



IBPS PRELIMS - 30 DAYS REVISION PLAN

CLASS 15 - TIME & DISTANCE

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

Q1. The speed of a car is two-third of the speed of a train. Train covers 360 km in 3 hours. How much distance will the car cover in 5 hours?

✓ A. 400 km

B. 360 km

C. 420 km

D. 340 km

E. None of these

$$C_s = \frac{2}{3} \text{ of } T_s$$

$$T_s = \frac{360}{3}$$

$$= \frac{2}{3} \times \frac{360}{3} = 80$$

$$C_s = 80 \text{ kmph}$$

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

$$80 \times 5 = D$$

$$400 \text{ km} = D$$

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Q2. The length of train A is 150 m and that of train B is 250 m. These two trains are running in the opposite direction with velocities of 50 km/hr and 70 km/hr respectively. Find the time taken to cross each other.

A. 15 seconds

B. 18 seconds

C. 21 seconds

✓ D. 12 seconds

E. None of these

$$L_A = 150$$

$$L_B = 250$$

$$L_T = 400 \text{ m}$$

$$S_A = 50$$

$$S_B = 70$$

$$RS = 120 \text{ kmph}$$

Relative Speed

$$\text{Opp} = S_1 + S_2$$

$$\text{Same} = S_1 - S_2$$

$$T_{(\text{sec})} = \frac{L_T (\text{m})}{RS (\text{m/s})}$$

$$= \frac{400}{\frac{120}{3}}$$

$$T = 12 \text{ Sec}$$

$$RS = 120 \times \frac{5}{18} = \frac{100}{3}$$

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Q3. Train crosses a ^P200 m long ⁽³⁰⁾platform and the ^Eelectric pole in 30 seconds and ⁽²⁰⁾~~18~~⁸⁰ seconds respectively. What is the speed of the train?

- A. 40 kmph
 B. 50 kmph
 C. 60 kmph
 D. 80 kmph
 E. ~~None of these~~
 72 kmph

Pole,

Platform

$$T = \frac{L_T}{S_T}$$

$$T = \frac{L_P + L_T}{S_T}$$

$$20 = \frac{L_T}{S_T}$$

$$30 = \frac{200 + L_T}{S_T}$$

$$20 S_T = L_T$$

$$30 S_T = 200 + 20 S_T$$

$$10 S_T = 200$$

$$S_T = 20 \text{ m/s}$$

$$S_T = 20 \times \frac{18}{5}$$

$$S_T = 72 \text{ kmph}$$

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$$L_1 = L_2$$

Q4. Two trains of equal length are running on parallel lines in the same direction at 53 km/h and 41 km/h. The faster train passes the slower train in 33 sec. The length of each train is:

✓ A. 55 m

B. 50 m

C. 45 m

D. 60 m

E. 72 m

$$RS = S_1 - S_2$$

$$= 53 - 41$$

$$= 12 \text{ km/h}$$

$$= \frac{12 \times 5}{18} = \frac{10}{3}$$

$$T = \frac{L_T}{RS}$$

$$\frac{1}{33} = \frac{L_T \times 2}{10}$$

$$110 = 2L_T$$

$$\boxed{55 = L_T}$$

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Q5. 300 m long train A crosses the pole in 10 sec. If another train B crosses the train A, which is 200 m long, from opposite direction at a speed of 20 m/sec, find the time taken to cross each other.

A. 14 seconds

✓ B. 10 seconds

C. 16 seconds

D. 18 seconds

E. None of these

$$T = \frac{L_T}{S_T}$$

$$10 = \frac{300}{S_T}$$

$$S_A = 30 \text{ m/s}$$

$$T = \frac{L_A + L_B}{R_S}$$

$$= \frac{300 + 200}{30 + 20}$$

$$= \frac{500}{50}$$

$$T = 10 \text{ sec}$$

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Q6. Train S started from A to B at 8 am and train T started from B to A at 8 am and the ratio of the speed of train S to T is 2:3. After three hours, both the trains meet each other. At what time will train T reach A?

