

## ETTN15: Quiz Test 4

Jesús Rodríguez Sánchez

1. Two friends doing a video call are moving within the same cell. One close to the eNodeB and another far away close to the edge. Which downlink scheduling strategies are the best from the users and the cell capacity point of view respectively?
  - Max C/I – Round Robin.
  - Round Robin – Proportional Fair.
  - Proportional Fair – Max C/I.
2. An UE has some data to transmit but no scheduled resources. What can it do?
  - Wait until its dedicated possibility arrives and transmit a scheduling request.
  - Ask permission to the eNodeB to transmit a scheduling request in the next possibility.
  - To avoid interference, UE should wait until no other UE is transmitting a scheduling request, so then it is allowed to transmit it.
3. An UE sends CSI to the eNodeB. Does the UE know how the next DL-SCH block will be encoded?
  - Yes. eNodeB will follow the indications included in the CSI.
  - No. UE will have to decode the scheduling assignment in DCI anyway to know how the DL-SCH has been encoded.
  - It depends on the situation.
4. The previous UE receives a scheduling grant in subframe 1 of a TDD radio frame (configuration 2). When is the UE allowed to transmit the corresponding UL-SCH data?
  - Subframe 5.
  - Subframe 2.
  - Subframe 7.
5. CSI:
  - Allows the UE to send recommendations to the eNodeB about how to encode DL-SCH data. eNodeB will follow these suggestions.
  - It is just a suggestion. UE can select different coding scheme than suggested for the UL-SCH data.
  - Allows the UE to send recommendations to the eNodeB about how the DL-SCH data should be encoded.
6. What are the sequence of steps after an UE is turned on?
  - Cell search, get cell system information and random access.
  - Random access, get system information and cell search.
  - Get system information, random access and cell search.
7. During the cell search stage the UE is looking for a LTE carrier within its frequency band:
  - UE must check every 15kHz (subcarrier spacing).
  - It is assumed that LTE carrier may exist on a multiple of 100kHz.
  - LTE carriers are only allowed every 20MHz bandwidth.
8. Cell search procedure must be performed in a periodic way:
  - To allow handovers in mobility scenarios.
  - To update the initial timing estimation.
  - To track possible frequency variations between eNodeB and UE.
9. In order to find the cell group identity group the UE has to:
  - Detect SSS in either subframe 0 or subframe 5.
  - Detect SSS in both subframe 0 and subframe 5.
  - Detect SSS in both subframe 0 and 5 during several frames.
10. In the random access preamble configuration 0 there is a guard period of 0.1ms:
  - This is needed to switch from UL to DL.
  - This allows propagation delays according to the distance from the UE to the eNodeB.
  - Avoid interference with other UEs.

## ETTN15: Quiz Test 4 (Answers)

Jesús Rodríguez Sánchez

1. Proportional Fair – Max C/I.
2. Wait until its dedicated possibility arrives.
3. No.
4. 7.
5. Allows the UE to send recommendations.
6. Cell search, get cell system information and random access.
7. It is assumed that LTE carrier may exist on a multiple of 100kHz.
8. To allow handovers in mobility scenarios.
9. Detect SSS in either subframe 0 or subframe 5.
10. This allows propagation delays.