Quiz Date: 15th July 2020

Q1. A boat running downstream covers a distance of 16 km in 2 hours while for covering the same distance upstream, it takes 4 hours. What is the speed of the boat in still water?
(a) 4 kmph
(b) 6 kmph
(c) 8 kmph
(d) 2 kmph
(e)10 kmph

Q2. A man's speed with the current is 15 kmph and the speed of the current is 2.5 kmph. The man's speed against the current is:
(a) 8.5 kmph
(b) 9 kmph
(c) 10 kmph
(d)12.5 kmph
(e) 14 kmph

Q3. A man can row at 5 kmph in still water. If the velocity of current is 1 kmph and it takes him 1 hour to row to a place and come back, how far is the place?
(a) 2.4 km
(b) 2.5 km
(c) 3 km
(d) 3.6 km
(e) 4.6 km

Q4. A man can row against the current three fourth of a kilometer in 15 min and returns same distance in 10 min, then ratio of his speed to that of current is:
(a) 3 : 5
(b) 5 : 3
(c) 1 : 5
(d) 5 : 1
(e) 4 : 1

Q5. If the speed of a swimmer in still water is 9 kmph. Find the downstream speed of the swimmer, when the river is flowing with the speed of 6 kmph.
(a) 15 kmph
(b) 18 kmph
(c) 3 kmph
(d) 12 kmph
(e) 10 kmph

Q6. A man can row 6 kmph in still water. If the speed of the current is 2 kmph, it takes 3 hours more in upstream than in the downstream for the same distance. The distance is:
(a) 30 km
(b) 24 km

(c) 20 km
(d) 32 km
(e) 28 km

Q7. Jaipur express left Delhi for Jaipur at 14 : 30 hours, travelling at a speed of 60 kmph and Rajdhani Express left Delhi for Jaipur on the same day at 16 : 30 hours, travelling at a speed of 80 kmph. How far away from Delhi will the two trains meet?
(a) 120 km
(b) 360 km
(c) 480 km
(d) 500 km
(e) None of these

Q8. A person covers a total distance of 140 km in 15 hours. He covers some part of journey by bus with a speed of 14 km/h and rest part of Journey by cycle with a speed of 7km/h. What distance he covered by cycle?
(a) 80 km
(b) 70 km
(c) 50 km
(d) 60 km
(e) 85 km

Q9. A person covers 9 km with a speed of 3 km/hr, 25km with a speed of 5 km/hr and 30 km with a speed of 10 km/hr. Find out the average speed of person.
(a) $5\frac{9}{11}$km/hr
(b) $11\frac{5}{9}$km/hr
(c) $9\frac{5}{11}$km/hr
(d) $5\frac{5}{11}$km/hr
(e) None of these

Q10. A car travels a certain distance from town A to town B at the speed of 42 km/hr and from town B to town A at a speed of 48 km/hr. What is the average speed of the car?

(a) 45 km/hr
(b) 46 km/hr
(c) 44 km/hr
(d) 44.8 km/hr
(e) 46.8 km/hr

Q11. Train- A crosses a stationary train – B in 35 seconds and a pole in 14 seconds with the same speed. The length of the train – A is 280 metres. What is length of the stationary train – B?
(a) 360 metres
(b) 480 metres
(c) 400 metres
(d) 420 meters
(e) 300 meters

Q12. A 320 metres long train moving with an average speed of 120 km/hr crosses a platform in 24 seconds. A man crosses the same platform in 4 minutes. What is the speed of the man in metre/second?
(a) 2.4 m/sec
(b) 1.5 m/sec
(c) 1.3 m/sec
(d) 2.0 m/sec
(e) 4 m/sec

Q13. The ratio between the speed of a bus and train is 15 : 27 respectively. Also, a car covers a distance of 720 km in 9 hours. The speed of the bus is three-fourth of the speed of the car. How much distance will the train cover in 7 hours?
(a) 760 km
(b) 756 km
(c) 740 km
(d) 836 km
(e) 820 km

Q14. Train A which is 320m long crosses a pole in 16 seconds. If it halts 5 times each time for exactly 18 minutes, how many hours will it take to cover a distance of 576 km?
(a) 8 hours
(b) 10 ½ hours
(c) 8 ½ hours
(d) 9 hours
(e) 9 ½ hours

Q15. A 240 metres long train crosses a platform twice its length in 40 seconds. What is the speed of the train?
(a) 6 meters/sec
(b) 28 meters/sec
(c) 18 meters/sec

