

# Where are we now... Week 13

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## ▶ Lectures to be covered in this term (Jan-Feb):-

- Week 12 : Topic 8 - Crime & Incidence Scene Processing (HBL)
- **Week 13 : Topic 9 - Historical Cellular**
- Week 14 : Topic 10 - Data Types (Android)
- Week 15 : Topic 11 - Data Types (iOS)
- Week 16 : Topic 12 – Rooting & Jailbreaking
- Week 17 : Revision

## ▶ We will do 2 more practical exercises on Magnet for **Mobile Forensic**.

## ▶ We have 1 more assignment to go – Assignment **2**.

## ▶ On week 17, we do revision.



## Week 12 Topic 8 - Crime & Incidence Scene Processing – Important points to note (Recap)

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- ▶ Must handle all evidence **consistently**
- ▶ **Hash** is used to ensure the right copy of information is used. Hash function used include **MD5, SHA256** and others
- ▶ Rules of evidence : **Admissible, Authentic, Complete, Reliable, Believable**
- ▶ **Company IT asset usage policy** : Company can display **warning statement** stating that company reserves the right to inspect computing assets such as laptop at will.

## Week 12 Topic 8 - Crime & Incidence Scene Processing – Important points to note (Recap)

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- ▶ **Preparing** for a computer search and seizure – Probably the most important step in computing investigations. For example, **identification of the person of interest** such as witness, manager or coworker.
- ▶ Evidence custody form (**Chain of custody form**) – A form that serves the following functions:
  - ❑ Identifies the evidence
  - ❑ Identifies who has handled the evidence - Who
  - ❑ Lists dates and times the evidence was handled - When



# Quiz for week 12 Topic 8

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1. Investigator's general tasks include:-

- ☒ Acquisition, Identification, Evaluation, Admission
- ☐ Acquisition, Encryption, Decryption, Admission
- ☐ Identification, Evaluation, Acquisition, Investigation
- ☐ Identification, Evaluation, Acquisition, Admission

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2. Tools that Digital Forensic investigator needs include:-

- ☐ Credit Card, Digital Camera, Laptop, Flashlight
- ☐ Credit Card, Water Bottle, Laptop, Flashlight
- ☒ Digital Camera, Laptop, SATA cable, Flashlight
- ☐ Credit Card, SATA cable, Laptop, Flashlight

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Submit Answers

# Week13 Lesson:- Topioc 9 Historical Cellular

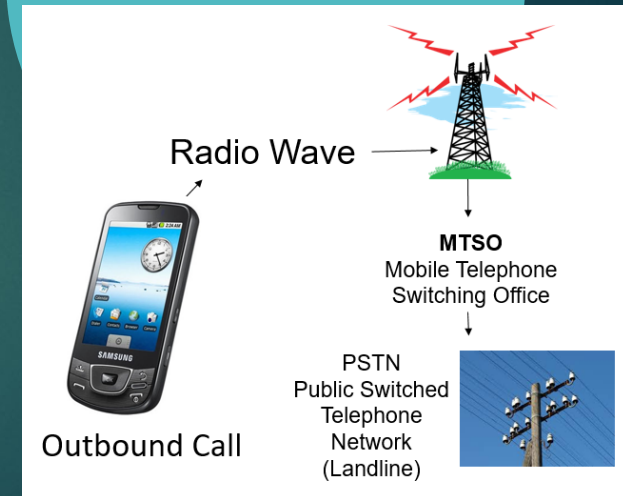
Some important points to note...

- What happens when your phone **turns on**...?

Phone **listens** for carrier  
and look for a **MATCH**



Phone carriers



# Week 13 : Topic 9 - Historical Cellular (Cont)

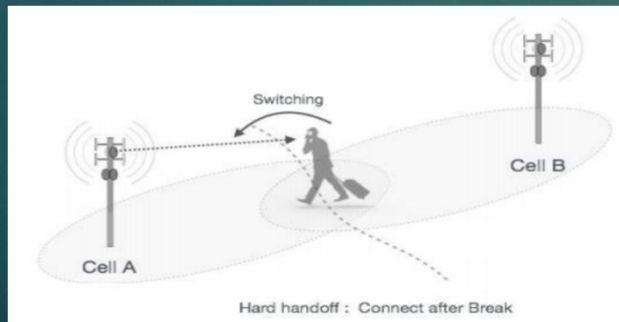
7

## ► Mode of communication:-

- ❑ Full-Duplex
- ❑ Half-Duplex

## ► **MTSO** (Mobile Telephone Switching Office) – Brain of cell phone network. **Control call routing, handling of cell network, communicate with PSTN and etc.**

## ► Cellular **Hand Off** : If during a call, the signal on that channel from the tower servicing the call becomes weaker, then another tower and handoff is needed.





## Week 13 : Topic 9 - Historical Cellular (Cont)

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- ▶ As Digital forensic investigator, it is important to understand cell phone identification numbers. For example:-
  - ▶ **MIN** - Mobile Identity Number
  - ▶ **ESN** -Electronic Serial Number
  - ▶ **MEID** -Mobile Equipment ID (replace ESN)→
  - ▶ **IMEI** - International Mobile Equipment Identity (\*#06#)
  - ▶ **IMSI** -International Mobile Subscriber Identity (*identify mobile phone to mobile network*)

Manufacturer Code								Serial Number						CD
R	R	X	X	X	X	X	X	Z	Z	Z	Z	Z	Z	C

# Week 13 : Topic 9 - Historical Cellular Quiz

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1. What does MTSO stands for?

- ☐ Mobile Telephone Switching Officer
- ☐ Mobile Telephone Special Office
- ☐ Mobile Tele-communication Special Office
- ☒ Mobile Telephone Switching Office

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2. Which one of the following is NOT an Access Technology?

- ☐ TDMA
- ☐ iDEN
- ☐ GSM
- ☒ WDMA

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- AMPS (Advanced Mobile Phone System) FDMA, 800 MHz, 1G, Analog
- TDMA (Time Division Multiple Access) 2G, Digital
- iDEN (integrated Digital Enhanced Network) 2G, Digital
- CDMA (Code Division Multiple Access) 2G/3G, Digital
- GSM (Global System Mobile Communication) 2G, Digital
- GSM (Wideband CDMA) 3G, Digital
- W-CDMA (Orthogonal frequency-division multiple access) 4G, Digital
- OFDM (Orthogonal frequency-division multiple access) 4G, Digital



# Assignment 2 Briefing

