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Course Code :- CSE-443

Course Title :- Mobile and Telecommunication

"Mid Term Exam"

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Ans-to-Que-No-1(a)

Data ~~Communit~~ communication is the transfer and flow of data from one place to another between two locations.

Data Communication is defined as exchange of data between two devices via some form of transmission media such as a cable, wire or it can be air or vacuum also. Communicating devices must be a part of communication system made up of a combination of hardware or software devices and programs.

## Ans to the Q No-1 (b)

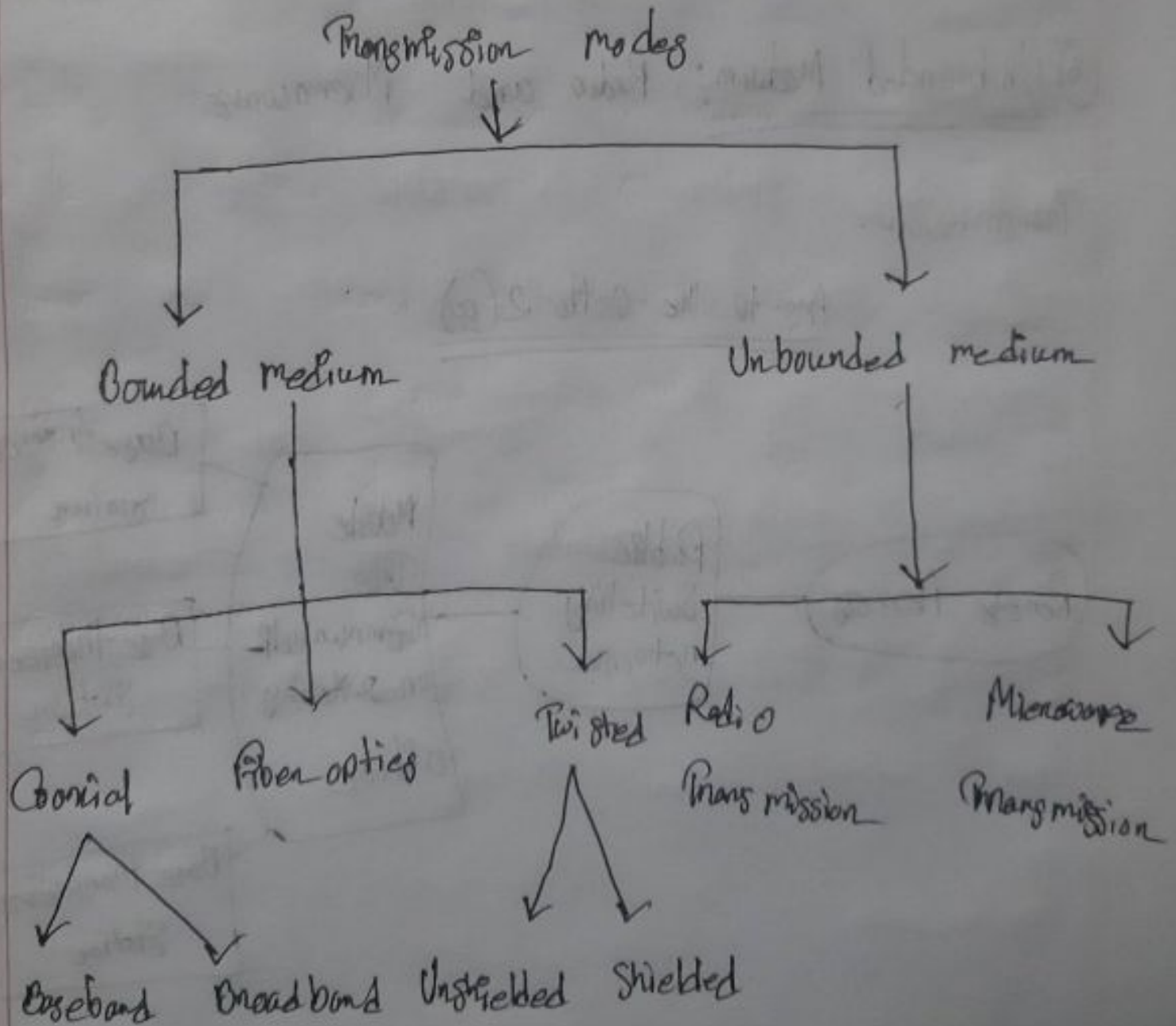
Bandwidth is the maximum rate of data transfer across a given path. Bandwidth may be characterized as network bandwidth, data bandwidth, or digital ~~bandwidth~~ bandwidth.

Types of bandwidth -

- ① Public Wireless.
- ② Public Broadband.
- ③ Private Networks.
- ④ Software-Defined Wide Area Network.  
(SD-WAN).

