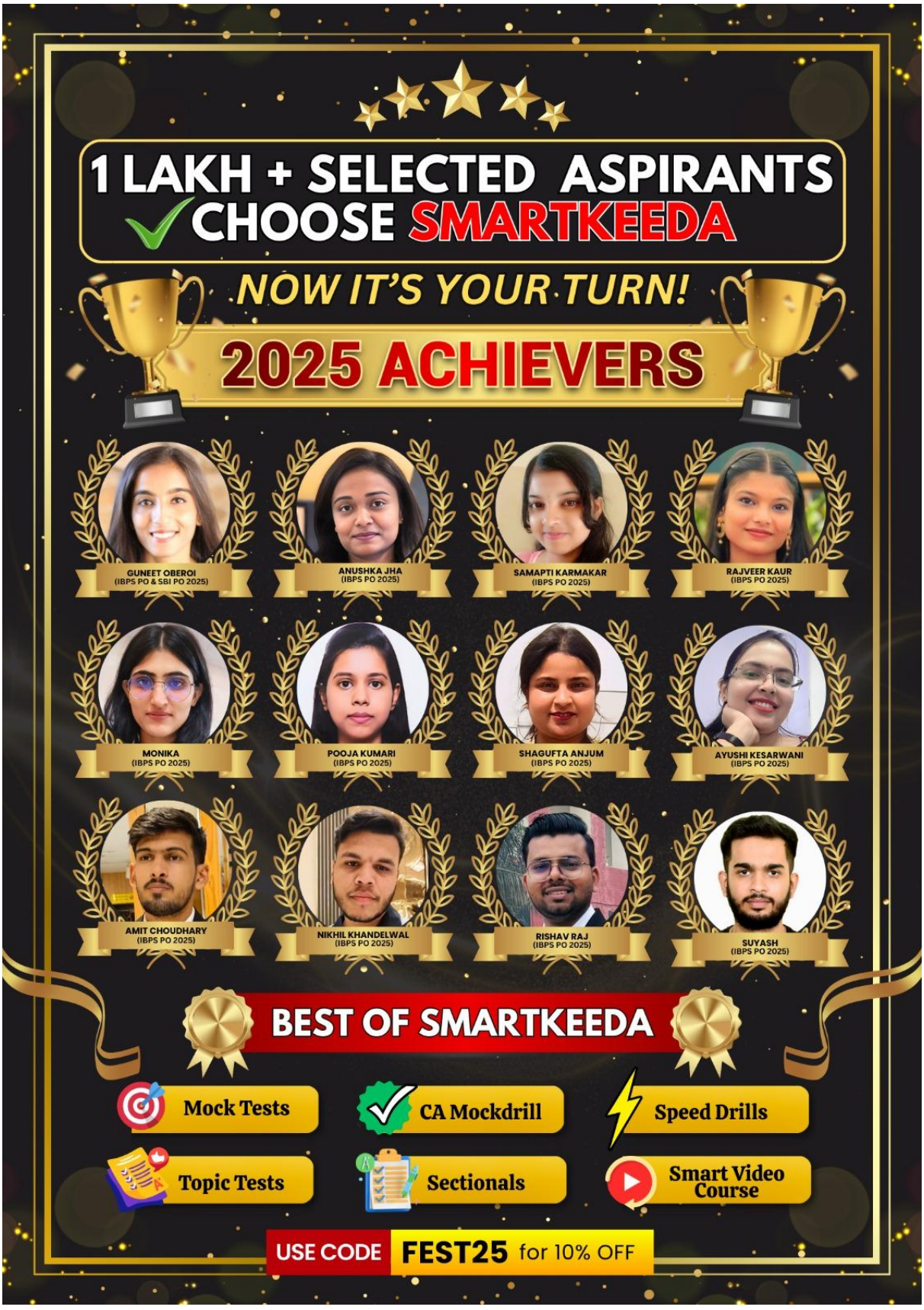
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Problem on Trains Questions for RBI Asst. Pre, IBPS Clerk Pre and SBI Clerk Pre Exams

Problem on Trains Quiz 7

Directions : Read the following questions carefully and choose the right answer.

