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

Two pipes can fill a cistern in 12 hours and 15 hours respectively. The pipes are opened simultaneously and it is found that due to a leakage, it took 20 minutes more to fill the tank. In how much time will the leakage, empty the full tank?

Difficulty : Moderate

Average Time : 38 Seconds

Options :
1. 115 hours
2. 145 hours
3. 130 hours
4. 155 hours
5. 140 hours

Solution

The correct answer is **Option 5** i.e. **140 hours.**

If a pipe can fill a tank in p hours, then the part filled in 1 hour = (1/p)

Work done by the two pipes in 1-hour = (1/12) + (1/15) = (27/180)

Time taken by these pipes to fill the tank = 180/27 = 6 hour 40 min

Due to leakage, the time taken = 6 hour 40 min + 20 min = 7 hours

Work done by (two pipes + leakage) in 1 hour = 1/7

Work done by leakage in 1 hour = (27/180 - 1/7) = (9/1260)

Leakage will empty the full tank in (1260/9) = 140 hours