GENERAL APTITUDE

Trainer : Sujata Mohite
sujata.mohite@sunbeaminfo.com

Races

- A contest of speed in running, riding, driving, sailing or rowing is called a race.
- If in a race Ram is at starting point & Shyam starts from 20 mts ahead, then it is said that Ram has given Shyam a start of 20 mts or Ram gives Shyam 20 mts.
- This means that if they start from same point Ram would beat Shyam by 20 mts.

Races

Q. In a 100 mt race A gives B a start of 25 mt & still wins by 9 sec. Find the speed of A if speed of B is 6 kmph.

A.8 kmph B. 9 kmph C. 10 kmph D. 12 kmph

Soln

!----------100 m----------!

A<---25--->B<----------75m----------> A=t-9, B=t

Sb = 6 kmph = 6 x 5/18 = 5/3 m/s

Tb = Db/Sb = 75/(5/3) = 45 sec

Ta = Tb-9 = 36 sec

Sa = Da/Ta = 100/36 m/s

= 100/36 x 18/5

= 10 kmph

Ans C

Races(Assignment)

Q. In a 100 m race, A can beat B by 25 m and B can beat C by 4 m. In the same race, A can beat C by:

A. 21 m B. 26 m C. 28 m D. 29 m

- **Soln**:-

A : B = 100 : 75
B : C = 100 : 96

$A:C=(\frac{A}{B}\times\frac{B}{C})=(\frac{100}{75}\times\frac{100}{96})=100:72$

A beats C by (100−72)=28 m.

Ans: C

Circular Motion

- **Use of both relative speed & LCM**
- Let Sa, Sb = speeds of two persons.
  Sr = Their relative speed
  Distance traveled in 1 round = circumference

Case A : Both running in Same direction

Both meet again first time when → **Time = dist/Sr = Circumference/Sa-Sb**

Case B : Both running in opposite directions**(DistA+ DistB =Circumference)**

Both meet first time when → **Time = Circumference/Sa+Sb**

Case C : Both running in same/opposite directions

Both meet again at starting point at LCM of their Lap times.

Circular Motion(Races)

Q. Two friends P & Q start from same point at the same time on a circular track 336 meters long in opposite directions at 6 m/s & 8 m/s respectively. After how much time will they meet again at the starting point for the first time?

A. 56 sec B. 112 sec C. 168 sec D. 214 sec

Ans : C

Step1 – find the time taken by each member /player to complete 1 round

Step2 – Calculate LCM(Lap time)

$$\text{LapTm(P)} = \frac{\text{Circumference}}{\text{Sp}} = \frac{336}{6} = 56 \text{ sec}$$

$$\text{LapTm(Q)} = \frac{\text{Circumference}}{\text{SQ}} = \frac{336}{8} = 42 \text{ sec}$$

LCM(42,56) = 168 sec

Circular Motion(Assignment)

Q. A, B & C start together running along a circular track of 500 m at 8 km/hr, 5 km/hr & 3 km/hr respectively. After how much time will all three meet again at the starting point for the first time?

A. 20 min B. 24 min C. 30 min D. 36 min

Ans: C


THANK
YOU!