1. **Train A and Train B can cross a pole in 40 sec and 44 sec respectively and the ratio of their length is 6:7 respectively. What is the speed of train A if the speed of train B is 140 km/hr?**

   A. 130 km/hr B. 125 km/hr C. 124 km/hr D. 128 km/hr E. 132 km/hr

2. **A train after travelling for 100 km halted due to some technical issue and then proceeds at 4/5th of its previous speed and reaches its destination 30 minutes late. Had it halted 20 km further it would have reached the destination only 15 minutes late. Find the time taken by the train to cover 10 km with the initial speed?**

   A. 25 minutes B. 30 minutes C. 45 minutes D. 60 minutes E. 15 minutes

3. **A train 190 m long passes a bus running at 72 km/hr in the opposite direction, in 5 sec. Find the speed of the train, if the length of the bus is 10 m?**

   A. 72 km/hr B. 90 km/hr C. 84 km/hr D. 85 km/hr E. 75 km/hr

4. **A 150 m train is running with speed of 68 km/hr. In what time will it cross a bus 12 m long running at 50 km/hr in the same direction?**

   A. 30.4 seconds B. 35.4 seconds C. 33.4 seconds D. 32.4 seconds E. 37.4 seconds

5. **A 190 m long train running at a constant speed of 185 km/hr crosses a man running in the same direction in 3.8 seconds. Find the time taken by the train to cross the man running in the opposite direction?**

A. 3.6 seconds B. 3.2 seconds C. 4.1 seconds D. 3.5 seconds E. 4.5 seconds

6. **Train A running at 180 km/hr crosses a man in 15 seconds. Speed of train B is 4 m/s less than the speed of train A and the length of train B is 40 m more than train A. Find the time taken by train B to cross a 130 m long tunnel?**

A. 18 seconds B. 12 seconds C. 20 seconds D. 16 second E. 15 seconds

7. **Stations A and B are 552 km apart. A train starts from station A and the other train starts from station B towards B and A respectively at the same time. These trains meet after 15 hours. The first train is slower by 10 km/hr as compared to the second train. What is the speed of the faster train?**

A. 21.4 km/hr B. 25.4 km/hr C. 23.4 km/hr D. 24.4 km/hr E. 22.4 km/hr

8. **A train 210 m long is moving at 120 km/hr and it crosses a man coming from opposite direction at 6 km/hr. Find the time taken by the train to cross the man.**

A. 5 seconds B. 4 seconds C. 10 seconds D. 6 seconds E. 3 seconds

9. **A 180 m long train travelling at the speed of 54 km/hr and crosses a platform in 20 seconds and another train travelling at 72 km/hr crosses the same platform in 18 seconds. Find the length of another train?**

A. 200 m B. 180 m C. 300 m D. 240 m E. 220 m

10. **A train crosses a platform 100 meter longer than its own length in 16 seconds at its original speed while it crosses an electric pole in 5 seconds when running with 20% more speed than what it had while crossing the platform. Length of the train in meter is:**

A. 180 B. 120 C. 140 D. 200 E. 150

Correct Answers:

1	2	3	4	5	6	7	8	9	10
E	B	A	D	A	C	C	D	D	E

Explanation:

1. Ratio of length = 6 : 7

Ratio of time = 40 : 44 = 10 : 11

Ratio of speed = $\frac{6:7}{10:11}$ = 66 : 70

70 corresponds to 140 km/hr

66 will correspond to = 66 × 2 = 132 km/hr

Hence, option E is correct.

2. Let the initial speed of the train be 5s and speed after the halt will be 4s.

The speed and time in the 100 km is same for both the cases and speed and time after 120 km is also same for both the cases.

