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Date : / /
Page No. :

Mobile Computing
Assignment-1

Q1 What is mobile computing? Describe various application of mobile computing.

→ Mobile computing refers to the ability to use computing devices while being mobile & not restricted to fixed location. It involves wireless communication, mobile hardware & software that allows seamless access to data & application from anywhere.

key components of MC:-
1. Mobile hardware - smartphones, tablets, laptops

2. Mobile software - operating systems (Android, IOS), applications & cloud based services.

3. Mobile communication :- Wireless network, bluetooth, satellite communications.

Applications of mobile computing:-

1. Wireless communication - mobile phones enable instant communication through calls, sms etc.

2 Cloud computing :- Users can access cloud based services like google derive, dropbox, icloud from mobile devices

3 E-commerce & online banking :- mobile apps like Amazon, Flipkart, Google Pay

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09/10

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Date : / /
Page No. :

Assignment 2
GSM Mobile services

Q1 Explain the GSM Mobile services along with the reference model

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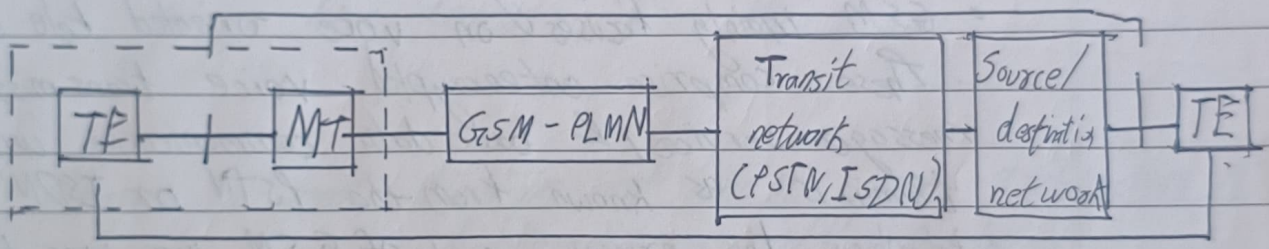
- GSM permits the integration of different voice & data services & the inter working with existing networks. Services make a network interesting for customers
- GSM has defined three different categories of service : bearer, tele, & supplementary services



- A mobile station MS is connected to the GSM public land mobile network (PLMN) via the Um interface.
- There might be an additional network, the source/ destination network, before another terminal TE is connected

1) Bearer services / Data services.
- Bearer services permit transparent & non-transparent, synchronous or asynchronous data transmission.
- Transparent bearer services only use the functions of the physical layer to transmit data. Data transmission has a constant delay & throughput if no transmission errors occur.

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09/10 8

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Assignment No. 3

Date: / /
Page No.:

Q What is hidden & exposed terminal problem? Discuss solution to these problems.

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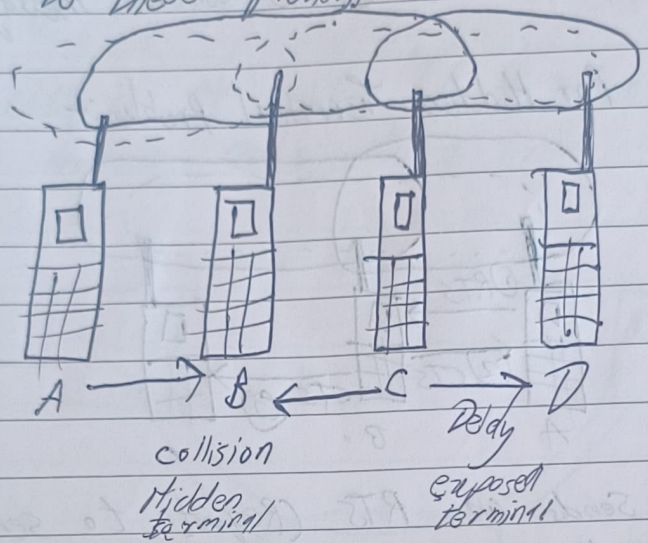

Hidden Terminal Problem

- It occurs when a device (A) is transmitting to another device (B) but a third device (C) is unaware of this transmission because it is out of A's range.
- If (C) also starts transmitting to B, a collision occurs at B, but neither A nor C detects it.
- This happens because C does not hear A's transmission leading to incorrect assumptions about channel availability.

Exposed Terminal Problem

- It happens when a device (B) wants transmit to A but another device (C) wrongly assumes it cannot send to another node (D) because it senses B's transmission.
- This results in unnesary delay & inefficient use of the wireless medium.

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