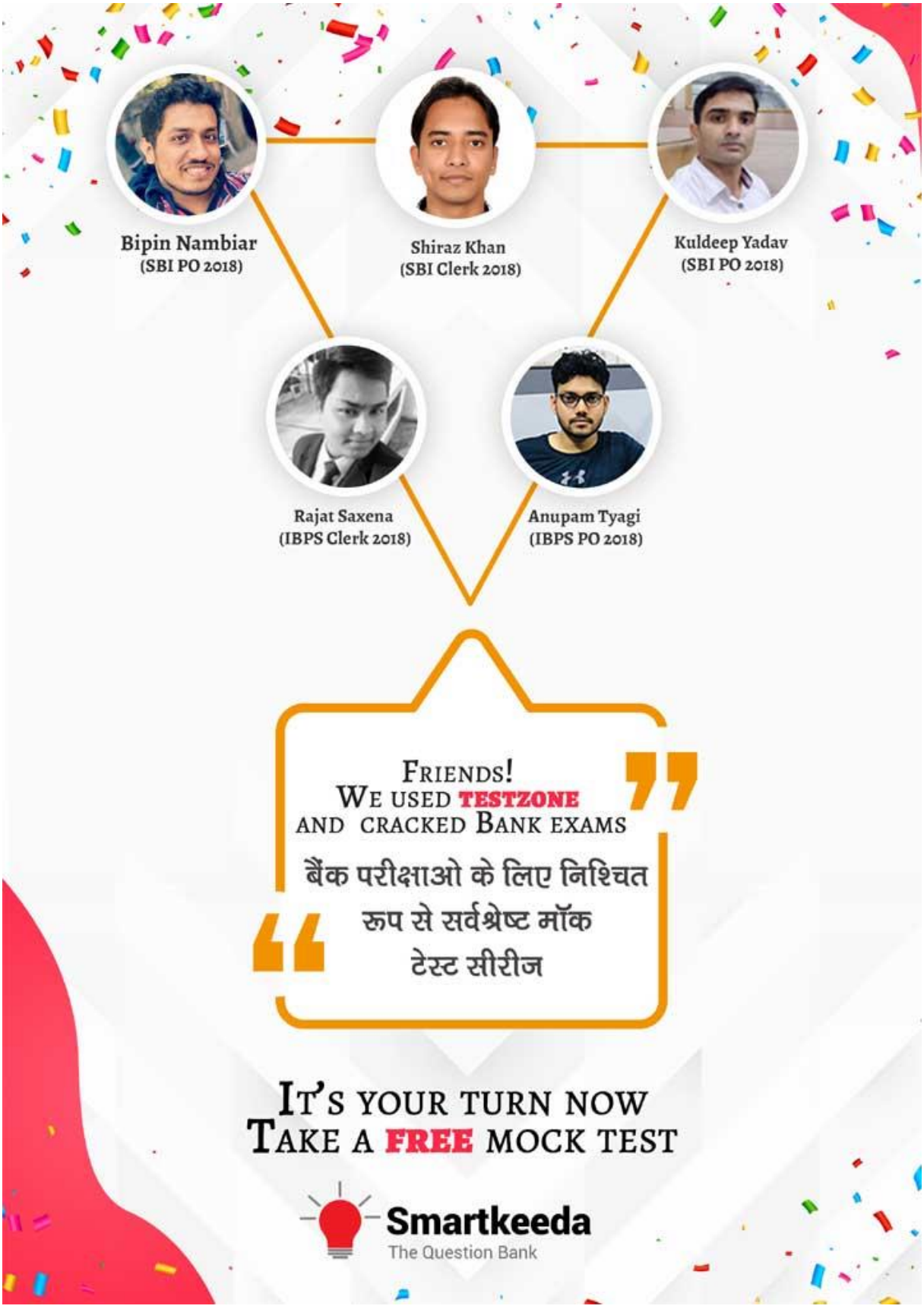
Bipin Nambiar
(SBI PO 2018)
Shiraz Khan
(SBI Clerk 2018)
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Rajat Saxena
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The Question Bank

DI Info Chart Questions for SBI Clerk Pre, IBPS Clerk Pre, LIC Assistant Pre and RRB Assistant Pre Exams.

DI Info Chart No 40

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

Fishes are one of the very few aquatic creatures that can easily swim against the flow of the current of a river. The Dolphin is a fish that swims in the waters of Brahmaputra River. Speed of Dolphin in still water is 80 km/h. However, it takes thrice the time to travel upstream than it takes to travel downstream.

