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DI Line Chart Questions for IBPS RRB Office Asst. Mains Exams.

DI Line Chart No 53

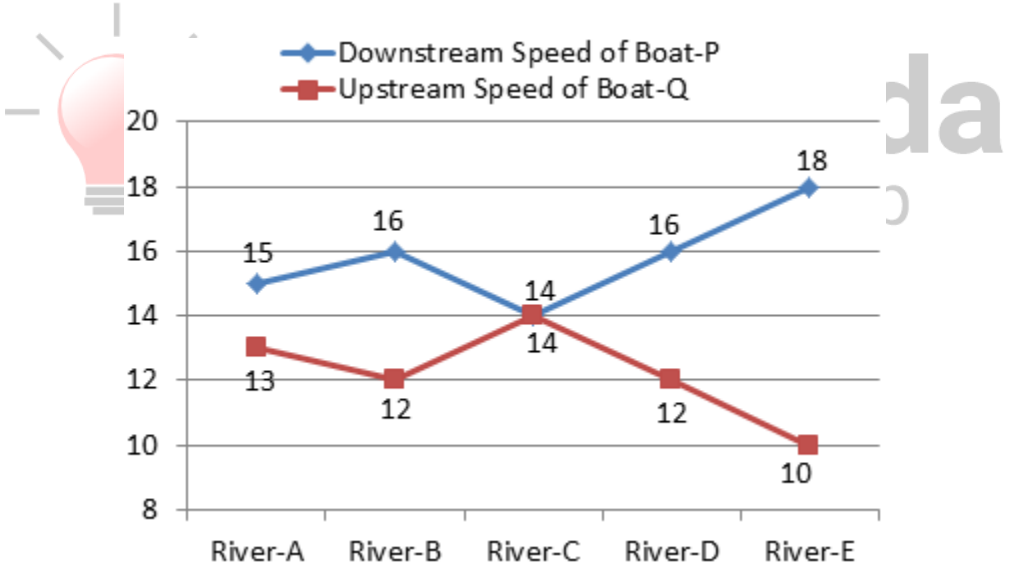
Directions : Study the following line chart carefully and answer the questions given beside.

The following line chart shows information about the motion of two boats namely P and Q in five rivers namely A, B, C, D and E.

The still water speed of Boat P and that of Boat Q remains same in each river.

The chart shows upstream speed of boat-Q and downstream speed of boat-P.

(All speeds are in kmph)



1. The stream speed of river-E is 50% more than the stream speed of river-B. Find the still water speed of boat Q.

A. 7 kmph B. 12 kmph C. 13 kmph D. 16 kmph E. Can't be determined

2. Ratio of still water speed of boat-P to Q is 3 : 4. Find the difference between the still water speed of boat P and Q.

A. 1 kmph B. 2 kmph C. 3 kmph D. 4 kmph E. 6 kmph

3. **Ratio of stream speed of river A to D is 3 : 4. Find the ratio of upstream speed to downstream speed of boat P in river C.**

A. 4 : 7 B. 5 : 7 C. 3 : 8 D. 5 : 8 E. 7 : 10

4. **Average of the upstream speeds of boat P in river A, B and C is 9 kmph. Find what distance the boat P will cover upstream in river C in 45 minutes.**

A. 6 km B. 7.5 km C. 8 km D. 10 km E. 12 km

5. **Stream speed of which two rivers is same?**

A. River-A and C B. River-B and C C. River-B and D
D. River-D and E E. Can't be determined

Correct Answers:

1	2	3	4	5
D	D	B	B	C

Common Explanation:

Let the still water speed of boat-P is ‘p’ kmph and that of the stream speed of river A be ‘a’ kmph.

From the downstream speed of boat-P in river A, we have p + a = 15 ----------(i)

Now, downstream speed of the boat increases 15 to 16 kmph in river B, means stream speed of river B is 1 kmph more than the stream speed of river A,
therefore

Stream speed of river A = a kmph

Stream speed of river B = (a + 1) kmph

Similarly,

Stream speed of river C = (a – 1) kmph

Stream speed of river D = (a + 1) kmph

Stream speed of river E = (a + 3) kmph

Let the still water speed of boat Q is ‘q’ kmph, then

Upstream speed of boat Q in river A = (q – a) = 13 kmph -------(ii)

From (i) and (ii), we have

(p + a) + (q – a) = 15 +13 = 28 → q = (28 – p)

The still water speed of boat Q is (28 – p) kmph.

1. From common explanation, we have

$\frac{[a + 3 – (a + 1)]}{(a + 1)} \times 100 = 50 \rightarrow a = 3$

From line chart, we have

Still water speed of Boat-Q – Stream speed of river-A = 13 kmph

Still water speed of Boat-Q – 3 = 13 kmph

Still water speed of Boat-Q = 16 kmph

Hence, option D is correct.

2. From common explanation, we have

p + q = 28. From information in the question, let p = 3n and q = 4n, then

3n + 4n = 28 → n = 4

Still water speed of P and Q is 12 kmph and 16 kmph respectively.

Difference = 16 – 12 = 4 kmph

Hence, option D is correct.

3. From common explanation, we have

a : (a + 1) = 3 : 4 → a = 3 kmph

Stream speed of river C = a – 1 = 3 – 1 = 2 kmph

Downstream speed of boat P in river C = 14 kmph (given)

Still water speed of boat P = 14 – 2 = 12 kmph

Upstream speed of boat P in river C = 12 – 2 = 10 kmph

Ratio = 10 : 14 = 5 : 7

Hence, option B is correct.

4. From common explanation, we have

Upstream speed of boat P in river A = downstream speed – 2 (stream speed) = 15 – 2a

Similarly, in river B = 16 – 2 (a+1) and in river C = 14 – 2 (a – 1)

Now, we have

$$\frac{[15 - 2a + 16 - 2(a + 1) + 14 - 2(a - 1)]}{3} = 9 \rightarrow a = 3$$

Speed of boat upstream in river C = 14 – 2 × (3 – 1) = 10 kmph

$$\text{Distance} = 10 \times \frac{45}{60} = 7.5 \text{ km}$$

Hence, option B is correct.

5. From common explanation, we see that

the stream speed of river B and D is a + 1 kmph and therefore are equal.

Hence, option C is correct.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