A. 12 pm

✓ B. 1 pm

C. 2 pm

D. 4 pm

E. None of these



$$S_S : T_S = 2:3$$

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

$$\left. \begin{aligned} D_S &= 2x \times 3 = 6x \\ D_T &= 3x \times 3 = 9x \end{aligned} \right\} 15x$$

$$T = \frac{D}{S} = \frac{15x}{3x} = 5$$

$$T = 5 \text{ hrs}$$

8AM
↓ 5hrs
1PM



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Q7. Train A of length 180 m crosses another train B travelling in opposite direction in 15 seconds. Train A crosses a pole in 20 seconds and the length of train A is half of the length of train B. Find the speed of train B.

A. 27 m/sec

B. 33 m/sec

C. 39 m/sec

D. 21 m/sec

E. None of these

$$L_A = \frac{1}{2} L_B$$

$$180 \times 2 = L_B$$

$$360 = L_B$$

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

$$S_A = \frac{180}{20}$$

$$S_A = 9 \text{ m/s}$$

$$T = \frac{L_A + L_B}{S_A + S_B}$$

$$15 = \frac{180 + 360}{9 + S_B}$$

$$15(9 + S_B) = 540$$

$$135 + 15S_B = 540$$

$$15S_B = 405$$

$$S_B = 27$$

$$S_B = 27 \text{ m/s}$$

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Q8. A and B are two stations 240 km apart. A train starts from A at 8 a.m. and travels towards B at 15 kmph. Another train starts from B at 9 a.m. and travels towards A at 30 kmph. At what time will they meet?

- ✓ A. 2 p.m
- B. 1 p.m
- C. 3 p.m
- D. 2.30 p.m
- E. None of these

8 am A → $S_A = 15$

A ————— B
 240

← 9 am
 $S_B = 30$

$$R_S = 30 + 15 = 45$$

$$T = \frac{240}{45} = 5 \text{ hrs}$$

$$\begin{array}{r} 240 \\ - 15 \\ \hline 225 \end{array}$$

9 am
 ↓ 5 hrs
 2 PM

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Q9. A train crosses the bridge which has double the length of train A in 36 seconds and the same train crosses a man running in opposite direction at the speed of 30 kmph in 8 seconds. Find the length of the bridge.

- ✓ A. 400 m
B. 480 m
C. 360 m
D. 280 m
E. 200 m

$$L_B = 2L_A$$

$$T = \frac{L_B + L_A}{S_T}$$

$$\frac{12}{36} \times S_T = 3L_A$$

$$12S_T = LA$$

$$\frac{4}{18} \times \frac{50}{3} = L_A$$

$$200 = L_A$$

$$L_B = 2L_A$$

$$= 2 \times 200$$

$$L_B = 400$$

$$T = \frac{L_T}{S_T}$$

$$8 = \frac{12S_T}{S_T + \frac{25}{3}}$$

$$\frac{2}{3} = \frac{3S_T}{3S_T + 25} \times 3$$

$$6S_T + 50 = 9S_T$$

$$50 = 3S_T$$

$$\frac{50}{3} = S_T$$



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Q10. Ratio of the length of train A and B is 2:1 and the speed of train A and B is 60 kmph and 80 kmph respectively. If train A crosses an electric pole in 12 seconds, in what time will train A cross train B running in the same direction?

- ✓ A. 54 seconds
- B. 36 seconds
- C. 72 seconds
- D. 48 seconds
- E. None of these

$$T = \frac{L_A}{S_A}$$

$$2\% \quad L_A = \frac{2x}{50} \times 7$$

$$100 = x$$

$$T = \frac{L_A + L_B}{R_S}$$

$$= \frac{300}{20 \times \frac{5}{18}}$$

$$= \frac{348}{26 \times 5} \times 18$$

$$T = 54 \text{ sec}$$

$$\frac{60 \times 5}{18} = \frac{50}{3}$$

$$L_A = 200$$

$$L_B = 100$$

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

Q11. A boat travels 120 km downstream in 6 hours and the speed of the stream is 5 kmph. What is the speed of the upstream?

