

- A) A train moves with a speed of 108 km/hr. Its speed in m/sec
 ① 10.8 ② 30 ③ 38.8 ④ 18
- B) In what time will a train 100 mts long cross an electric pole, if its speed be 144 km/hr
 ① 2.5 ② 4.25 ③ 5 ④ 3 sec
- C) A 100 mt long train is going at a speed of 60 km/hr. It will cross a 140 mt long railway bridge in
 ① 21.6 sec ② 14.4 sec ③ 3.6 sec ④ 7.2 sec
- D) A train running at the speed of 60 km/hr crosses a pole in 9 seconds. Length of the train
 ① 120 ② 180 ③ 150 ④ 324
- E) A train 240 mt long passed a pole in 24 sec. How long will it take to pass a platform 650 mt long
 ① 65 ② 89 ③ 100 ④ 95
- F) A 50 mt long train passes over a bridge at the speed of 30 km/hr. If it takes 36 seconds to cross the bridge, length of bridge
 ① 200 ② 250 ③ 300 ④ 350
- G) A train of length 150 mts takes 40.5 seconds to cross a tunnel of length 300 mts. Speed of train in km/hr.
 ① 13.33 ② 26.67 ③ 40 ④ 66.67
- H) A train 150 mt long takes 30 seconds to cross a bridge 500 mt long. How much time will the train take to cross a platform 370 mt long.
 ① 18 ② 24 ③ 30 ④ 36
- I) Time taken by a train 180 mt long, travelling at 42 km/hr in passing a person walking in same direction at 6 km/hr will be
 ① 18 ② 21 ③ 24 ④ 25
- J) A train 110 mts long is running with a speed of 60 km/hr. In what time it will pass a man who is running at 6 km/hr in direction opposite to that in which train is going
 ① 5 ② 6 ③ 7 ④ 10
- K) Two trains are moving in opposite directions @ 60 km/hr and 90 km/hr. Their lengths are 1.10 km & 0.9 km respectively. Time taken by slower train to cross faster train in seconds is
 ① 36 ② 45 ③ 48 ④ 49
- L) Two trains of lengths 120 mt & 90 mt are running with speeds 80 km/hr & 55 km/hr respectively towards each other on parallel lines. If they are 90 mt apart, after how many seconds they will cross each other
 ① 5.6 ② 7.2 ③ 8 ④ 9
- M) A train B speeding with 120 km/hr crosses another train C running in same direction, in 2 mins. If lengths of trains B and C be 100 mt & 200 mt respectively. Speed of C (in km/hr)
 ① 111 ② 123 ③ 127 ④ 129

- $\cdot a \text{ km/hr} = \left(a \times \frac{5}{18} \right) \text{ m/sec}$ Trains
- ① A 100 mt long train is running at a speed of 30 km/hr. Time taken by it to pass a man standing near railway line (12 secs)
- ② A train is moving at a speed of 132 km/hr. If length of the train is 110 mt, how long will it take to cross railway platform 165 mt long (7.5 sec)
- ③ A 160 mt long train crosses a 160 mt long platform in 16 secs. speed of train (km/hr) (72)
- ④ A train travelling with constant speed crosses a 90 mt long platform in 12 seconds and a 120 mt long platform in 15 seconds. length of train and its speed (30, 36)
- ⑤ A train speeds past a pole in 20 secs and a platform 100mts in 36 secs. length of train (200)
- ⑥ A 220 mt long train is running with a speed of 59 km/hr. In what time it will pass a man who is running at 7 km/hr in direction opposite to that of train. (12 secs)
- ⑦ Two trains 240 mts & 270 mts in length are running towards each other on parallel lines one at the rate of 60 km/hr and another at 48 km/hr. Time take to cross each other (17)
- ⑧ A train running at 54 km/hr takes 20 seconds to pass a platform. Next it takes 12 secs to pass a man walking at 6 km/hr in some direction in which train is going. find the length of the train and length of platform (160, 190)

