

- The swimmer's speed in still water is 20 m/s, while the river current flows eastward at 10 m/s. If the swimmer is on the southern bank and intends to cross the river, along the shortest path the angle at which he should make his strokes w.r.t. north is given by
[NEET (National) 2019]
(a) 0° (b) 60° west (c) 45° west (d) 30° west
- A person swims in a river aiming to reach exactly opposite point on the bank of a river. His speed of swimming is 0.5 m/s at an angle 120° with the direction of flow of water. The speed of water in stream is [CBSE AIPMT 1999]
(a) 1.0 m/s (b) 0.5 m/s (c) 0.25 m/s (d) 0.43 m/s
- The speed of a boat is 5 km/h in still water. It crosses a river of width 1.0 km along the shortest possible path in 15 min. The velocity of the river water is (in km/h)
[CBSE AIPMT 1998]
(a) 5 (b) 1 (c) 3 (d) 4
- A boat is sent across a river with a velocity of 8 km/h. If the resultant velocity of boat is 10 km/h, then velocity of river is [CBSE AIPMT 1993]
(a) 12.8 km/h (b) 6 km/h (c) 8 km/h (d) 10 km/h
- A river is flowing from west to east at a speed of 5 m/min. A man on the south bank of a river, capable of swimming at 10 m/min in still water, wants to swim across the river in minimum time. In what direction should he swim and by how much will he deviated from a point perpendicularly opposite other bank. Given width of river is 50 m
(a) Due north, 25 m
(b) At an angle 30° west of north, 25 m
(c) at an angle 30° , east of north, $25\sqrt{3}$ m
(d) Due north, $25\sqrt{3}$ m
- A man can row a boat 4 km/hr in still water. If he is crossing a river where the current is 2 km/hr.
(a) To what direction will his boat be headed if he wants to reach a point on the other bank, directly opposite to starting point?
(b) If width of the river is 4 km how long will it take him to cross the river, with the condition in part(a)
(c) In what direction should he head the boat if he wants to cross the river in shortest time? (d) How long will it take him to row 2 kms up the stream and then back to his starting point?
- A man can swim with a speed of 4 km/hr in still water. How long does he take to cross a river 1 km wide. If the river flows steadily at 3 km/hr and he makes his strokes normal to the river current? How far down the river does he go when reaches the other bank?
- A river 500 m wide is flowing with a current of 4kph. A boat starts from one bank of the river in an attempt to cross the river at right angle to stream direction. Boatman can row the boat at 8 kph. In which direction he should row the boat? What time will he take to cross the river ?
- A steamer going downstream overcome a raft at a point P. One hour later it turned back and after some time passed the raft at a distance 6 km from the point P. Find the speed of river if speed of river relative to ground remains constant.
- A river 400 m wide is flowing at a rate of 2.0 m/s. A boat is sailing at a velocity of 10.0 m/s with respect to the water, in a direction perpendicular to the river. (a) Find the time taken by the boat to reach the opposite bank. (b) How far from the point directly opposite to the starting point does the boat reach on the opposite bank ?