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

A cistern can be filled by two supply pipes P and Q in 20 mins and x mins respectively. If pipe P is working with 2/3rd of its efficiency and pipe Q is working with half of its efficiency then the cistern gets full in 20 mins, find the value of x.

Difficulty : Moderate

Average Time : 39 Seconds

Options :
1. 30
2. 32
3. 40
4. 25
5. 24

Solution

The correct answer is **option 1** i.e. **30.**

Suppose the capacity of cistern = 20 x (LCM of 20 and x)

So,

Efficiency of P = 20x/20 = x

Efficiency of Q = 20x/x = 20

Given: If pipe P is working with 2/3rd of its efficiency and pipe Q is working with half of its efficiency then the cistern gets full in 20 mins.

So,

(2x/3 + 20/2) × 20 = 20x

$40x/3 + 200 = 20x$

$20x/3 = 200$

x = **30**