

- 5 A goods train passes through a station at a constant speed of 10 ms^{-1} at time $t = 0$. An express train is at rest at the station. The express train leaves the station with a uniform acceleration of 0.5 ms^{-2} just as the goods train goes past. Both trains move in the same direction on straight, parallel tracks.

At which time t does the express train overtake the goods train?

A 6s

B 10s

C 20s

D 40s