✓ A. 10 kmph

B. 15 kmph

C. 12 kmph

D. 8 kmph

E. None of these

$$D = \frac{20}{120}$$

$$D = 20 \text{ km/h}$$

$$S = 5 \text{ km/h}$$

$$S = \frac{D - U}{2}$$

$$5 = \frac{20 - U}{2}$$

$$10 = 20 - U$$

$$U = 10 \text{ km/h}$$

$$(U) \text{ Upstream Speed} = B - S$$

$$(D) \text{ Downstream} = B + S$$

$$\text{Stream} = \frac{D - U}{2} \quad (S)$$

$$\text{Boat} = \frac{D + U}{2} \quad (B)$$

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B

Q12. Speed of boat in still water is 10 km/h. It takes 6 hours to go upstream and 2 hours to go downstream the same distance between two points. What is the speed of the stream?

A. 4 km/h

✓ B. 5 km/h

C. 3 km/h

D. 2 km/h

E. 1 km/h

$$B = 10$$

$$T_U = 6 \text{ hrs}$$

$$T_D = 2 \text{ hrs}$$



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

$$S \times T = D$$

$$D_U = D_D$$

$$(10 - S) \times 6 = (10 + S) \times 2$$

$$30 - 3S = 10 + S$$

$$20 = 4S$$

$$\boxed{5 = S}$$

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Q13. If the ratio of the speed of the boat that can travel along with current to against current is 2:1 and the speed of the stream is 10 kmph, what is the speed of the boat in still water? ^S

A. 20 kmph

B. 25 kmph

✓ C. 30 kmph

D. 15 kmph

E. None of these

$$S = 10$$

$$D : U = 2 : 1$$

$$B = ?$$

$$\frac{D}{U} = \frac{2}{1}$$

$$\frac{B+10}{B-10} = \frac{2}{1}$$

$$B+10 = 2B-20$$

$$\boxed{30 = B}$$

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Q14. The ^Uupstream speed and ^Ddownstream speed of the boat is 28 kmph and 36 kmph respectively. Find the time taken to cover the distance 224 km in still water.

A. 6 hours

✓ B. 7 hours

C. 8 hours

D. 6.2 hours

E. None of these

$$U = 28$$

$$D = 36$$

$$B = ?$$

$$B = \frac{D+U}{2}$$

$$= \frac{36+28}{2}$$

$$= \frac{64}{2}$$

$$B = 32$$

$$\frac{224}{32} = 7$$

$$T = 7 \text{ hrs}$$

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Q15. The ratio between speed of current^S to speed of boat in still water^B is 2:5. The downstream speed is what percent of the upstream speed?

A. 166 (2/3) %

✓ B. 233 (1/3) %

C. Cannot be determined

D. 133 (1/3) %

E. 200 %

$$\left(\frac{S}{B} = \frac{2}{5} \right)$$

$$D = x\% \text{ of } U$$

$$700 = \frac{x}{100} \times 300$$

$$\frac{700}{3} = x$$

$$233 \frac{1}{3} \% = x$$

$$\begin{array}{r} 233 \\ 3 \overline{) 700} \\ \underline{6} \\ 100 \\ \underline{90} \\ 100 \end{array}$$



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^T_D
Q16. The boat will take 2 hours to cover the distance of 20 km in downstream and while covering the same distance in upstream it will take 5 hours. Find the speed of the current.

^T_D A. 2 kmph

✓ B. 3 kmph

C. 4 kmph

D. 5 kmph

E. None of these

$$S = \frac{D - U}{2} = \frac{10 - 4}{2}$$

$$= \frac{6}{2}$$

$$S = 3 \text{ Km/h}$$

$$D = \frac{20}{2} = 10$$

$$U = \frac{20}{5} = 4$$

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Q17. A boat rows 60 km distance downstream and comes back in 9 hours and the ratio of the speed of downstream to upstream is 2:1. Find the speed of the stream.

