GATE

Crash Course 2025

Aptitude

Boats Streams & Pipes Cistern

Q1 A person can row 10 km in 1 hour in still water. If the speed of the water current is 2 kmph and it takes two hours for him to go to a certain place and back. Find the distance he travelled in upstream?

(A) $9\frac{1}{2}$km (B) 9.6 km
(C) 48 km (D) 5 km

Q2 A boat can travel 10 kmph in still water. It travelled 91 km downstream and then returned, taking altogether 20 hours. Find speed of the stream?

(A) 4 kmph (B) 5 kmph
(C) 8 kmph (D) 3 kmph

Q3 In a 1 km race, A beats B by 100 m and C by 150 m. In a 2700 m race, by how many meters does B beat C?

(A) 150 m (B) 120 m
(C) 100 m (D) 180 m

Q4 A man can row 6 km/hr in still water. If the speed of stream is 2km/hr, it takes him 3 hours to row to a place and back. How far is the place?

(A) 16 km (B) 10 km
(C) 12 km (D) 8 km

Q5 Two persons start running simultaneously around a circular track of length 300 m from the same point at speeds 15 km/hr and 25 km/hr. When will they meet first time on the track, when move in opposite direction?

(A) 21 sec (B) 22 sec
(C) 24 sec (D) 27 sec

Q6 Three pipes A, B and C can fill a tank in 20 minutes, 30 minutes and 45 minutes respectively. A is opened for 5 minutes and closed. B is opened for 6 minutes and then closed. In how many minutes the remaining part will be filled by C?

(A) $21\frac{3}{4}$minutes (B) $20\frac{2}{3}$minutes
(C) $24\frac{3}{4}$minutes (D) $14\frac{3}{5}$minutes

Q7 Three pipes A, Band C can fill a tank in 30 min, 40 min and 60 min respectively. A and B work in alternative minutes, A beginning the work whereas C works continuously. In how many minutes will the tank be filled?

(A) 16.4 (B) 21.8
(C) 18.2 (D) 19.6

Q8 A tank has a leak, which would empty it in 8 hrs. A tap is turned on which admits 6 litres of water a minute into the tank, and it is now emptied in 12 hrs. How many litres does the tank hold?

(A) 8640 (B) 8460
(C) 8064 (D) 8406

Q9 Two pipes A and B can separately fill a cistern in 60 and 75 minutes respectively. There is a third pipe at the bottom of the cistern to empty it. If all the three pipes are simultaneously opened, then the cistern is full in 50 minutes. In how much time can third pipe alone empty the cistern?

(A) 110 minutes (B) 120 minutes
(C) 100 minutes (D) 90 minutes

Q10 One fill pipe A is 2 times faster the second fill pipe B. If A can fill a cistern in 9 minutes, then find the time when the cistern will be full if both fill pipes are opened together.

(A) 9 minutes (B) 3 minutes
(C) 11 minutes (D) 6 minutes

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Answer Key

Q1	(B)	Q6	(C)
Q2	(D)	Q7	(B)
Q3	(A)	Q8	(A)
Q4	(D)	Q9	(C)
Q5	(D)	Q10	(D)

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Hints & Solutions

Q1 Text Solution:
(B)

Q2 Text Solution:
(D)

Q3 Text Solution:
(A)

Q4 Text Solution:
(D)

Q5 Text Solution:
(D)

Q6 Text Solution:
(C)

Q7 Text Solution:
(B)

Q8 Text Solution:
(A)

Q9 Text Solution:
(C)

Q10 Text Solution:
(D)