ID

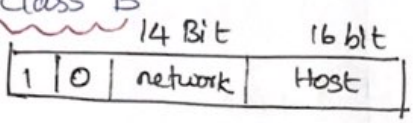


(5 marks)

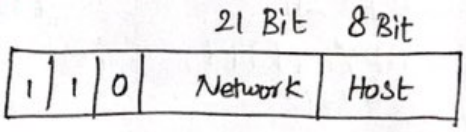
Class A



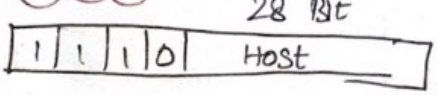
Class B



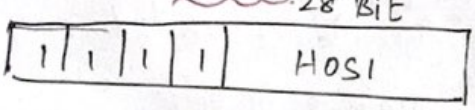
Class C



Class D

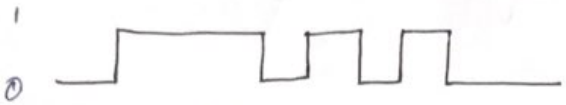


Class E

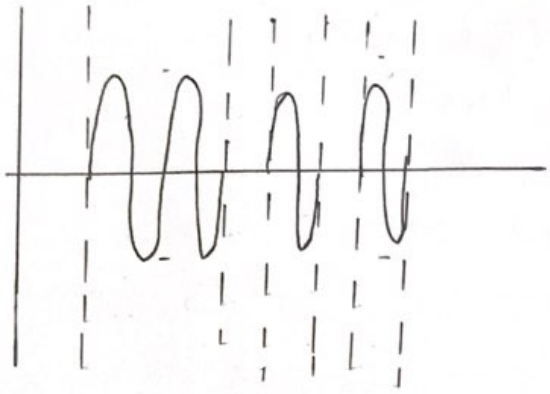


22)(a) Amplitude Shift Keying (5 marks)

Amplitude of carrier signal is varied to create signal elements. Both frequency and phase remain constant while amplitude changes.



Input Binary Sequency



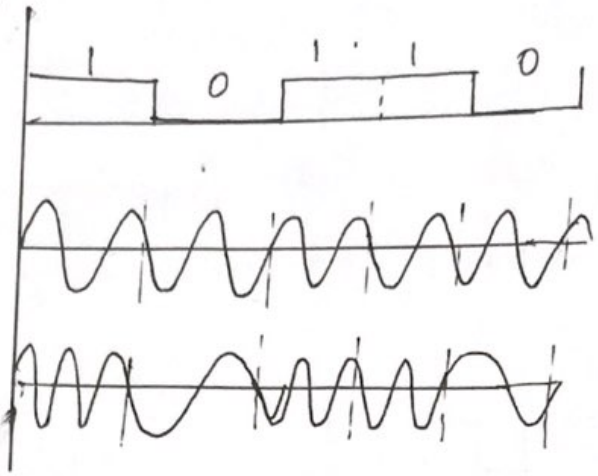
$B = (1+d) \times S.$

ASK Modulated signal.

(b) Frequency Shift Keying. (5 marks)

The frequency of the carrier signal is varied to represent data. The frequency of the modulated signal is constant for the duration of one signal element, but changes for the next signal element if the data element changes. Both peak amplitude and phase remain constant for all signal elements.

Binary FSK $B = (1+d) \times S + 2\Delta f$

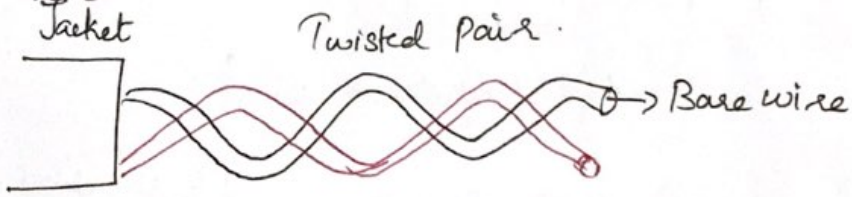


22)
(b) Sketch the Guided media

1. Twisted Pair.
2. Co-axial cable
3. Optical Fibre cable.

(3 marks)

Twisted Pair.