A. 4 kmph

☒ B. 5 kmph

C. 8 kmph

D. 10 kmph

E. None of these



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

$$T_u + T_D = 9 \text{ hrs}$$

$$\frac{60}{x} + \frac{60}{2x} = 9$$

$$D = 2x = 20$$

$$U = x = 10$$

$$60 \left[\frac{2x+x}{2x^2} \right] = 9$$

$$S = \frac{10}{2} = 5$$

$$\frac{3x}{2x^2} = \frac{9}{60}$$

$$\frac{3}{2x} = \frac{9}{60}$$

$$\frac{3}{2x} = \frac{3}{20}$$

$$10 = x$$

$$\boxed{10 = x}$$



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B

Q18. A man can row 30 km/hr in still water and the river is running at 15 km/hr. If the man takes 3 hours to row to a place and back, how far is the place?

A. 28.25 km

B. 38.75 km

☒ C. 33.75 km

D. 22.50 km

E. None of these

$$D = B + S$$

$$D = 45$$

$$U = B - S$$

$$U = 15$$

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

$$3 = D \left[\frac{1}{45} + \frac{1}{15} \right]$$

$$= D \left[\frac{1+3}{45} \right]$$

$$3 \times \frac{45}{4} = D$$

$$\frac{135}{4} = D$$

$$\boxed{33.75 = D}$$

$$15 \overline{) 45.15} \\ \underline{30} \\ 15.15 \\ \underline{15} \\ 0.15 \\ \underline{0.15} \\ 0$$

$$4 \overline{) 135} \\ \underline{12} \\ 15 \\ \underline{12} \\ 30 \\ \underline{30} \\ 0$$

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D

Q19. The time taken by a man to row 120 km along the stream is one-third of the time taken to row against the stream. Find the speed of the boat in still water, if the speed of stream is 10 km/hr.

A. 24 km/hr

✓ B. 20 km/hr

C. 18 km/hr

D. 14 km/hr

E. None of these

$$T_D = \frac{1}{3} \times T_U$$

$$\text{Dist} = 120$$

$$\frac{\text{Dis}}{D} = \frac{1}{3} \times \frac{\text{Dis}}{U}$$

$$\boxed{3U = D}$$

$$3(B - S) = B + S$$

$$3B - 30 = B + 10$$

$$2B = 40$$

$$\boxed{B = 20 \text{ Km/hr}}$$

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Q20. The ratio of the speed of boat in still water to the speed of the stream is 5:4. If the boat covers 72 km distance in upstream and downstream in 20 hours, then find the speed of boat in still water.

✓ A. 20 kmph

B. 16 kmph

C. 24 kmph

D. 25 kmph

E. None of these

$$\begin{aligned} B &= 5x \\ S &= 4x \end{aligned}$$

$$\begin{aligned} B &= 5x = 5 \times 4 \\ &= 20 \end{aligned}$$

$$T_u + T_d = 20$$

$$\frac{72}{u} + \frac{72}{d} = 20$$

$$\frac{72}{x} + \frac{72}{4x} = 20$$

$$\begin{aligned} \frac{18}{x^2} \left[\frac{4x+x}{4x^2} \right] &= 20 \\ \frac{20x}{4x^2} &= \frac{20}{x} \\ \frac{5}{x} &= \frac{20}{x} \\ \boxed{4} &= x \end{aligned}$$

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PRACTICE QUESTION

Q21. Train A crosses a pole in 15 seconds and another train B crosses a pole in 25 seconds. The length of train A is half of length of train B. Find the ratio between the speeds of train A to that of train B.

- A. 5 : 6
- B. 11 : 8
- C. 14 : 9
- D. 7 : 5
- E. None of these

Q22. Two trains P and Q start running from Kanpur to Bhopal and Bhopal to Kanpur respectively. Both trains start at 8:00 A.M. If the distance between Bhopal and Kanpur is 840 km and if speeds of train P and Q are 80 km/hr and 60 km/hr respectively, then at what distance from Kanpur will both trains meet?

