Time and Distance Train Problems with Solutions for Bank Exams Pdf

1. A 280 metre long train crosses a platform thrice its length in 50 seconds. What is the speed of the train in km/hr?

a. 60.48

b. 64.86

c. 80.64

d. 82.33

Ans: C

Length of train = 280 m. Length of platform

$= (3 \times 280)$ m = 840 m.

$\therefore$ Speed of train $= \left(\frac{280+840}{50}\right)$ m/sec $= \frac{1120}{50}$ m/sec

$= \left(\frac{1120}{50} \times \frac{18}{5}\right)$ km/hr= 80.64 km/hr.

2. A train, 150 m long takes 30 seconds to cross a bridge 500 m long. How much time will the train take to cross a platform 370 m long?

a. 18 sec

b. 24 sec

c. 30 sec

d. 36 sec

Ans: B

$\therefore$ Speed of the train $= \left(\frac{150+500}{30}\right)$ m/sec $= \left(\frac{65}{3}\right)$ m/sec.

$\therefore$ Required time $= \left[\frac{150+370}{\left(\frac{65}{3}\right)}\right]$ sec $= \left(520 \times \frac{3}{65}\right)$ sec

$= 24$ sec.

3. A train covers a distance of 12 km in 10 minutes. If it takes 6 seconds to pass a telegraph post, then the length of the train is

a. 90 m

b. 100 m

c. 120 m

d. 140 m

Ans: C

Speed $= \left(\frac{12}{10} \times 60\right)$ km/hr $= \left(72 \times \frac{5}{18}\right)$ m/sec $= 20$ m/sec.

Length of the train = (Speed × Time)

$= (20 \times 6)$ m $= 120$ m.

4. A jogger running at 9 kmph alongside a railway track is 240 metres ahead of the engine of a 120 metre long train running at 45 kmph in the same direction. In how much time will the train pass the jogger?

a. 3.6 sec

b. 18 sec

c. 36 sec

d. 72 sec

Ans: C

Speed of train relative to jogger = (45 – 9) km/hr = 36 km/hr = $\left(36 \times \frac{5}{18}\right)$ m/sec = 10 m/sec.

Distance to be covered = (240 + 120) m = 360 m.

∴ Time taken = $\left(\frac{360}{10}\right)$ sec = 36 sec.

5. A train 110 metres long is running with a speed of 60 kmph. In what time will it pass a man who is running at 6 kmph in the direction opposite to that in which the train is going?

a. 5 sec

b. 6 sec

c. 7 sec

d. 10 sec

Ans: B

Speed of train relative to man = (60 + 6) km/hr = 66 km/hr = $\left(66 \times \frac{5}{18}\right)$ m/sec = $\left(\frac{55}{3}\right)$ m/sec.

∴ Time taken to pass the man = $\left(110 \times \frac{3}{55}\right)$ sec = 6 sec.

6. Two trains of lengths 120 m and 90 m are running with speeds of 80 km/hr and 55 km/hr respectively towards each other on parallel lines. If they are 90 m apart, after how many seconds they will cross each other?

a. 5.6 sec.

b. 7.2 sec.

c. 8 sec.

d. 9 sec

Ans: C

Relative speed = (80 + 55) km/hr = 135 km/hr

$$= \left(135 \times \frac{5}{18}\right) \text{m/sec} = \left(\frac{75}{2}\right) \text{m/sec.}$$

Distance covered = (120 + 90 + 90) m = 300 m.

Required time = $\left(300 \times \frac{2}{75}\right) \text{sec} = 8 \text{ sec.}$

7. One local and another express train were proceeding in the same direction on parallel tracks at 29 km/hr and 65 km/hr respectively. The driver of the farmer noticed that it took exactly 16 seconds for the faster train to pass by him. What is the length of the faster train?

a. 60 m

b. 120 m

c. 160 m

d. 240 m

Ans: C

Relative speed = (65 – 29) km/hr = 36 km/hr

$$= \left(36 \times \frac{5}{18}\right) \text{m/sec} = 10 \text{ m/sec.}$$

Length of faster train = (10 × 16) m = 160 m.

8. A train which is moving at an average speed of 40 km/hr reaches its destination on time. When its average speed reduces to 35 km/hr, then it reaches its destination 15 minutes late. The distance travelled by the train, is

a. 70 km

b. 80km

c. 40 km

d. 30 km

Ans: A

Average speed of train = 40 km/h

Reach at its destination at on time

New average speed of train = 35 km/h

$$\text{Time} = 15 \text{ minutes} = \frac{15}{60} \text{ hours}$$

$$\text{Then distance travelled} = \frac{40 \times 35}{40 - 35} \times \frac{15}{60}$$

$$= \frac{40 \times 35}{5} \times \frac{15}{60} = 70 \text{ km.}$$

9. A 150 m long train is running with a speed of 68 kmph. In what time will it pass a man who is running at 8 kmph in the same direction in which the train is going?

a. 7 sec

b. 8 sec

c. 9 sec

d. 10 sec

Ans: C

Sol. Speed of the train relative to man = (68 – 8) kmph

$$= \left(60 \times \frac{5}{18}\right) \text{m/sec} = \left(\frac{50}{3}\right) \text{m/sec.}$$

Time taken by the train to cross the man

$$= \text{Time taken by it to cover 150 m at } \left(\frac{50}{3}\right) \text{m/sec} = \left(150 \times \frac{3}{50}\right) \text{sec} = 9 \text{ sec.}$$

10. Two trains 100 metres and 120 metres long are running in the same direction with speeds of 72 km/hr

and 54 km/hr. In how much time will the first train cross the seconds?

a. 44 sec

b. 48 sec

c. 52 sec

d. 56 sec

Ans: A

Relative speed of the trains = (72 – 54)km/hr = 18 km/hr = $\left(18 \times \frac{5}{18}\right)$ m/sec = 5 m/sec.

Time taken by the trains to pass each other

= Time taken to cover (100 + 120) m at 5 m/sec = $\left(\frac{220}{5}\right)$ sec = 44 sec.