THE DHRONAS
Ensuring success through skills
DAILY DOSE
SSC   Banking   WB Police   WB Civil Services   Other Competitive Exams
Date : 2024-01-19   Quantitative Aptitude -Boats and streams   English

Q:1 A boat covers 24 km downstream in 48 minutes. If the ratio of the speed of boat in still water to that of speed of stream is 7 : 3, respectively, then find the time taken by boat to cover a distance of 9 km upstream.
1. 45 minutes
2. 48 minutes
3. 36 minutes
4. 40 minutes
5. None of these

Q:2 A ship can cover 45 km upstream in 3 hours in a river whose stream speed is 5 km/h, then what is the time taken by the ship to cover 36 km downstream in another river whose stream speed is 2.5 km/h?
1. 1.8 hours
2. 1.5 hours
3. 1.2 hours
4. 1.6 hours
5. 2 hours

Q:3 In a race, a boat crosses a flag post, which is 9 km away from the starting point, in 2 hours and then travels back to the starting point against the current in 6 hours. The speed of the boat in still water and that of the current respectively are _____.
1. 3 km/h, 1.5 km/h
2. 4 km/h, 4.5 km/h
3. 1.5 km/h, 3 km/h
4. 2 km/h, 3 km/h
5. 1.5 km/h, 2.5 km/ph

Q:4 A boat takes 7 hours to travel from A to B via midpoint C, but 8 hours to go from A to C and then from C to A. How long will it take to travel from C to A?
1. 7 hr
2. 9 hr
3. 15 hr
4. 12 hr
5. 8.5 hr

Q:5 A boat covers 36 km in upstream in 2 hours and 66 km in downstream in 3 hours. Find the speed of the boat in still water.
1. 21 km/h
2. 19 km/h
3. 20.5 km/h
4. 20 km/h
5. 19.5 km/h

Q:6 If the time taken by a boat to travel 180 km upstream and 80 km downstream is 5 hours, then find the time taken by the boat to cover 126 km upstream and 56 km downstream.
1. 4 hours
2. 3.5 hours
3. 2 hours
4. 3 hours
5. Can't determined

Q:7 A boat travels 32 km less in upstream than in downstream in 4 hours. If the speed of the Boat in still water is 15 kmph then find the distance travelled by boat in downstream in 5 hours?
1. 85 km
2. 92 km
3. 95 km
4. 55 km
5. 115 km

Q:8 A boat goes upstream from point A to B and comes back in 9 hours and 27 minutes. If the speed of the stream increases by 2km/h, then this journey will take 15 hours and 45 minutes. Find the speed of the boat in still water, given that the distance between A and B is 27km.
1. 4 km/h
2. 10 km/h
3. 14 km/h
4. 7 km/h
5. 9 km/h

Q:9 The upstream speed and downstream speed of a boat are 10 km/h and 14 km/h respectively. The boat travelled for T hours upstream and 6 hours downstream. If the distance travelled downstream is 44 km more than the distance travelled upstream, then find the value of 'T'.
1. 8
2. 3
3. 4
4. 6
5. 5

Q:10 A boat was traveling in the river and Hitesh's cap falls from the boat which he did not notice. He then

1

decided to cover a distance of 20 km from some point marking it as the starting. After reaching the distance suddenly Hitesh finds that he has lost his cap somewhere. He then turned back and returned to its starting point, having travelled a total of 9 hours. On the returning trip, at a distance of 8 km from the starting point, he found his cap which has passed the starting point at the moment at which the boat had started downstream. What was the downstream speed of the boat?

1. 9.86 km/hr

2. 8.34 km/hr

3. 7.62 km/hr

4. 4.28 km/hr

5. 6.48 km/hr
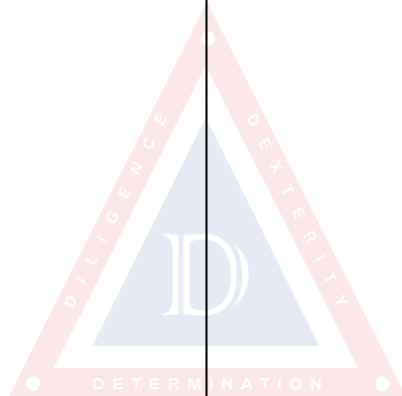
Answer Key

1. (1)	2. (4)	3. (1)	4. (2)	5. (4)
6. (2)	7. (3)	8. (4)	9. (3)	10. (3)

Answers and Solutions

Q:1 The correct answer is **option1** i.e **45 minutes.**
Speed of the boat downstream = $24/48 \times 60 = 30$ km/h
Let the speed of boat in still water = $7x$ km/h
Speed of stream = $3x$ km/h
Speed of boat downstream = '$7x + 3x$' km/h
$30 = 10x$
$x = 3$
Speed of boat in still water = 21 km/h
Speed of stream = 9 km/h
Speed of the boat upstream = $21 - 9 = 12$ km/h
Time taken by boat to cover the distance of 9 km upstream = $9/12 \times 60 = 45$ minutes

