Puzzle 18 | (Torch and Bridge)

There are 4 persons (A, B, C and D) who want to cross a bridge in night.

A takes 1 minute to cross the bridge.

B takes 2 minutes to cross the bridge.

C takes 5 minutes to cross the bridge.

D takes 8 minutes to cross the bridge.

There is only one torch with them and the bridge cannot be crossed without the torch. There cannot be more than two persons on the bridge at any time, and when two people cross the bridge together, they must move at the slower person's pace

Can they all cross the bridge in 15 minutes?

Solution:

A and B cross the bridge. A comes back. Time taken 3 minutes. Now B is on the other side.

C and D cross the bridge. B comes back. Time taken 8 + 2 minutes. Now C and D are on the other side.

A and B cross the bridge. Time taken is 2 minutes. All are on the other side.

Total time spent is 3 + 10 + 2 = 15 minutes.