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

An optical network using Dense Wavelength Division Multiplexing can include (among others):

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**1** – Fabry-Perot LASERs

**2** – Cooled Distributed Feedback LASERs

**3** – Single Mode Fibres

**4** – EDFA amplifiers

**5** – Semiconductor Optical Amplifiers

**6** – Dispersion compensating Fibres

**7** – Optical splitters

**8** – Optical Time Domain Reflectometers

**9** – Optical cleavers

**10** – Array Waveguide Gratings

1. Tick the boxes referring to correct claims concerning lasers and optical amplifiers.

□ The width of a spectral line of used LASERs is negligible in DWDM.

□Temperature stability of LASERs is negligible in CWDM.

□ DFB lasers work on the principle of stimulated emission of radiation.

□ DFB lasers work on the principle of spontaneous emission of radiation.

□ SOA gain increases with temperature of a chip.

□ EDFA works on the principle of spontaneous emission of radiation.

□ EDFA requires a pump operating at the wavelength of 980 nm.

□ EDFA gain is about 30 – 50 dB.

□ Raman amplifier produces gain at the wavelength shifted by about 100 nm from the pump’s wavelength.

□ Raman gain can be produced in Dispersion Compensating Fibres.

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

|  |  |  |
| --- | --- | --- |
| FTTEx |  | Optical fibres are terminated at the local telephone exchange, DSLAM splits signal to existing metallic lines to provide xDSL |
|  |  |  |
| FTTCab |  | Optical fibre reaches the group of buildings |
|  |  |  |
| FTTC |  | Optical fibres reach particular buildings, where they can be terminated |
|  |  |  |
| FTTB |  | Optical fibres are terminated at the end user’s socket |
|  |  |  |
| FTTO |  | Optical fibres are terminated in a outdoor splitter |
|  |  |  |
| FTTH |  | Optical fibres terminate at the office of customers with huge demands on the transmission rate |