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 can fill a tank in 6, 8, and 10 hours respectively. If A is open all the time and B and C are open for one hour each alternatively, the tank will be full in :

Difficulty : Moderate   **Average Time : 36 Seconds**

Options :

1. approximately 4hr 30 min

2. approximately 5 hr

3. approximately 3hr

4. approximately 3 hr 34min

5. approximately 3hr 50 min

Solution

The correct answer is **Option 4** i.e. **approximately 3 hr 34min**

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

(A + B)'s 1-hour work = (1/6 + 1/8)= (7/24)

(A + C)'s 1-hour work = (1/6 + 1/10) = (8/30)

part filled in 2-hour = (7/24 + 8/30) = (67/120)

remaining part = 1 - (67/120) = (53/120)

(A + B)'s 1-hour work = (7/24) = (35/120)

Remaining part = (53-35)/120 = 18/120

(A + C) can do (8/30) work in 1-hour.

(A + C) can do (18/120) in {(30/8) × (18/120)}

= 33.75 min

Total time = 2 hr + 1hr + 33.75 min = 3 hr 33.75 min

= **Approximately 3 hr 34 min**