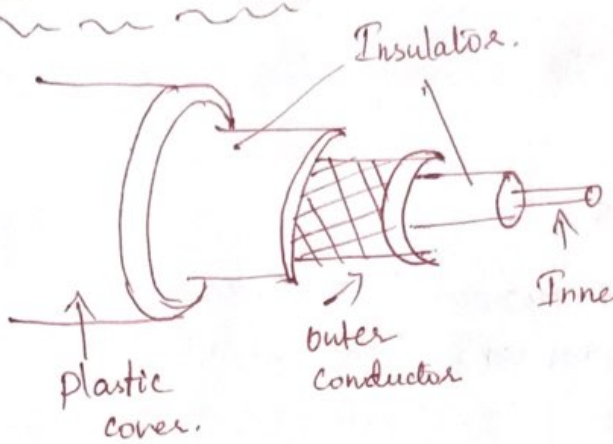


Types

Unshielded

Shielded Twisted

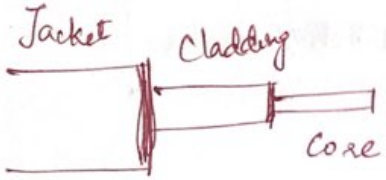
Co-axial cable. (3 marks)

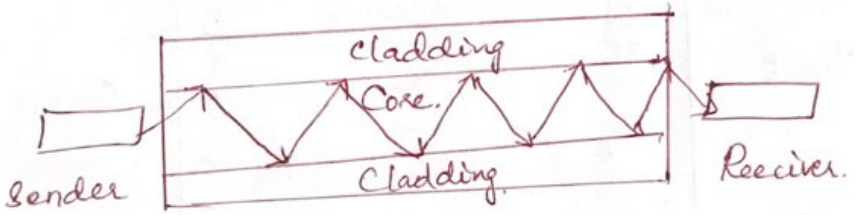


Co-axial cable is very commonly used in transmission media. Ex TV wire.

Fibre optic. (4 marks)

Fibre optic cable is a cable that uses electrical signals for communication.



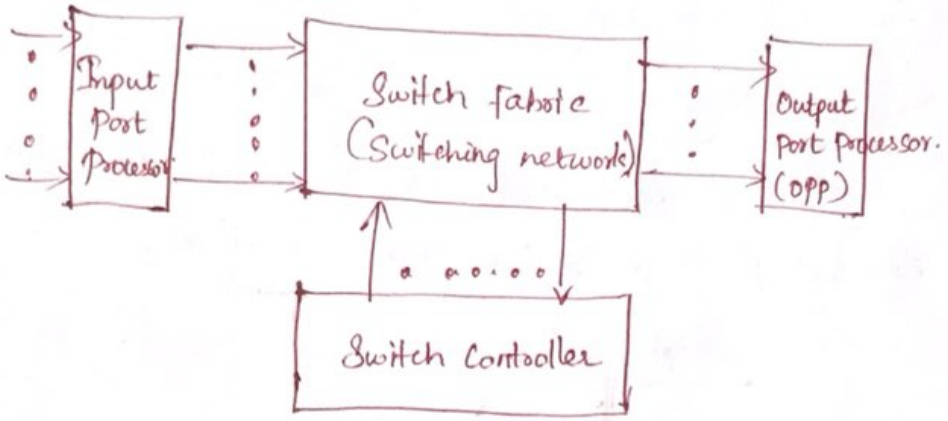


23) (a) Routers.

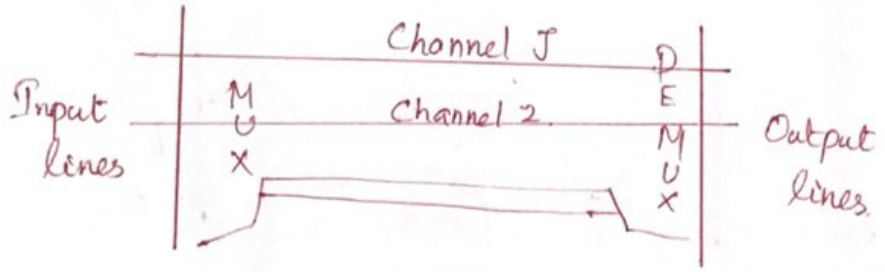
Routers are the building blocks of wide area networks

4 main parts.

