

Crt.	Optical loss or power	DB
1.	The km loss in Optical Fibre 0,5 db/km X 2,5 km fibre	1.25dB
2.	The loss in Splices 0,5 dB/splice X 2 splices	1dB
3.	The loss in Connectors 1 dB/connector X 2 connectors	2dB
4.	Losses on other components	0dB
5.	Margin of error	3dB
6.	Total loss on the Link (1+2+3+4+5)	7.25dB
7.	The power of average emission of the transmitter	-15dB
8.	Average power received by the receiver (7-6)	-22.75 dB
9.	The dynamic of the receiver dB at dB	.....
10.	Receiver sensitivity at a rate of errors given by BER	-25dB
11.	Available Remaining Power (8-10)	2.75dB

A 9/125 $\mu$  single-mode optical fiber having the length of 2,5km and the loss equal to 0,5dB/km, which connects two DTE equipments is considered. The attenuation introduced by splices and connectors is equal to 0,5 and 1dB respectively. The error margin taken into consideration is 3dB. The power of average emission of the transmitter is -15dB, the receiver sensitivity at a rate of errors given by BER  $10^{-9}$  is -25dB and dynamic of the receiver is in the range  $-10 \div -30$ dB. Calculate the optical power budget.