1. Find the speed of Dolphin when it is travelling upstream.

A. 80 km/h B. 40 km/h C. 60 km/h D. 50 km/h E. None of these

2. Find the ratio of speed of Dolphin downstream to its speed in still water.

A. 2 : 3 B. 1 : 3 C. 3 : 2 D. 3 : 1 E. None of these

3. Find the time taken by Dolphin to travel 8km upstream?

A. 20 minutes B. 12 minutes C. 32 minutes D. 14 minutes E. 18 minutes

4. Find the time taken by Dolphin to travel 40km downstream ?

A. 20 minutes B. 12 minutes C. 32 minutes D. 14 minutes E. 18 minutes

5. Find the ratio of downstream speed to upstream speed of Dolphin.

A. 2 : 3 B. 1 : 3 C. 3 : 2 D. 3 : 1 E. None of these

Correct Answers:

1	2	3	4	5
B	C	B	A	D

Explanations :

1. Let the speed of river be x
Speed of Dolphin upstream = 80 – x
Speed of Dolphin downstream = 80 + x
Let the distance travelled be Y
Then,

$$\Rightarrow \frac{3Y}{80+x} = \frac{Y}{80-x}$$

$$\Rightarrow \frac{3}{80+x} = \frac{1}{80-x}$$

$\Rightarrow 80 + x = 3(80 - x)$
$\Rightarrow 80 + x = 240 - 3x$
$\Rightarrow 4x = 160$
$\Rightarrow x = 40$
$\therefore$ Speed of Dolphin upstream = 80 – 40 = 40 km/h

Hence, option B is correct.

2. Speed of Dolphin upstream = 80 – x
Speed of Dolphin downstream = 80 + x
Let the distance travelled be Y
Then,

$$\Rightarrow \frac{3Y}{80+x} = \frac{Y}{80-x}$$

$$\Rightarrow \frac{3}{80+x} = \frac{1}{80-x}$$

$\Rightarrow 80 + x = 3(80 - x)$
$\Rightarrow 80 + x = 240 - 3x$
$\Rightarrow 4x = 160$
$\Rightarrow x = 40$
$\therefore$ Speed of Dolphin downstream = 80 + 40 = 120 km/h
$\therefore$ Ratio of speed downstream to speed in still water = 120 : 80 = 3 : 2

Hence, option C is correct.

3. Let the speed of river be x

Speed of Dolphin upstream = 80 – x

Speed of Dolphin downstream = 80 + x

Let the distance travelled be Y

Then,

$$\Rightarrow \frac{3Y}{80+x} = \frac{Y}{80-x}$$

$$\Rightarrow \frac{3}{80+x} = \frac{1}{80-x}$$

$\Rightarrow 80 + x = 3(80 - x)$

$\Rightarrow 80 + x = 240 - 3x$

$\Rightarrow 4x = 160$

$\Rightarrow x = 40$

$\therefore$ Speed of Dolphin upstream = 80 – 40 = 40 km/h

$\therefore$ Time to travel 8km upstream = $\frac{8}{40} = \frac{1}{5}$ hours = 12 minutes

Hence, option B is correct.

4. Let the speed of river be x

Speed of Dolphin upstream = 80 – x

Speed of Dolphin downstream = 80 + x

Let the distance travelled be Y

Then,

$$\Rightarrow \frac{3Y}{80+x} = \frac{Y}{80-x}$$

$$\Rightarrow \frac{3}{80+x} = \frac{1}{80-x}$$

$\Rightarrow 80 + x = 3(80 - x)$

$\Rightarrow 80 + x = 240 - 3x$

$\Rightarrow 4x = 160$

$\Rightarrow x = 40$

$\therefore$ Downstream Speed of Dolphin = 80 + 40 = 120 km/h

$\therefore$ Time to travel 40km downstream = $\frac{40}{120} = \frac{1}{3}$ hours = 20 minutes

Hence, option A is correct.

5. Let the speed of river be x

Speed of Dolphin upstream = 80 – x

Speed of Dolphin downstream = 80 + x

Let the distance travelled be Y

Then,

$$\Rightarrow \frac{3Y}{80+x} = \frac{Y}{80-x}$$

$$\Rightarrow \frac{3}{80+x} = \frac{1}{80-x}$$

⇒ 80 + x = 3(80 – x)

⇒ 80 + x = 240 – 3x

⇒ 4x = 160

⇒ x = 40

∴ Downstream speed of Dolphin = 80 + 40 = 120 km/h

And upstream speed of Dolphin = 80 – 40 = 40 km/h

∴ Required ratio = 120 : 40 = 3 : 1

Hence, option D is correct.