- (A) A boat goes 8 km in one hour along the stream and 2 km in one hour against the stream. speed in km/hr of stream is
 (a) 2 (b) 3 (c) 4 (d) 5
- (B) A boatman goes 2 km against the current of the stream in 1 hour and goes 1 km along the current in 10 mins. How long will it take to go 5 km in stationary water.
 (a) 40 mins (b) 1 hour (c) 1 hr 15 mins (d) 1 hr 30 mins
- (C) If a boat goes 7 km upstream in 42 mins and the speed of stream is 3 km/hr, speed of boat in still water is
 (a) 4.2 km/hr (b) 9 km/hr (c) 13 km/hr (d) 21 km/hr.
- (D) Speed of boat in still water is 15 km/hr and rate of current is 3 km/hr. Distance travelled downstream in 72 mins is
 (a) 1.2 km (b) 1.8 km (c) 2.4 km (d) 3.6 km
- (E) Speed of boat in standing water is 9 km/hr and speed of stream is 1.5 km/hr. A man rows to a place at a distance of 105 km and comes back to the starting point. Total time taken
 (a) 16 (b) 18 (c) 20 (d) 24
- (F) Speed of boat in still water is 10 km/hr. If it can travel 26 km downstream and 14 km upstream in same time, speed of stream is
 (a) 2 km/hr (b) 2.5 (c) 3 (d) 4 km/hr.
- (G) A boat goes 30 km upstream and 44 km downstream in 10 hours. In 13 hours it can go 40 km upstream and 55 km downstream. speed of boat
 (a) 3 (b) 4 (c) 8 (d) 10
- (H) A boat can travel 36 km upstream in 5 hours. If the speed of stream is 2.4 km/hr, how much time will the boat take to cover a distance of 78 km downstream (in hours)
 (a) 5 (b) 6.5 (c) 5.5 (d) 8
- (I) Speed of boat in still water is 5 times that of the current. It takes 1.1 hours to row to a point B from point A downstream. Distance between A and B is 13.2 km. How much distance (in km) will it cover in $\frac{3}{2}$ mins upstream.
 (a) 43.2 (b) 48 (c) 41.6 (d) 44.8
- (J) A motorboat can travel at 10 km/hr in still water. It travelled 91 km downstream and then returned taking altogether 20 hours. find rate of flow of river.
 (a) 3 (b) 5 (c) 6 (d) 8

Boats

Boats

- ① Speed of boat when travelling downstream is 32 km/hr, whereas when travelling upstream it is 28 km/hr. Speed of boat in still water (30)
- ② A man can row 6 km/hr in still water. It takes him twice as long to row up as to row down the river. Rate of stream (2 km/hr)
- ③ A man can row $7\frac{1}{2}$ km/hr in still water. If in a river running at 1.5 km/hr, it takes him 50 minutes to row to a place and back how far off is the place (3 km)
- ④ A boat goes 8 km upstream and then returns Total time taken is 4 hrs 16 minutes. If the velocity of current is 1 km/hr, actual velocity of the boat (74 km/hr)
- ⑤ A boatman rows to a place 45 km distant and back in 20 hours. He finds that he can row 12 km with the stream in same time as 4 km against the stream speed of the stream (3 km/hr)
- ⑥ A man can row 40 km upstream and 55 km downstream in 13 hours. Also he can row 30 km upstream and 44 km downstream in 10 hours. Find the speed of the man in still water and the speed of the current (8 km/hr, 3 km/hr)