Q:2 The correct answer is **option 4** i.e. **1.6 hours.**
Suppose speed of ship in still water = 'x'
According to the question:
$\Rightarrow 45/(x - 5) = 3$
$\Rightarrow 15 = x - 5$
$\Rightarrow x = 20$ km/h
Now,
Time taken by the ship to cover 36 km downstream in another river whose stream speed is 2.5 km/h
$= 36/(20 + 2.5)$
$= 36/22.5$
$= 1.6$ hours

Q:3 The correct answer is **option 1** i.e. **3 km/h, 1.5 km/h.**
We know that,
Speed = Distance/Time
Distance = 9 km
Time to travel Downstream = 2 hrs
Time to Upstream = 6 hrs
So, the Speed of the boat upstream = $9/2 = 4.5$ km/h
Speed of the boat downstream = $9/6 = 1.5$ km/h
Speed of the boat in still water = $(4.5 + 1.5)/2 = 6/2 = 3$ km/h
Speed of the stream = $(4.5 - 1.5)/2 = 3/2 = 1.5$ km/h

Q:4 The correct answer is **Option 2** i.e. **9 hr**
speed =(distance/time)
Let the distance between A and C is d.
so, the distance between A and B is 2d.
Let the speed while moving from A to B is a km/hr
and the speed while moving from B to A is b km/hr
then, $(2d/a) = 7$
$\Rightarrow d/a = 3.5$
it takes 8 hours to go from A to C and then return from C to A.
$\Rightarrow (d/a) + (d/b) = 8$
$\Rightarrow (d/b) = 8 - 3.5 = 4.5$
time taken to move from C to A = $(2d/b) = 2 \times 4.5 = 9$ hr

Q:5 The correct answer is **option 4** i.e. **20 km/h.**
Upstream speed of boat = 18 km/hr
Downstream speed of boat = 22 km/hr
Speed of boat in still water= $(18+22)/2 = 20$ km/h

Q:6 The correct answer is **option2** i.e **3.5 hours.**
Let, upstream speed and downstream speed be 'x' km/h and 'y' km/h respectively.
So, $180/x + 80/y = 5$
Multiply both sides by 7/10
$180/x \times 7/10 + 80/y \times 7/10 = 5 \times 7/10$
$126/x + 56/y = 3.5$
Required time taken = 3.5 hours

Q:7 The correct answrer is **Option 3** i.e. **95 km**
Downstream speed = D and Upstream speed = U
Since boat travels 32 km less in upstream than in downstream in 4 hours:
D - U = $32/4 = 8$
Hence,
Speed of current = (D - U)/2 = 8/2 = 4 kmph
Given: speed of the Boat in still water is 15 kmph.
So, Downstream speed (D) = 15 + 4 = 19 kmph
Hence, distance travelled by boat in downstream in 5 hours = $19 \times 5 = 95$ km

Q:8 The correct answer is **Option 4** i.e. **7 km/h**.
Let the speed of the boat while going upstream be y and while coming downstream z.
$(27 \div y) + (27 \div z) = 9.45$ hours

When the speed of stream increases,

$[27 ÷ (y - 2)] + [27 ÷ (z + 2)] = 15.75$ hours

On solving these two equations we get the values of y and z as,

y = 4 km/h

z = 10 km/h

Speed of boat in still water = $(4 + 10) ÷ 2 = 7$ km/h

Q:9 The correct answer is **option 3** i.e. **4.**

Downstream speed(D) = Speed of boat in still water(a) + speed of flow(b)

Upstream speed(U) = Speed of boat in still water(a) - speed of flow(b)

⇒ D = 14 km/h and, U = 10 km/h

⇒ a = 12 and, b = 2

Distance = speed × time

Upstream distance = 10 × T = 10T

Downstream distance = 14 × 6 = 84

So, ⇒ 84 - 10T = 44

⇒ T = 4

Q:10 The correct answer is **Option 3** i.e. **7.62km/hr.**

Let the speed of boat in in still water be x km/hr and the speed of stream be y km/hr.

Speed of boat in upstream = (speed of boat in still water - speed of the stream)

Speed of boat in downstream = (speed of boat in still water + speed of the stream)

Acc. to the question-

$[20/(x + y)] + [12/(x - y)] = 8/y$

$(20/x + 1) + (12/x - 1) = 8$

$32x - 8 = 8x^2 - 8$

x = 4

By putting value of x in above equation we get the value of y i.e. y = 1

Now speed of boat in still water = 4b

Speed of stream = b

According to the question,

$(20/x + y) + (20/x - y) = 9$

$(20/4b + b) + (20/4b - b) = 7$

$(20/5b) + (20/3b) = 7$

$(160/15b) = 7$

b = 32/21

We have to find the speed in downstream.

Thus,

Speed of boat in downstream = 4b + b

= 4(32/21) + (32/21)

= 5(32/21)

= (160/21)

= 7.62km/hr