- Frequency re-use is one of the techniques for improving capacity and spectral efficiency.
- Commercial wireless systems are based on Frequency Reuse, that involves the partitioning of an RF radiation area into cell segments.
- A frequency that is far enough away from the frequency in the bordering segment is used by one segment of the cell.
- Similar frequency is used at least two cells apart from each other.
- This practice enables various cellular providers to have several customers for a given site license.

What are the interfaces between thee following?a.) BTS and MS b.) BTS and BSC c.) BSS and MSC d.) TRAU and BSC e.) BSC and PCU

a.) BTS and MS
- Base station subsystem is a segment of cellular telephone network that is responsible for setting signals and traffic between mobile phone sets and network switching subsystems.- Transcoding of speech channels are carried out by BSS. BSS allocates radio channels to mobile phones, paging, transmission and reception over the air interface and many other tasks that are pertaining to the radio network.

b.) BTS and BSC
- Base Station Controller provides the intelligence behind the BTSs. A BSC conrolls hundreds of BTSs.
- Allocation of radio channels, receiving measurements from the mobile phones are some of the major task handlings by BSC.
- BSC controls BTS to BTS.
- BSC acts as a concentrator in which many different low capacity connections to BTSs will become reduced to few numbers of connections towards the mobile switching center.
- BSC provides the required data to operation support subsystem(OSS) and also to the performance measuring centers
- BTS supports the key features like, frequency hopping, sectorization, and GPRS.
- The expansion and upgradation in the field are the features emphasized during its design.
- The power output of BTS is up to 80W.

c.) BSS and MSC
- BSS will send the called number to MSC(Mobile Switching Center)
- MSC checks the VLR and queries BSS for allocation of resources for the cell
- Then MSC routes the call to GMSC
- Switching nodes for base station controls is done by MSC

d.) TRAU and BSC
- TRAU (Transcoder and Rate Adaptation Unit) is an entity to perform a transcoding function for speech channels and RA(Rate Adaptation) for various data channels.
- BSC and TRAU does not demand specific environmental conditions to perform operations.
- With this the operator has an option for placing any one or both units at a central location.
- BSC supports various BSC-BTS configurations like star, multidrop and loop, and star