- A. 520 Km
- B. 280 Km
- C. 350 Km

D. 480 Km

E. 600 Km

Q23. Two trains P and Q running in opposite directions cross a man standing on the platform in 20 seconds and 10 seconds respectively, and they cross each other in 18 seconds. What is the ratio of their speeds?

A. 4 : 1

B. 1 : 5

C. 2 : 3

D. 3 : 7

E. None of these

Q24. The boat covers 180 km and the ratio of the time taken by the boat to go with the stream and against the stream is 3:5. If the speed of the boat in still water is 10 kmph, what is the speed of the stream?

A. 2.5 kmph

B. 5 kmph

C. 8 kmph

D. 7.5 kmph

E. None of these

Q25. A boat covers a certain distance along with the stream in 4 hours and the same boat covers the same distance against the stream in 12 hours. What is the ratio of the speed of the boat in still water to the stream?

- A. 2 : 1
- B. 3 : 2
- C. 4 : 3
- D. Cannot be determined
- E. None of these

ENGLISH PRACTICE

Each of the following questions has two sentences. The first sentence is divided into four parts: A, B, C, and D, and the second sentence is divided into four parts: E, F, G, and H. Choose the option that indicates the parts (one from each sentence) that contain an error. If the sentences are error-free, mark "No error" as your answer.

Question 1

I). There are moments [A]/ in life when [B]/ the ground disappears [C]/ beneath your feet. [D]

II). Neither the [E]/ guide nor [F]/ the tourists were [G]/ carrying a map. [H]

- a. B and E
- b. A and G
- c. C and H
- d. D and F
- e. No error

Question 2

I). Pages after pages [A]/ revealed clues [B]/ about the [C]/ ancient civilization. [D]

II). The company reduced [E]/ product prices to [F]/ attract more customer [G]/ during the festive season. [H]

- a. C and E
- b. D and H
- c. B and F
- d. A and G
- e. No error

Question 3

I). The diplomat displayed [A]/ remarkable tact [B]/ while addressing an [C]/ exceptional contentious issue. [D]

II). The number of [E]/ endangered species [F]/ are increasing [G]/ steadily. [H]

- a. D and G
- b. A and H
- c. D and H
- d. C and G
- e. No error

Question 4

I). The cat remained unusually [A]/ calm despite of the [B]/ noise coming from the [C]/ crowded marketplace. [D]

II). The scientist whom [E]/ discovered the rare [F]/ orchid received [G]/ international recognition. [H]

- a. A and E
- b. A and H
- c. D and G
- d. B and E
- e. No error

Question 5

I). Kalawati remained [A]/ sanguine about her [B]/ exam results despite the [C]/ difficulty of the paper. [D]

II). The longer the drought [E]/ persisted, the harder [F]/ it became for local [G]/ ecosystems to recover naturally. [H]

- a. A and F
- b. B and H
- c. C and E
- d. D and G
- e. No error

In each of the questions given below, a statement has been given with a blank. Some words have been given in the options following the statement. Choose the most appropriate word that could fit in the statement to make it contextually meaningful and grammatically correct.

Question 6

Restaurants that rely heavily on seasonal produce are generally better equipped to _____ unnecessary food waste.

- a. exacerbate

- b. curtail
- c. replicate
- d. precipitate
- e. magnify

Question 7

Years of institutional practice had _____ certain inefficiencies within the system.

- a. embedded
- b. concealed
- c. entrenched
- d. established
- e. None of these

Question 8

Individuals who regularly reassess their methods are less likely to _____ in unproductive routines.

- a. languish
- b. flourish
- c. culminate

d. resonate

e. diverge

Question 9

Before forwarding sensational claims, responsible users should _____ their authenticity through reliable sources.

a. corroborate

b. fabricate

c. obscure

d. distort

e. manipulate

Question 10

The science of prediction will remain, for the _____ future, a source of hope in filling the gaps of uncertainty.

a. unpredictable

b. tedious

c. unyielding

d. Both A and C

e. foreseeable