- ⑩ If 5 spiders can catch 5 flies in 5 mins.
 How many flies can 100 spiders catch in 100 minutes
 $\textcircled{A} 2000 \quad \textcircled{B} 100 \quad \textcircled{C} 500 \quad \textcircled{D} 1000$
- ⑪ A boat takes 19 hours for travelling downstream from point A to point B and coming back to a point C midway between A and B. If the velocity of stream is 4 km/hr and speed of boat is 14 km/hr, distance between A and B
 $\textcircled{A} 180 \quad \textcircled{B} 160 \quad \textcircled{C} 140 \quad \textcircled{D} 200$
- ⑫ A train 800 mts long is running at a speed of 78 km/hr. If it crosses a tunnel in 1 minute,
 length of the tunnel $\textcircled{A} 500 \quad \textcircled{B} 400 \quad \textcircled{C} 360 \quad \textcircled{D} 550$
- ⑬ A batsman makes a score of 87 runs in the 17th inning & thus increases his average by 3. Average after 17th inning $\textcircled{A} 30 \quad \textcircled{B} 36 \quad \textcircled{C} 38 \quad \textcircled{D} 39$
- ⑭ 18 years ago, a man was three times as old as his son. Now the man is twice as old as his son. Sum of present ages of man and his son is
 $\textcircled{A} 54 \quad \textcircled{B} 72 \quad \textcircled{C} 105 \quad \textcircled{D} 108$
- ⑮ Day of the week on 17th June 1998
 \textcircled{A} Sunday \textcircled{B} Monday \textcircled{C} Tuesday \textcircled{D} Wednesday
- ⑯ At what time between 8 and 9 o'clock will the hands of a clock be in the same straight line but not together
 $\textcircled{A} 10 \text{ min past } 8 \quad \textcircled{B} 11 \frac{1}{10} \text{ mins past } 8$
 $\textcircled{C} 10 \frac{11}{10} \text{ mins past } 8 \quad \textcircled{D} 10 \frac{10}{11} \text{ mins past } 8$
- ⑰ If 5 workers can collect 60 kg wheat in 3 days how many kgs of wheat will 18 workers collect in 5 days
 $\textcircled{A} 160 \quad \textcircled{B} 120 \quad \textcircled{C} 100 \quad \textcircled{D} 80$
- ⑱ Average marks of 13 papers is 40. Average of marks of first 7 papers is 42 and that of last 7 papers of 7th paper $\textcircled{A} 15 \quad \textcircled{B} 19 \quad \textcircled{C} 21 \quad \textcircled{D} 23$
 is 35. Marks of 7th paper
- ⑲ A 280 mt long train crosses a platform thrice its length in 50 sec. Speed of train in km/hr
 $\textcircled{A} 60.48 \quad \textcircled{B} 64.86 \quad \textcircled{C} 280.64 \quad \textcircled{D} 82.38$
- ⑳ By how many degrees will minute hand moves in some time in which hour hand moves 6°
 $\textcircled{A} 54^\circ \quad \textcircled{B} 84^\circ \quad \textcircled{C} 72^\circ \quad \textcircled{D} 60^\circ$

Assignment

- ① Samir's age is one fourth of his father's age and two third of his sister Reema's age. Ratio of ages of Samir, Reema and their father respectively
 (A) 2 : 8 : 3 (B) 2 : 3 : 8 (C) 3 : 2 : 8 (D) 8 : 2 : 3
- ② Samaira, Mahira and Keira rented a set of DVDs at a rent of Rs 578. If they used it for 8 hours, 12 hours and 14 hours respectively, what is Keira's share of rent to be paid
 (A) 25 (B) 28 (C) 192 (D) 204
- ③ 21 Binders can bind 1400 books in 15 days. How many binders will be required to bind 800 books in 20 days
 (A) 7 (B) 9 (C) 12 (D) 14
- ④ A train 108 m long moving at a speed of 50 km/hr crosses a train 112 m long coming from opposite direction in 6 secs. Speed of second train is
 (A) 48 (B) 82 (C) 54 (D) 66 km/hr
- ⑤ A boatman rows 1 km in 5 mins along the stream and 6 km in 1 hour against the stream speed of stream is
 (A) 1/2 (B) 10 (C) 3 (D) 1
- ⑥ Average salary of workers of a factory is Rs 6000 while average salary of 150 technicians is Rs 12000 and that of non-technician is Rs 3750, total number of workers in the factory
 (A) 525 (B) 550 (C) 775
 (D) 500
- ⑦ Calendar for the year 2007 will be same for the year
 (A) 2016 (B) 2017 (C) 2018 (D) 2020
- ⑧ At what angle the hands of a clock are inclined, at 15 mins past 5
 (A) 64° (B) $67\frac{1}{2}^\circ$ (C) $67\frac{1}{2}^\circ$ (D) $72\frac{1}{2}^\circ$
 (E) $58\frac{1}{2}^\circ$
- ⑨ A and B enter into a partnership with C joins them after x months with Rs 60000 respectively. C leaves x months before end of year. If they share profit in ratio of 20 : 98 : 21, value of x
 (A) 3 (B) 6 (C) 80 (D) 9

