

Pipes And Cistern Questions Overview

Pipes And Cistern Questions have a good weightage in the Banking Exam and the type of question asked in Banking exam is similar to the question mentioned below. It has been solved and explained by Gargi.ai Experts and they have tried to elaborate the concept used in Pipes And Cistern Questions.

Question

Three taps A, B and C together can fill an empty tank in 4 hours. A, B and C are opened simultaneously. After 1 hour, C is closed and the tank is filled in 6 more hours. Find the time in which C alone can fill the tank.

Difficulty : Moderate

Average Time : 37 Seconds

Options :

1. 6 hours
2. 8 hours
3. 9 hours
4. 10 hours
5. 12 hours



Solution

The correct answer is **Option 2** i.e. **8 hours**

Concept	Understanding	Application/Fair Calculation
---------	---------------	------------------------------

<p>Pipes and Cisterns</p>	<p>If a pipe can fill a tank in 'x' hours, then the part of tank which can be filled in 1 hour = $(1/x)$</p>	<p>Work done by A, B and C in 1 hour = $(1/4)$th</p> <p>Remaining part of the tank = $1 - (1/4) = (3/4)$</p> <p>Time taken by A and B to fill this $(3/4)$th part of the tank = 6 hours</p> <p>A and B together fill the tank in $6/(3/4) = 8$ hours</p> <p>Now we know A, B and C take 4 hours and A and B take 8 hours.</p> <p>Part of the tank filled by C in 1 hour = $(1/4) - (1/8) = (2 - 1)/8 = (1/8)$</p> <p>So, C alone can fill the tank in 8 hours</p>
---------------------------	---	--