

# ALL BRANCH (Hinglish)



General Aptitude

Quantitative Aptitude

**DPP 10 Discussion Notes**  
**Boats , Races & Trains**



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# MCQ

✓  
If a train 110m long passes a signal pole in 3 sec. Then the time taken by it to cross a railway platform 165m long is:

**A** 3 secs

**B** 4 secs

**C** 7.5 secs

**D** 5 secs

$$\text{Speed} = \frac{110}{3} \text{ m/sec}$$

$$D = 110 + 165 = 275 \text{ m}$$

$$T = \frac{275}{\frac{110}{10}} \times \frac{3}{10} = \frac{75}{10} = 7.5 \text{ sec}$$



# MCQ

An Engine of 10 m length travels at 60 kmph. How long does it take to cross another train 170 m long, running at 54 kmph in the same direction?

- ☐ A 16 secs
- ☐ B 300 secs
- ☒ C 108 secs
- ☐ D None

$$D = (10 + 170) = 180 \text{ m}$$

$$R.S. = 60 \times \frac{5}{18} = \frac{5}{3} \text{ m/sec}$$

$$\text{Time} = \frac{180}{\frac{5}{3}} = 36 \times 3 = 108 \text{ sec}$$



# MCQ

Two trains 220 meters and 380 meters in length respectively are running in opposite direction. One at the rate of 35 kmph and other at 25 kmph. In what time they will cross each other completely?

**A** 36 seconds

**B** 30 seconds

**C** 60 seconds

**D** None

$$D = 600 \text{ m } (220 + 380)$$

$$R.S. = 60 \times \frac{5}{18} = \frac{50}{3} \text{ m/sec}$$

$$Time = \frac{600}{\frac{50}{3}} = 36 \text{ sec}$$



# MCQ

A man can row 30 km downstream in 3 hours 45 minutes, and 11 km upstream in 2 hours 12 minutes. What is the speed of the man in still water and speed of stream (in kmph)?

- A** 6; 2
- B** 6.8; 1.8
- ☒ **C** 6.5; 1.5
- D** 7; 3

$$S.M. = \frac{8+5}{2} = \frac{13}{2} = 6.5 \text{ km/hr}$$

$$S.St = \frac{8-5}{2} = \frac{3}{2} = 1.5 \text{ km/hr}$$

$$D.S$$

$$U.S$$

$$Dist = 30 \text{ km}$$

$$Time = 3 \frac{45}{60} = 3 \frac{3}{4} = \frac{15}{4} \text{ hrs}$$

$$30 \times \frac{4}{15} = 8 \text{ km/hr}$$

$$Dist = 11 \text{ km}$$

$$Time = 2 \frac{12}{60} = 2 \frac{1}{5} = \frac{11}{5} \text{ hrs}$$

$$11 \times \frac{5}{11} = 5 \text{ km/hr}$$



# MCQ

A man rows 22 km upstream in 4 hours and 45 km downstream in 6 hours. In 10 hours how much more distance can he row downstream than the distance he can row upstream?

**A** 24 km

**B** 22 km

**C** 18 km

**D** 20 km

$$U.S = \frac{22}{4} \times 10 = 55 \text{ km}$$

$$D.S = \frac{45}{6} \times 10 = 75 \text{ km}$$

$$75 - 55 = 20 \text{ km}$$

# MCQ

A person can row 10 km in 1 hour in still water. If the speed of the water current is 2 kmph and it takes two hours for him to go to a certain place and back. Find the distance he travelled in upstream?

- ☐ A  $9\frac{1}{2}$  km
- ☒ B 9.6 km
- ☐ C 48 km
- ☐ D 5 km

$$\frac{x}{12} + \frac{x}{8} = 2$$

$$\Rightarrow x = \frac{48}{5} = 9.6 \text{ km}$$



# MCQ

A boat can travel 10 kmph in still water. It travelled 91 km downstream and then returned, taking altogether 20 hours. Find speed of the stream?

**A** 4 kmph

**B** 5 kmph

**C** 8 kmph

**D** 3 kmph

$$\frac{91}{10+x} + \frac{91}{10-x} = 20$$

$$\Rightarrow \frac{910 - 91x + 910 + 91x}{100 - x^2} = 20$$

$$\Rightarrow 1820 = 20(100 - x^2)$$

$$\Rightarrow 1820 - 20x^2 = 2000$$

$$\Rightarrow 9 = x^2$$

$$\therefore x = \sqrt{9}$$

$$= 3 \text{ kmph}$$



# MCQ

In a 1 km race, A beats B by 100 m and C by 150 m. In a 2700 m race, by how many meters does B beat C?

- ☒ A 150 m
- ☐ B 120 m
- ☐ C 100 m
- ☐ D 180 m

$$\frac{A}{B} = \frac{1000}{900} \quad \bigg| \quad \frac{A}{C} = \frac{1000}{850}$$

$$\frac{B}{A} \times \frac{A}{C} = \frac{900}{1000} \times \frac{1000}{850}$$

$$\frac{B}{C} = \frac{900}{850} \times 3 = \frac{2700}{2550}$$

$$2700 - 2550 = 150m$$

# MCQ

A man can row 6 km/hr in still water. If the speed of stream is 2km/hr, it takes him 3 hours to row to a place and back. How far is the place?

**A** 16 km

**B** 10 km

**C** 12 km

**D** 8 km

$$\frac{x}{8} + \frac{x}{4} = 3$$

$$\Rightarrow \frac{x + 2x}{8} = 3$$

$$\Rightarrow \frac{3x}{8} = 3$$

$$\underline{\underline{x = 8 \text{ km}}}$$



# MCQ

Two persons start running simultaneously around a circular track of length 300m from the same point at speeds 15km/hr and 25km/hr. When will they meet first time on the track, when move in opposite direction?

**A** 21 sec

**B** 22 sec

**C** 24 sec

**D** 27 sec

$$D = 300m$$

$$R.S. = 40 km/hr \times \frac{5}{18}$$

$$= \frac{200}{18} m/sec$$

$$Time = \frac{300 \times \frac{9}{18}}{\frac{200}{18}} = 27 sec$$



# Thank You!

GW Soldiers