1. Assign the individual technologies to the corresponding generations of mobile systems:

UMTS, NMT, GSM, LTE, LTE-A, CDMA, GPRS, HSPA, EDGE, HSPA+, GSM.

|  |  |
| --- | --- |
| 1st generation | **NMT** |
| 2nd generation | **GSM, GPRS, EDGE** |
| 3rd generation | **HSPA, HSPA+, UMTS, LTE** |
| 4th generation | **LTE-A** |

1. Sort the types of cells in mobile networks from the smallest (1) to the largest (5).

\_**3**\_ microcell

\_**1**\_ femtocell

\_**4**\_ macrocell

\_**5**\_ satellite cell

\_**2**\_ picocell

1. Propose and draw a frequency plan (you have 3 frequencies available).

**This problem has more than one solution. The procedure and one of the possible solutions are provided below.**

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1. Correct the text so that the following statement is true.

**This problem has 2 solutions.**

The number of base stations in a network is **3** times than in a network .

The number of base stations in a network is **3** times than in a network .

1. List three basic parameters that characterize the access methods used in mobile networks.
2. **time**
3. **frequency**
4. **power**
5. Assign the reasons to the corresponding term used for automatic handover.

Internal handover

reason: subscriber mobility

referred to as "hard handover"

referred to as "soft handover"

External handover

reason: cell optimization

1. Identify what physical principle appears during multipath propagation of waves in the individual cases below.

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**dispersion**

**reflection**

**diffraction**

obstacle

obstacle

obstacle

mobile

station

mobile

station

mobile

station