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MC Revision Test-4

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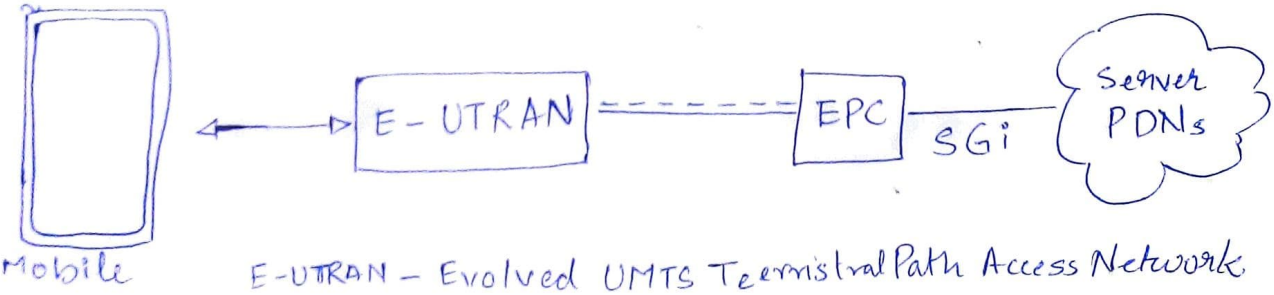
Q1. Write notes on LTE Architure & Interface

Q2. Explain LiFi

A1) LTE (Long Term Evolution) Architure

- LTE project started in 2004.
- A rapid surge in the mobile data usage and the emergance of online multi-user interaction in real time - need paved way for the 4th generation mobile networks.



E-UTRAN - Evolved UMTS Teermistral Path Access Network
EPC - Evolution packet core.

---- signal
———— traffic

LTE
A high level network Architure

handles

~ The E-UTRAN ~~has~~ the radio communications between the mobile and the evolved packet core

~ It has one component called evolved base stations, called eNodeB or eNB.

~ Each eNB is an evolved base station that controls the mobiles in one or more cells.

~ The eNB that communicates with a mobile is called a serving eNB.

- The eNB sends & recieves radio transmission to all the mobile using the analoge & digital signal processing function of the LTE air interface.
- The eNB controls the lower-level operations of all its mobiles, by sending them signalling messages such as hand over.

~ Each eNP connects with the EPC by means of the S1 interface.

~ It can also be connected to nearby base station using X2 interface.

A2) LiFi – Light Fidelity

- It is a wireless communication technology which utilizes light to transmit data and position between devices.

- It is a derivative of optical wireless communications which uses light from LEDs as a medium to deliver network.

- Visible light communications works by swithing the current to the LED's on and off at very high speeds.

- The light waves cannot penetrate walls which translates to a much sorter range.

- Li-Fi is useful in electromagnetic sensitive areas such as nuclear powerplant, aircraft cabin without causing eletromagnetic interference.

- Some of its down sides are high installation cost, low reliability and high installation costs.