

GATE PYQs

Boats & Streams



$$\frac{2}{2x-y} = 2x \frac{2}{2+y}$$

$$3) 3(4y = 3(2-y))$$

$$3 + y = 3 \times 8 - 3y$$

$$8 + y = 3 \times 8^{-3}y$$
 $\Rightarrow 8 + y = 24 - 8 \Rightarrow y = \frac{16}{4} \Rightarrow y = \frac{4}{4} \Rightarrow$



Aptitude

GATE2014 EC-3: GA-8

A man can row at 8 km per hour in still water. If it takes him thrice as long to row upstream, as to row downstream, then find the stream velocity in km per hour.

Speed of man $(m) = 8 \ km/h$ Let the speed of stream be s

According to the question:

Speed of man upstream $=S_1=m-s$ Speed of man downstream $=S_2=m+s$

Speed = Distance/Time Here, since the distance D is same,

$$D = S_1 imes T_1 = S_2 imes T_2$$

$$S_1 imes T_1 = S_2 imes T_2$$

$$\implies rac{S_1}{S_2} = rac{T_2}{T_1} = 1/3$$

$$m+s=3(m-s)$$

or,
$$8 + s = 3(8 - s)$$

$$\implies s = 4 \ km/h$$

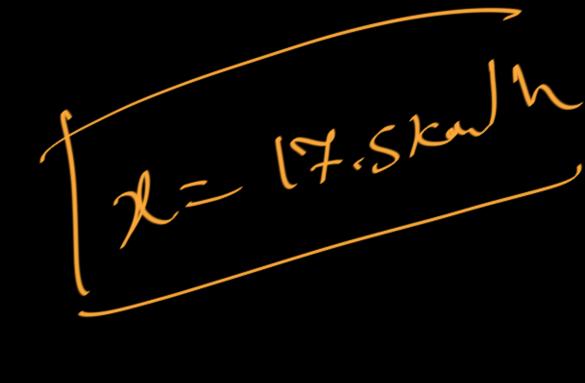
NIELIT 2022 April Scientist B

A man rows downstream at $20~{
m km/hr}$ and rows upstream at $15~{
m km/hr}$. At what speed he can row in still water?

- 17.5 km/hr
 - B. 18 km/hr
 - C. 20.5 km/hr
 - D. 22 km/hr

Speed on still nature of low/h Speed of stream = y low/h Sd = 20 km/h, Su = 15 km/h





$$=32 = 17.5 \text{ for th}$$

Aptitude

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A. 17.5 km/hr

B. 18 km/hr

C. 20.5 km/hr

D. 22 km/hr

Let us assume,

The speed of the of the boat =B km/hr

The speed of the stream=S km/hr

A man rows downstream at 20 km/hr.

so ,B+S=20-----(1

The man rows upstream at 15km/hr.

so , B-S=15(2)

here they have asked the speed of the boat at still water .

Adding (1)+(2) we get,

2B=35

=>B=17.5 km/hr

So correct answer is (A).



