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NEET MOTION IN A STRAIGHT LINE — RELATIVE VELOCITY IN ONE DIMENSION — PYQS

Max. Marks: 12 **Questions:** 3

Section A (MCQ) — 3 questions

Q.1 Two cities X and Y are connected by a regular bus service with a bus leaving in either direction every T min. A girl is driving scooty with a speed of 60 km/h in the direction X to Y notices that a bus goes past her every 30 minutes in the direction of her motion, and every 10 minutes in the opposite direction. Choose the correct option for the period T of the bus service and the speed (assumed constant) of the buses. [NEET (UG) 2025]

(1) 10 min, 90 km/h (2) 15 min, 120 km/h
(3) 9 min, 40 km/h (4) 25 min, 100 km/h

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Q.2 Preeti reached the metro station and found that the escalator was not working. She walked up the stationary escalator in time t_1. On another day, if she remains stationary on the moving escalator, then the escalator takes her up in time t_2. The time taken by her to walk up on the moving escalator will be [NEET 2017]

(1) $\frac{t_1 t_2}{t_2 - t_1}$ (2) $\frac{t_1 t_2}{t_2 + t_1}$ (3) $t_1 - t_2$ (4) $\frac{t_1 + t_2}{2}$

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Q.3 A bus is moving with a speed of 10 m s^{-1} on a straight road. A scooterist wishes to overtake the bus in 100 s. If the bus is at a distance of 1 km from the scooterist, with what speed should the scooterist chase the bus? [AIPMT 2009]

(1) 40 m s^{-1} (2) 25 m s^{-1} (3) 10 m s^{-1} (4) 20 m s^{-1}

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ANSWER KEY

Ques.	1	2	3								
Ans.	**2**	**2**	**4**								