- (E) Dileep, Ram and Avtar started a shop by investing Rs 2700, Rs 8100 and Rs 7200 respectively. At the end of the one year profit earned was distributed. If Ram's share was Rs 3600, what was their total profit? (A) 8000 (B) 10800 (C) 11600 (D) 27000
- (F) A, B, C subscribe Rs 50000 for a business. A subscribes Rs 4000 more than B and B Rs 5000 more than C. Out of total profit of Rs 35000, A receives (A) 8400 (B) 11900 (C) 13600 (D) 14700
- (G) Four milkmen rented a pasture. A grazed 15 cows for 4 months, B grazed 12 cows for 2 months, C grazed 18 cows for 6 months and D grazed 16 cows for 5 months. If A's share of rent is Rs 1020, what's C's share of rent? (A) 816 (B) 1360 (C) 1836 (D) 1200
- (H) A began a business with Rs 125000. He was joined afterwards by B with Rs 125000. After how many months did B join, if profits at the end of the year are divided in the ratio 3:1? (A) 4 months (B) 5 months (C) 6 months (D) 8 months
- (I) A starts business with Rs 3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2:3. What is B's contribution in the capital? (A) 7500 (B) 8000 (C) 8500 (D) 9000
- (J) A, B, C entered into a partnership by investing Rs 15,400, Rs 18,200 and Rs 12,600 respectively. C left after 6 months. If after 8 months, there was a profit of Rs 28,790, share of C in the profit? (A) 8710 (B) 9432 (C) 8352 (D) 8568.
- (K) $4(A\text{'s capital}) = 6(B\text{'s capital}) = 10(C\text{'s capital})$ Then out of a profit of Rs 4650, C will receive (A) 465 (B) 900 (C) 1550 (D) 2250
- (L) A, B, C are three partners. They altogether invested Rs 14000 in business. At the end of the year A got Rs 337.50, B Rs 1125 and C Rs 637.50 as profit. Difference between the investments of B and A was (A) 2200 (B) 3200 (C) 4200 (D) 5250
- (M) A, B and C enter into a partnership. A initially invests Rs 25 lakhs and adds another Rs 10 lakhs after one year. B initially invests Rs 35 lakhs and withdraws Rs 10 lakhs after 2 years and C invests Rs 30 lakhs in the end of 3 years. In what ratio should the profits be divided at the end? (A) 10:9:9 (B) 20:20:19 (C) 20:19:18 (D) 19:19:18.

Partnership

- Q A, B and C started a business by investing Rs 12000, Rs 13500 and Rs 15000 respectively find share of each, out of an annual profit of Rs 5670. (1880, 1890, 2150)
- Q Alfred started a business investing Rs 45000. After 3 months Peter joined him with a capital of Rs 60000. After another 6 months, Ronald joined them with a capital of Rs 90000. At the end of the year, they made a profit of Rs 16500. find the share of each. (6600, 6600, 9300)
- Q Four milkman rented a pasture. A grazed 24 cows for 3 months, B 10 cows for 5 months, C 35 cows for 4 months and D 21 cows for 3 months. If A's share of rent is Rs 720, find total rent of the field. (3250)
- Q A invested Rs 76000 in a business. After few months, B joined him with Rs 57000. At the end of the year, the total profit was divided between them in the ratio 2:1. After how many months did B join. (4 months)
- Q A started a business with Rs 21000 and is joined afterwards by B with Rs 36000. After how many months did B join if the profits at the end of the year are divided equally. (3) (4) (5) (6)
- Q A, B & C enter into a partnership by investing in the ratio 3:2:4. After one year, B invests another Rs 270000 and C of three years, profits are shared in the ratio 3:4:5. find initial investment of each (270000, 180000, 360000).

- Q Anand and Deepak started a business investing Rs 22500 and Rs 35000 respectively. Out of total profit of Rs 13800, Deepak's share is (5400) (6) 7200 (8400) (9600)
- Q Reena and Shaloo are partners in business. Reena invests Rs 35000 for 8 months and Shaloo Rs 42000 for 10 months. Out of profit of Rs 31570, Reena's share is (9471) (12,628) (18040) (18942)
- Q Gautam started a business with a sum of Rs 60000. Tatin joined him 8 months later with a sum of Rs 35000. At what respective ratio will two share the profit after two years (2:1) (3:1) (18:7) (37:14)
- Q A, B, C enter into partnership. A invests 3 times as much as B invests and B invests two-thirds of what C invests. At end of year total profit is Rs 6600. share of (1200) (800) (1000) (500)