6 Fig. 6 shows a train consisting of an engine of mass 80 tonnes pulling two trucks each of mass 25 tonnes.

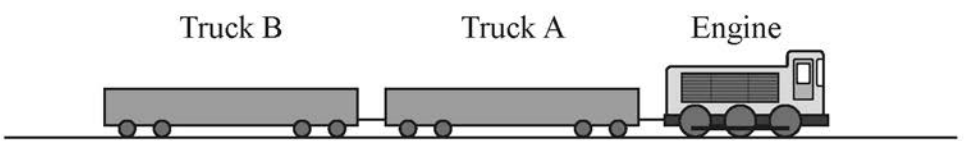

Fig. 6

The engine exerts a driving force of D N and experiences a resistance to motion of 2000 N. Each truck experiences a resistance of 600 N. The train travels in a straight line on a level track with an acceleration of $0.1\,\text{m}\,\text{s}^{-2}$.

(a) Complete the force diagram in the Printed Answer Booklet to show all the forces acting on the engine and each of the trucks. **[3]**

(b) Calculate the value of D. **[2]**

(c) The tension in the coupling between the engine and truck A is larger than that in the coupling between the trucks. Determine how much larger. **[2]**