1. Input Port Processors (2.5 marks)
2. Output Port processors (2.5 marks)
3. Switch fabric. (2.5 marks)
4. Switch controller. (2.5 marks)

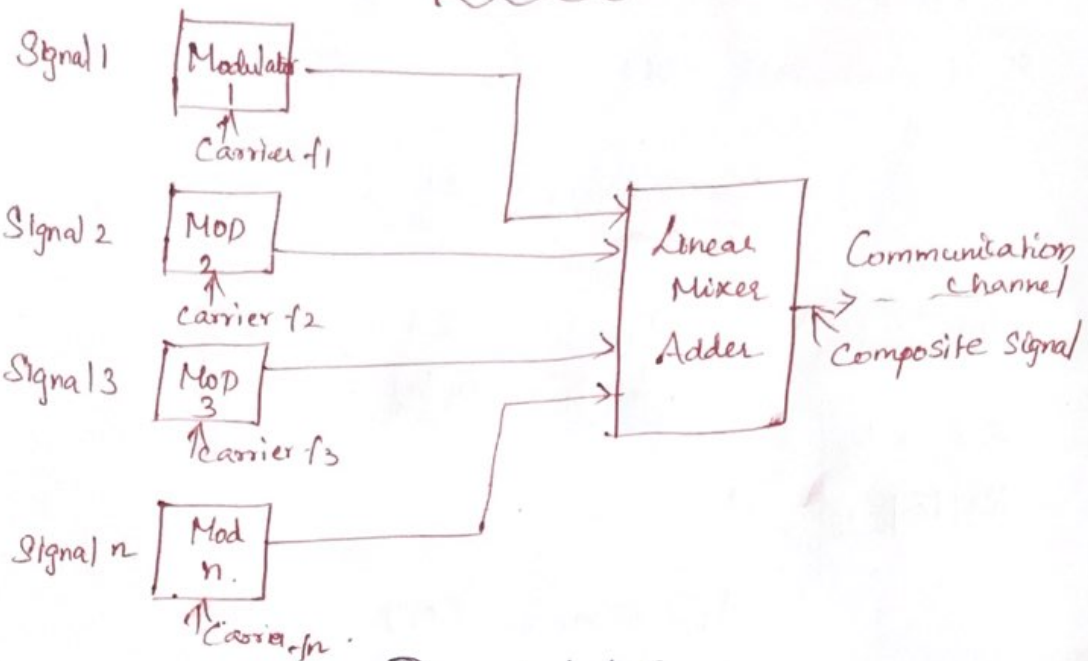


23) (b) FDM (Frequency Division Multiplexing) (5 marks)

