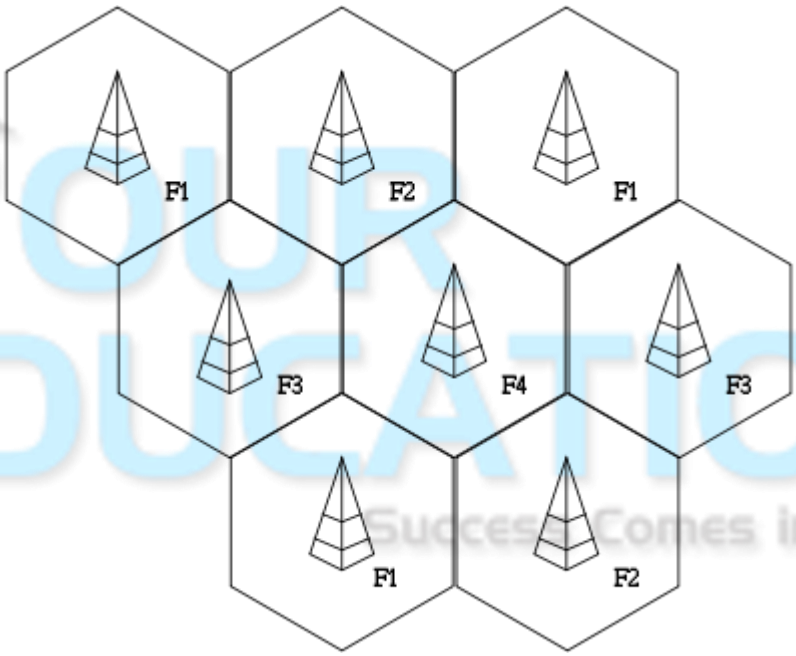
Wireless Communication Concept

Ques 1. What is wireless communication concept?
Answer 1. Wireless communication is the transfer of information between two or more points that are not connected by any physical medium. Wireless communications can be via:
1. Radio communication.
2. Microwave communication.
3. Light, Visible and Infrared communication.

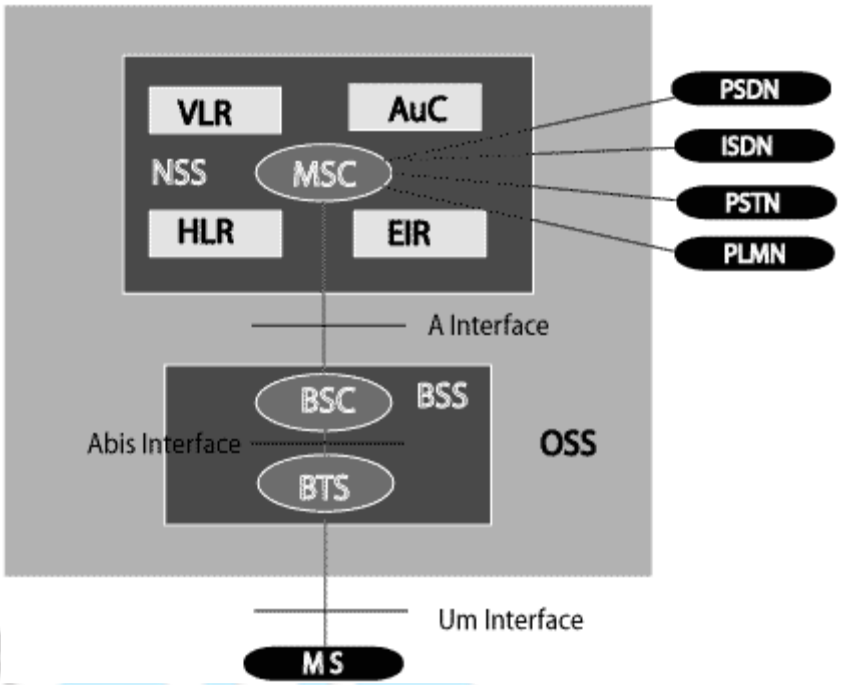
Ques 2. What do you mean by frequency reuse?



Answer 2. Each cellular Base Station is allocated a group of radio channels to be used. These radio channels can be used by another base station which is at a suitable distance away from it.

Ques 3. What do you mean by Handoff?
Answer 3. When a mobile moves into a different cell while a conversation is in progress, the **Mobile Switching Centre** automatically transfers the call to a new channel belonging to the new Base Station.
Types of handoff:-
Hard Handoff
Soft Handoff

Ques 4. Diagrammatically represent the GSM architecture?
Answer 4. GSM architecture is as follows:-



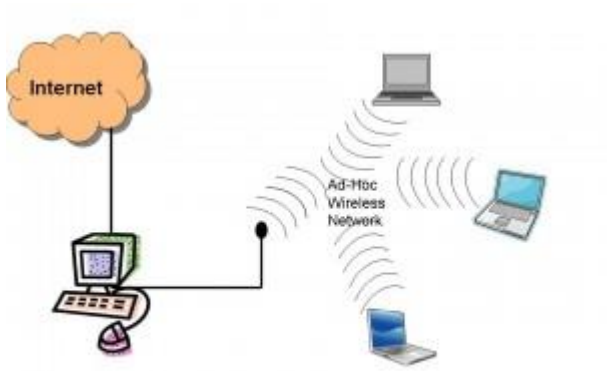
Wireless communication concept

Ques 5. What do you mean by Mobile Station Subsystem?
Answer 5. It includes mobile equipment which refers to a physical terminal such as telephone which includes the radio trans-receiver signal processor and the **Subscriber Identity Module**

Ques 6. What do you mean by Base Station Subsystem?
Answer 6. It consists of one or more **BTS** and **BSC**. Each BTS is related to one cell which includes an antenna, a video trans-receiver and a link to BSC.BSC controls multiple BTS units, manages the hand offs of the mobiles and controls paging.

Ques 7. What do you mean by Network and Switching Subsystem?
Answer 7. It controls hand offs between cells in different BSSs, authenticates users, validates and maintains their accounts. It is mainly supported by four databases:-
1. Home Location Register.
2. Visitor Location Register.
3. Authentication Centre.
4. Equipment Identity Register.

Ques 8. What do you mean by Ad-hoc networks?
Answer 8. Ad-hoc networks are those wirelesses Local Area Network that do not require any infrastructure to work. Each node can communicate directly with other nodes. So, no access point is required.
Features of Ad-hoc networks are:-
1. It has high complexity.
2. It has the greatest possible flexibility.
3. It has limited range.



Ad hoc Networks

Ques 9. What are the different types of transmission impairment?
Answer 9. When the received signal is not as same as the transmitted signal then it is known as Transmission impairment. Three different types of transmission impairment are:-
1. Attenuation.
2. Noise.
3. Delay Distortion.

Ques 10. What is the difference between 3G and 4G?
Answer 10. Following are the differences between 3G and 4G:-
1. 3G stands for 3rd generation as it is just that in terms of the evolutionary path of the mobile phone industry. 4G means 4th generation. This is a set of standard that is being developed as a future successor of 3G in the very near future.
2. 4G speeds are meant to exceed that of 3G.
3. 3G uses the technique of circuit switching while 4G uses the technique of packet switching.