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The central distance between two shaft is 4 m having two pulleys

## Question:

The central distance between two shaft is $\mathbf{4} \mathbf{m}$ having two pulleys with diameter having 500 mm and 700 mm respectively.

## Find length of belt required

(i) for open belt drive
(ii) for cross belt drive

## Answer:

f) Problem on belt drive ( 02 marks each length)
i) for open belt

$$
\begin{aligned}
& \mathrm{L}=\pi / 2\left(\mathrm{~d}_{1}+\mathrm{d}_{2}\right)+2 \mathrm{x}+\left(\mathrm{d}_{1}-\mathrm{d}_{2}\right)^{2} / 4 \mathrm{x} \\
& =9.8865 \mathrm{~m}
\end{aligned}
$$

ii) for cross belt
$\mathrm{L}=\pi / 2\left(\mathrm{~d}_{1}+\mathrm{d}_{2}\right)+2 \mathrm{x}+\left(\mathrm{d}_{1}+\mathrm{d}_{2}\right)^{2} / 4 \mathrm{x}$
$=9.974 \mathrm{~m}$