## Ans to the Q No 2 (b)

Transmission medium is the means through which we send our data from one place to another.



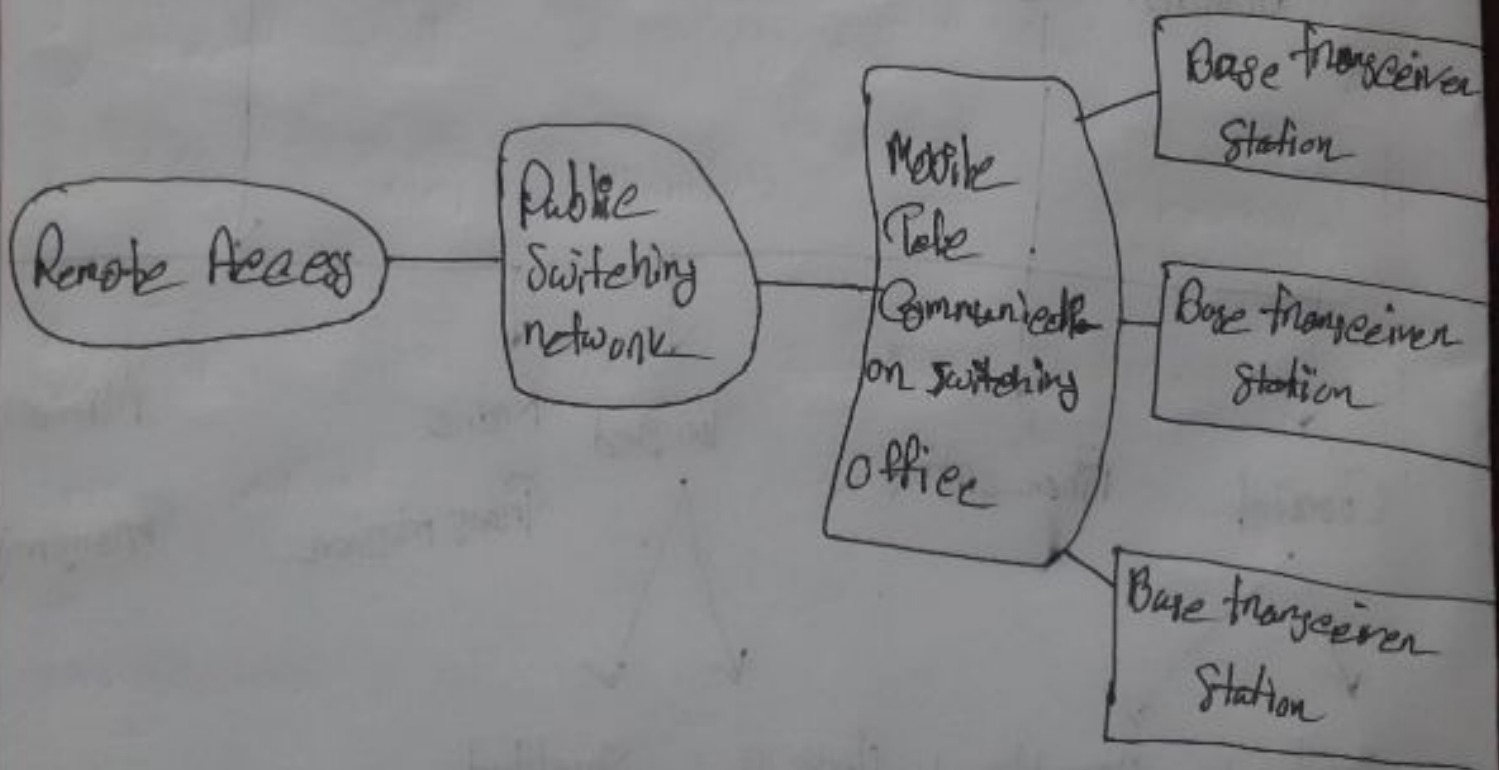


a) Bounded Medium: Guided media which are those that provide a conduit from one device to another, include Twisted Pair Cable, Coaxial Cable and Fibre Optic - Cable.

b) Unbounded Medium: Radio and Microwave

Transmission

Ans-to the Q-No-2(a)



Ans Cellular mobile calls generate system.

## Mobile Cellular generate System?

- ① Listen to Overhead signal.
- ② Send SID (and other info).
- ③ BTS, convey items in 2 to BSC.
- ④ BSC determines and notifies suitable BS to Mobile Unit.
- ⑤ Mobile Unit sends MIN and BSN to BSC.
- ⑥ BSC conveys items in 9 to MSC.
- ⑦ MSC consults Databases and authenticates Mobile Unit.

