

1. Fill the numbers of correct statements concerning optical networks in the following simple table.

The following recommendations for Passive Optical Networks refer to XG-PON by ITU-T G.987 (2010):

| |
|---|
| 1 |
| 2 |
| 3 |
| 6 |
| |
| |
| |

- 1 – Transmission rate options: 10Gbps / 2.5Gbps asymmetric **(yes)**
- 2 – Four attenuation classes **(yes)**
- 3 – Wavelengths used for the downstream: 1575-1580 nm **(yes)**
- 4 – Wavelengths used for the downstream: 1260-1260 nm **(no, this is for upstream)**
- 5 – Physical reach: up to 100 km **(no it's 20 km)**
- 6 – Physical reach: up to 20 km (in future, 40 km) **(yes)**
- 7 – Max. splitting ratio: 1:64 **(no, it's is up to 1:256)**

2. Modify the following texts so that the statements are true.

In Multi-mode Graded Index fibres, the index of refraction of a core is (~~constant~~ / **not constant**); it (~~increases~~ / **decreases**) gradually as a function of distance from the core.

There is (**refraction** / ~~reflection~~) on couple of layers and finally the beam is (~~refracted~~ / **reflected**) at specific layer or at the boundary between the last core layer and the cladding.

The mode propagating along axis of symmetry has the (**shortest** / ~~longest~~) trajectory, but its speed is (~~fast~~ / **slow**), because the centre of a core is a (~~low-index~~ / **high-index**) material, whereas beams propagating along (~~shorter~~ / **longer**) trajectories are gradually getting to the (**low-index** / ~~high-index~~), “fast” material.



3. Assign the terms from the left column to the corresponding definitions on the right.