Experiment: 11

BENDING LOSS IN OPTICAL FIBERS

ACTIVITY 1

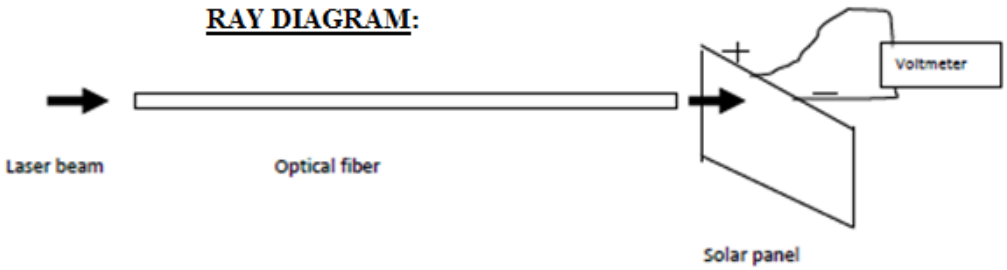
AIM: To determine the attenuation constant of the given optical fiber.

APPARATUS: Optical fibers of length 1m & 100m, Laser source, small solar panel, Screen

TABULAR COLUMN:

Length of optical fiber (Km)	Voltage across the solar pane (V)	Attenuation constant $\alpha = \frac{10}{L_1 - L_2} \log_{10} \frac{V_2}{V_1}$ (dB/Km)
L_1	V_1	
L_2	V_2	

RAY DIAGRAM:



FORMULA USED:

The attenuation constant is obtained from $\alpha = \frac{10}{L_1 - L_2} \log_{10} \frac{P_{output}}{P_{input}}$ dB/km

RESULT: The attenuation constant is found to be ……..dB/km

Note:

1. This exercise maybe repeated for optical fibers of different length.
2. Replace solar panel with LDR. Find the attenuation constant.