The change is during the 20 km distance.

ATQ,

$$\frac{20}{4s} - \frac{20}{5s} = \frac{30-15}{60}$$

$$\frac{5}{s} - \frac{4}{s} = \frac{15}{60}$$

$$\frac{1}{s} = \frac{1}{4}$$

s = 4

Initial Speed of the train = 5s = 20 km/hr

Time taken = $\frac{10}{20}$ = 30 minutes.

Hence, option B is correct.

3. Let the speed of train be T

Distance = 190 + 10 = 200 m

Relative speed = $\frac{(T + 72) \times 5}{18}$

$200 = \frac{(T + 72) \times 5 \times 5}{18}$

$200 \times 18 = (T + 72) \times 25$

$8 \times 18 = T + 72$

T = 72 km/hr

Speed of the train = 72 km/hr

Hence, option A is correct.

4. Distance travelled = 150 + 12 = 162 m

Relative speed = 68 – 50 = 18 km/hr = 5 m/sec

Time = $\frac{162}{5}$ = 32.4 seconds

Hence, option D is correct.

5. Let the speed of man be M.

Time to cross man running in the same direction

$= \frac{190 \times 18}{(185 - M) \times 5}$

$= \frac{190 \times 18}{(185 - M) \times 5} = 3.8$

$185 - M = 180$

$M = 5$

Time taken to cross man running in the opposite direction,

$T = \frac{190 \times 18}{(185 + 5) \times 5}$

$T = 3.6$ seconds

Hence, option A is correct.

6. Let the length of train A = L

Speed of train A $= 180 \times \frac{5}{18}$

$180 \times \frac{5}{18} = \frac{L}{15}$

$L = 15 \times 50 = 750$ m

Length of train B = 790 m

Speed of train A = 50 m/sec

Speed of train B = 46 m/sec

$$\text{Speed of train B} = \frac{\text{length of train B + length of tunnel}}{\text{time}}$$

$$\text{Time} = \frac{790 + 130}{46}$$

$$\text{Time} = \frac{920}{46} = 20 \text{ seconds}$$

Hence, option C is correct.

7. Let the speed of the first train be X km/hr

The speed of the second train = X + 10 km/hr

D1 + D2 = 552 km

D1 and D2 are the distance covered by first and second trains respectively.

D1 = 15X

D2 = (X + 10)15

15X + 15X + 150 = 552

30X = 552 – 150

$$X = \frac{402}{30} = 13.4 \text{ km/hr}$$

Speed of the faster train = X + 10 = 23.4 km/hr

Hence, option C is correct.

8. Relative speed = 120 + 6

$= \frac{126 \times 5}{18} = 35$ m/sec

$S = \frac{D}{T}$

$35 = \frac{210}{T}$

$T = \frac{210}{35} = 6$ seconds

Hence, option D is correct.

9. Let the length of the platform = x m

According to the question,

$\frac{54 \times 5}{18} = \frac{(180 + x)}{20}$

$15 \times 20 = 180 + x$

$300 - 180 = x$

$x = 120$ m

Let the length of the second train = a m

$\frac{72 \times 5}{18} = \frac{(120 + a)}{18}$

360 = 120 + a

a = 240 m

Hence, option D is correct.

10.

Let the length of the train be y meter and the speed while crossing the platform is v m/s.

