

# **MOBILE COMPUTING**

**V. Rajathi, M.Sc (CS & IT)., M.phil.,**

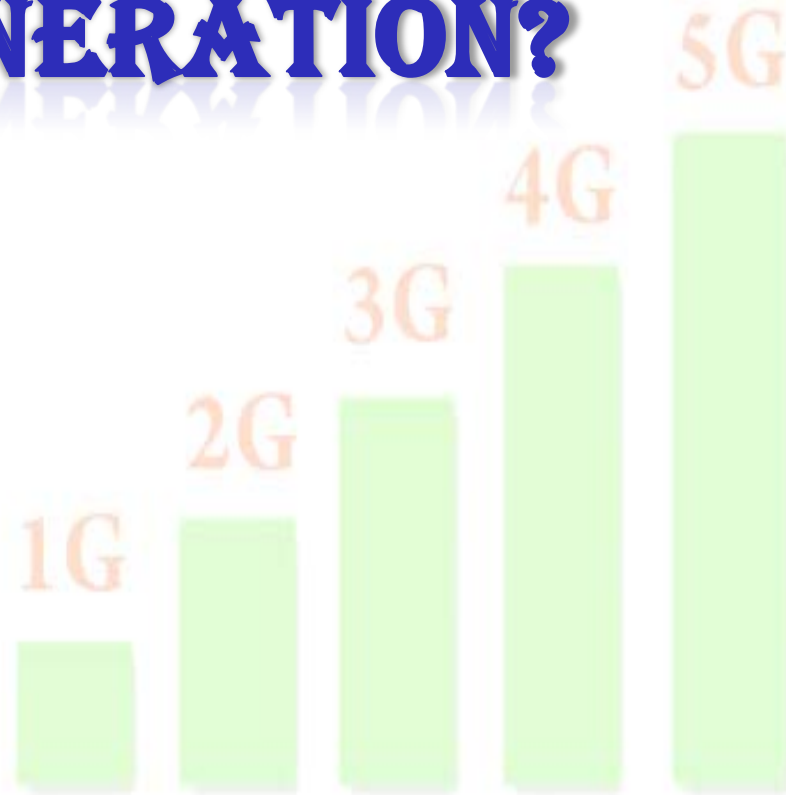
**Assistant professor**

**Jayaraj Annapackiam College For Women (Autonomous)**

**Periyakilam**

# WHY THERE ARE DIFFERENT GENERATION

## GENERATION?



# MOBILE COMMUNICATION



# "G" - Generation

2G

3G

4G

5G



# FIRST GENERATION

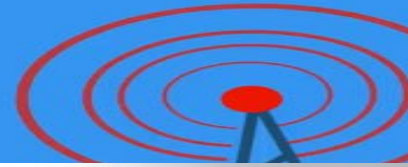


**DATA SPEED - 2.4 Kbps**

- Frequency Division Multiple Access (FDMA) → Inefficient way
- Analogue Signal → Poor Voice Quality and Poor Security

# 1G

First Generation  
1980



Maximum Speed  
2.4 kbps



## AMPS

(Advanced Mobile Phone System)

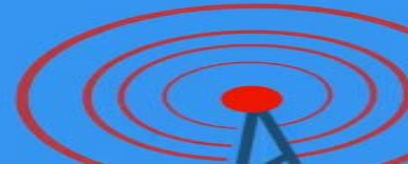


**\*Basic Voice Service**

**\*Analog Based Protocols**

# 1G

First Generation  
1980



## 1st Generation Mobile



## Disadvantage of 1G

- \*First Generation Phones are Big in Size
- \*Poor Voice Quality
- \*Poor Battery life
- \*No Security

## SECOND GENERATION



DATA SPEED - 50 Kbps

- Used TDMA (Time Division Multiple Access) or CDMA (Code Division Multiple Access)
- Introduced SMS, Internet Browsing

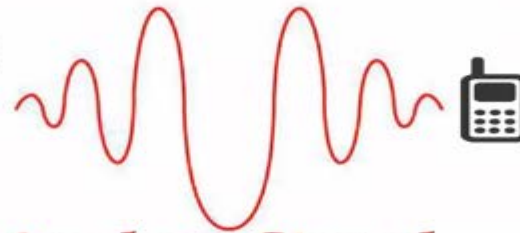


# 2G

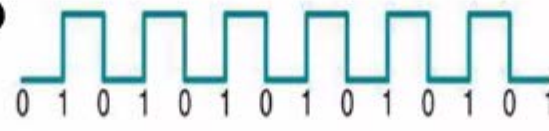
## Second Generation 1991



# 1G



Analog Signal



Digital signal

# 2G

## 2G GSM

### Data Transfer Speed

30-50 kbps

## GPRS (2.5G)

Which offers 110kbps

## THIRD GENERATION



**DATA SPEED - 2 Mbps**

- Used WCDMA (Wideband Code Division Multiple Access)
- Focused on High data transfer speed and increase bandwidth
- Speed 2Mbps.
- GPS, Videos voice call

# 3G Third Generation 2000



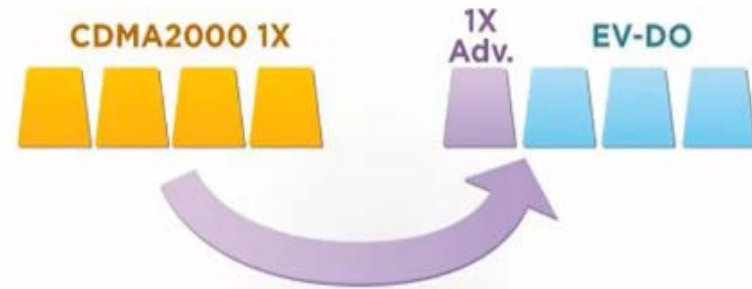
Offered only  
384 kbps

HSDPA

Offered upto  
21 Mbps



EV-DO  
Next version of CDMA



**First to Introduce  
3G Specification  
with IMT-2000**

# FOURTH GENERATION



MULTIPLE INPUT MULTIPLE OUTPUT  
ORTHOGONAL FREQUENCY DIVISION MULTIPLE ACCESS

- Used OFDMA (Orthogonal Frequency Division Multiple Access)
- Speed 20 to 100 Mbps
- Multiple Access Technology
- Antenna available

# 4G

Fourth Generation  
2008



**SPEED : 100 MBS**

*4ADVANCED*

**Lte**<sup>TM</sup>



**ITU introduced  
The Standard for 4G  
as IMT-Advanced**

# FIFTH GENERATION



EXPECTED SPEED - 10 Gbps

# 5G

**Fifth Generation  
Yet to Come**

# 5G

1Gbps to 10Gbps



An illustration on a light blue background showing two hands holding a rectangular orange sign. The hands are positioned at the bottom corners of the sign, with fingers wrapped around black vertical bars that serve as handles. The hands are light-skinned and are wearing dark suit sleeves with white cuffs. The sign is a vibrant orange color and features the words "THANK YOU" in a bold, white, sans-serif font, centered on the sign. The text is arranged in two lines: "THANK" on the top line and "YOU" on the bottom line. The sign has a slight wavy, three-dimensional appearance.

**THANK  
YOU**