(d) 16 meters/sec
(e) 45 meters/sec

Solutions

S1. Ans.(b)
Sol.
Speed of boat in still water
$= \frac{1}{2} \times (8 + 4)$
$= 6$ km/h

S2. Ans.(c)
Sol.
Man's speed in still water
= 15 – 2.5
= 12.5 kmph
∴ Man's speed against current
= 12.5 – 2.5
= 10 kmph

S3. Ans.(a)
Sol.
Let required distance is d km
$\therefore \frac{d}{4} + \frac{d}{6} = 1$
$\Rightarrow d = \frac{12}{5} km$
= 2.4 km

S4. Ans.(d)
Sol.
Let man's speed in still water = v kmph
Speed of current = s kmph
$\therefore (v + s) \times 10 = (v - s) \times 15$
$\Rightarrow 2v + 2s = 3v - 3s$
$\Rightarrow v : s = 5 : 1$

S5. Ans.(a)
Sol.
Downstream speed = 9 + 6
= 15 kmph

S6. Ans.(b)
Sol.
Let distance = d km
$\therefore \frac{d}{4} - \frac{d}{8} = 3$
$\Rightarrow d = 24\ km$

S7. Ans.(c)
Sol.
Distance covered by Jaipur express in 2 hours
= 60 × 2
= 120 km
Let Rajdhani express takes t hours
to catch Jaipur express
∴ 80×t = 60 × (2 + t)
$\Rightarrow t = 6\ h$
∴ Required answer = 80 × 6
= 480 km

S8. Ans. (b)
Sol.
Let he covers x km by bus.
$\therefore \frac{x}{14} + \frac{(140-x)}{7} = 15$
$\Rightarrow$ x + 280 − 2x = 210
$\Rightarrow$ x = 70 km
∴ Distance covered by cycle = 140 − 70
= 70 km

S9. Ans. (a)
Sol.

Here, P = 9 km, Q = 25km, R = 30km
x = 3 km/hr, y = 5km/hr and z = 10 km/hr
∴ Required average speed = $\frac{P+Q+R}{\frac{P}{X}+\frac{Q}{Y}+\frac{R}{Z}}$
$= \frac{9+25+30}{\frac{9}{3}+\frac{25}{5}+\frac{30}{10}}$
$= \frac{64}{3+5+3} = \frac{64}{11} = 5\frac{9}{11}$ km/hr

S10. Ans. (d)
Sol.
If two equal distances are covered at different speeds at A kmph and B kmph respectively, then,
Average speed during the whole Journey = $\frac{2AB}{A+B}$kmph
∴ Average speed of the car = $\frac{2\times42\times48}{42+48}$
$= \frac{2\times42\times48}{90} = 44.8$kmph

S11. Ans.(d)
Sol.
Speed of train A $= \frac{280}{14} = 20$ m/sec
Let length of train B = ℓ meters
$\therefore \frac{280+\ell}{20} = 35$
$\Rightarrow \ell = 700 - 280$
= 420 m

S12. Ans.(d)
Sol.
Speed of train (in m/sec) $= 120 \times \frac{5}{18}$
$= \frac{100}{3}$ m/sec
Let speed of man = x m/sec
∴ length of platform in first case = length of platform in second case
$\Rightarrow \frac{100}{3} \times 24 - 320 = 4 \times 60 \times x$
$\Rightarrow x = \frac{480}{240}$
⇒ x = 2 m/sec

S13. Ans.(b)
Sol.

Speed of car $= \frac{720}{9} = 80$ km/h

Speed of bus $= \frac{3}{4} \times 80 = 60$ km/h

$\therefore$ speed of train $= \frac{27}{15} \times 60$

$= 108$ km/h

$\therefore$ Distance travelled by train in 7 hours

$= 108 \times 7 = 756$ km

S14. Ans.(e)
Sol.

Speed of train $= \frac{320}{16} = 20$ m/sec

Total time of halts $= 18 \times 5$

$= 90$ minutes

$= 1$ h 30 min

$\therefore$ Required answer $= \frac{576}{20 \times \frac{18}{5}} + \frac{3}{2}$

$= 9\frac{1}{2}$ hours

S15. Ans.(c)
Sol.

Speed of train $= \frac{240+2\times240}{40}$

$= \frac{720}{40} = 18$ m/sec