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Ans to the - Q - No - 3(a)

Mobile Cellular Network:

- a) Break the metropolitan area into small area.
- b) Each area is approximated with a hexagonal cell.
- c) A base station is located at the centre of each cell.
- d) Each cell is assigned only a fraction of the total number of channels.
- e) Cells that are ~~sufficiently~~ sufficiently far apart can reuse the same frequency.



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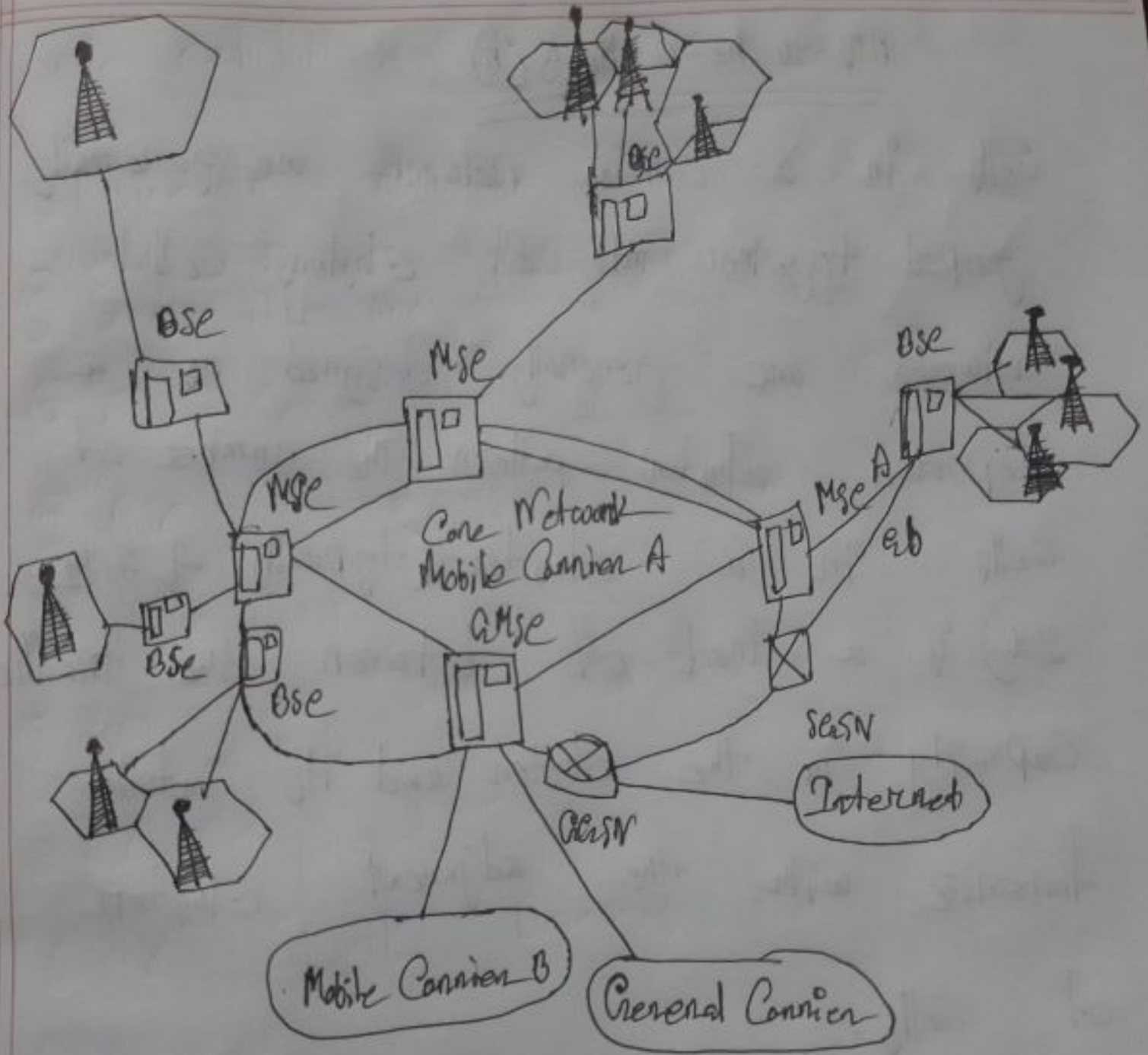


Figure: Mobile Cellular Network.



Ans to the Q No 3 (b)

Cells in a cellular network are generally grouped together into cell clusters. Cellular networks are generally designed as a repeated cluster pattern. The number of cells in a cluster (typically 4, 7, 12, or 19) is a trade-off between the traffic capacity in the cluster and its interference with the adjacent clusters of cells.

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Cell Pattern, N<sub>2</sub> 4.