Then,

time to cross

$$= \frac{\text{length of the train + length of the platform}}{\text{speed}} = \frac{y + y + 100}{v}$$

2y + 100 = 16v ---(i)

When it crosses the pole its speed is 20% more, so

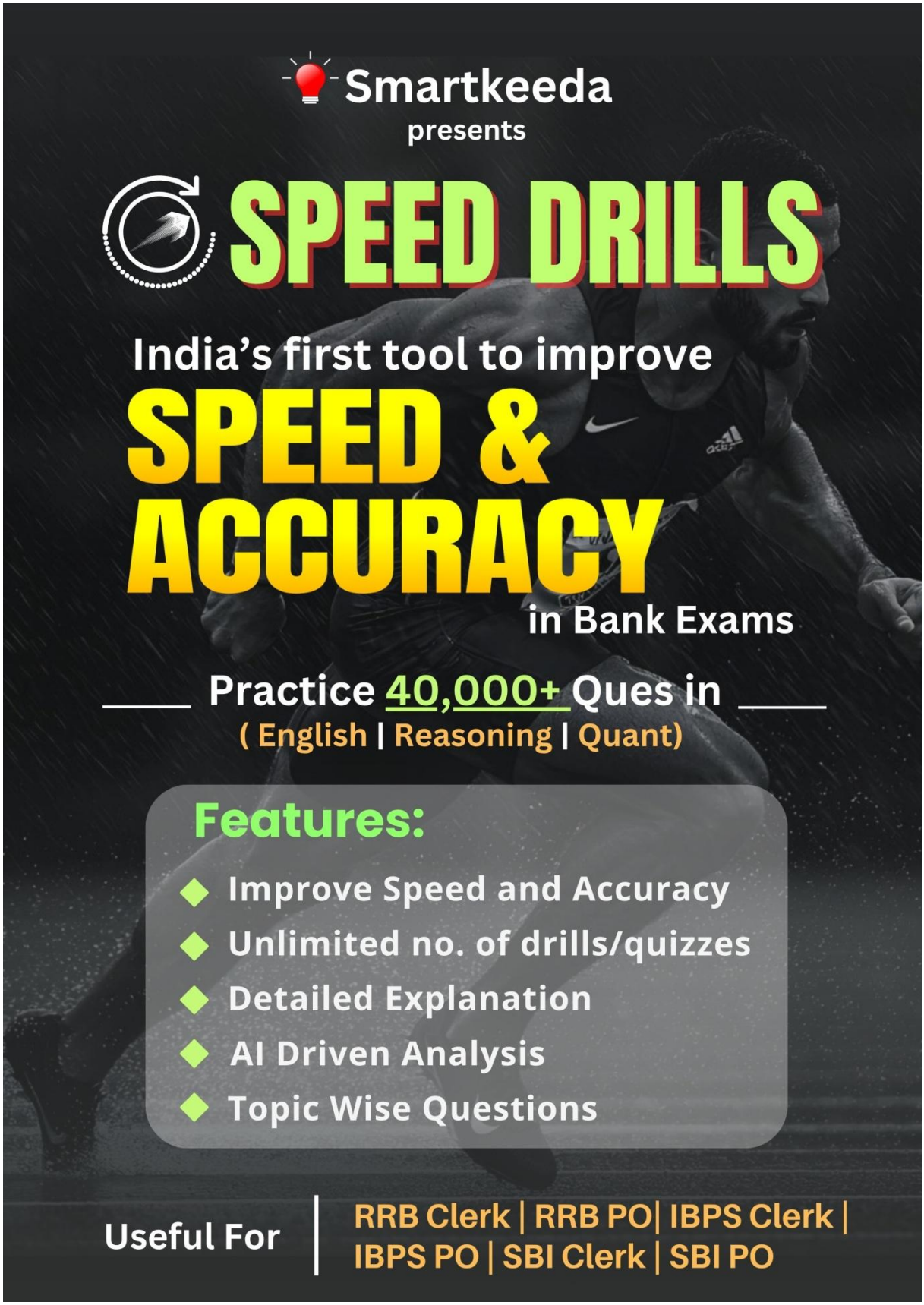
$$= \frac{y}{v + 20\% \text{ of } v} = \frac{y}{1.2\ v}$$

eliminate v from (ii) in (i), we get

$$2y + 100 = 16 \times \frac{y}{6}$$

y = 150

Hence, option E is correct.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