Question number	Answer	Notes	Marks
3 (a)	momentum = mass × velocity;	allow standard symbols and rearrangements e.g. $p = m \times v$ reject M, m for momentum	1
(b)	substitution; evaluation; unit; e.g. $p = 1.67 \times 10^{-27} \times 2200$ (p =) 3.7×10^{-24} kg m/s	 allow $3.6(74) \times 10^{-24}$ allow 3.7×10^{-21} g m/s for 3 marks	3
(c)	(total) momentum before (collision) = (total) momentum after (collision);		1
(d)	evaluation of momentum of U-235 before collision; addition of neutron momentum; rearrangement to give velocity of U-236; correct evaluation; e.g. $p_{U-235} = (3.99 \times 10^{-25} \times 10 =) \ 3.99 \times 10^{-24}$ $p_{U-236} = 3.99 \times 10^{-24} + 3.7 \times 10^{-24}$ v_{U-236} = momentum / mass = $7.664 \times 10^{-24} / 4.01 \times 10^{-25}$ (v_{U-236} =) 19 (m/s)	 allow ecf from (b) seen or implied by working not adding neutron momentum gives 9.95 m/s = 2 marks allow 19.1… (m/s)	4

Total for Question 3 = 9 marks