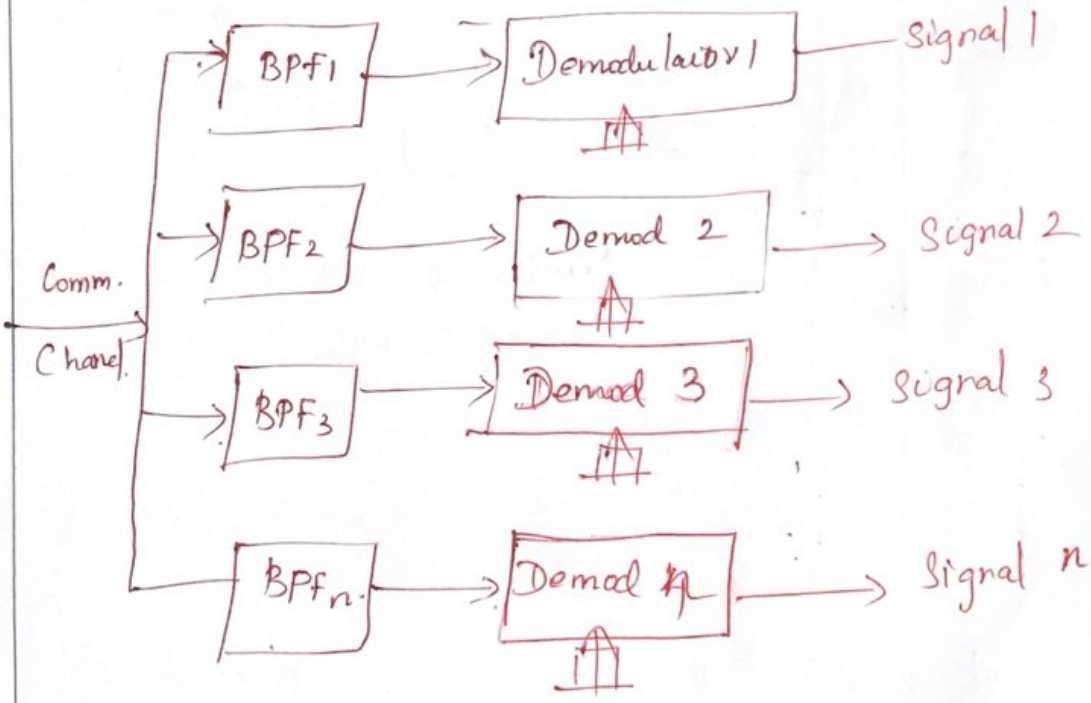


FDM is an analog technique that can be applied when the bandwidth of a link (in hertz) is greater than the combined bandwidths of the signals to be transmitted.

Modulator.



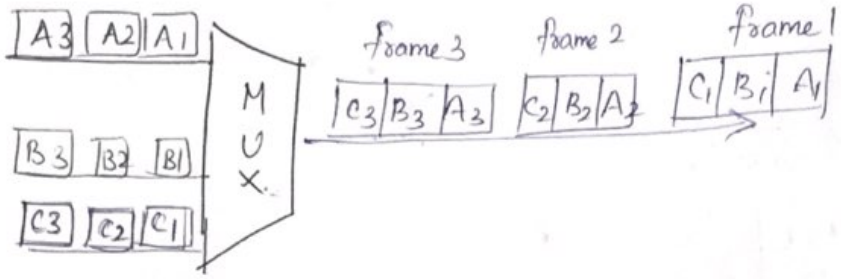
Demodulator.



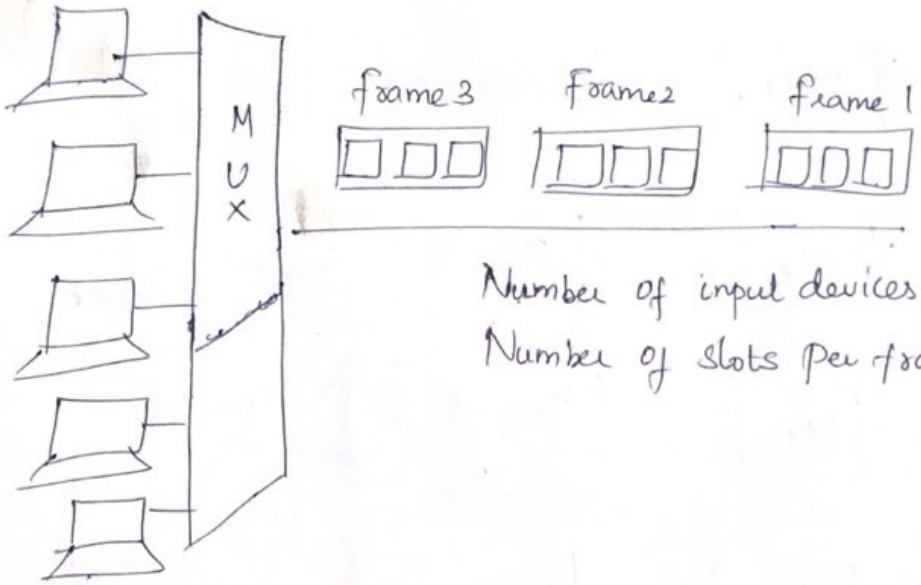
TDM Time Division Multiplexing (5 marks).

1. Synchronous TDM
2. Asynchronous TDM.

Synchronous TDM.



Asynchronous TDM



Number of input devices 5

Number of slots per frame 3.

Prepared By

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