CAT Time & Work — Tough Practice Questions (Questions Only)

Covers six subtopics: (A) Core Work–Efficiency, (B) Fractional Completion, (C) Group & Ratios, (D) Pipes & Cisterns, (E) Work & Wages, (F) Advanced Variation.

A. Core Work–Efficiency (LCM/Direct Mix)

Q1. A alone can finish a job in 12 days and B alone in 18 days. They start together; after some time A leaves and B works alone for 5 days. If the work finishes in 11 days, for how many days did they work together? (Toughness: set up with LCM and unknown split)

Q2. A, B, C can complete a work in 12, 15, and 20 days respectively. After completing 3/5 of the work together, C leaves. A works at double efficiency on alternate days starting Day 1. The work finishes on the 9th day. On which days did C work?

Q3. A can finish a job in 10 days. If A and B work together, they finish in 6 days. If B and C work together, they finish in 7.5 days, and if A and C work together, they finish in 5 days. In how many days will A, B, C together complete the job if C works at only 80% of the earlier efficiency?

Q4. A and B together can do a piece of work in 8 days. A is 60% as efficient as B. After working together for x days, A leaves and B finishes the rest in 5 more days. Find x. (Hard ratio-efficiency inference)

Q5. A can do a work in 9 days and B in 12 days. They work together for t days; then B's efficiency drops by 25% due to fatigue while A's increases by 20%. The remaining work is finished in 4 more days. If total time is 10 days, find t.

B. Fractional Completion & Joins/Leaves

Q6. A starts a work and works alone for 4 days. Then B joins and together they complete the remaining work in 6 days. If A alone would take 15 days less than B alone to finish the entire work, in how many days can A alone finish the work?

Q7. A and B together can complete a work in 12 days. After they work together for 3 days, B leaves and A completes 1/3 of the remaining work alone. Then C joins A and they finish the rest in 4 days. If C alone takes 18 days to complete the full work, how many days would A alone take?

Q8. A, B start a work together. After 2 days, C joins. After another 3 days, B leaves. The entire work is completed in 12 days. If A alone would take 20 days and C alone 24 days, find in how many days B alone would finish the work.

Q9. A works alone for x days and then B works alone for y days; together they complete the job. If A alone would take 30 days, B alone 45 days, and x + y = 25, find (x, y) given that A's share of the work is 3/5 of the total.

Q10. A and B can finish a work in 16 and 24 days respectively. They start together; after k days A leaves and B finishes the rest in 10 more days. Find integer k if the total number of days is minimal.

C. Group Work & Ratio-Based Problems

Q11. A, B, and C together finish a job in 8 days. Working alone, A takes 20% less time than B, and B takes 25% less time than C. In how many days can the fastest two together finish 60% of the job?

Q12. A and B can complete a piece of work in 10 days. They work in the ratio of their efficiencies 5:4. If A works alone for 2 days, then they work together for some days, and finally B works alone for the last 2 days to finish the job, find the total number of days taken.

Q13. A, B, C have efficiencies in the ratio 3:4:6. Working together they complete a certain work in 6 days. If B and C together work for 2 days and then A joins with an efficiency that increases by 50% after every 2 days of work, when will the work be finished?

Q14. A, B, C can finish a work in 12, 16, and 24 days respectively. They work together for 3 days; then C leaves. After 2 more days, A's efficiency drops by 1/3 and B's increases by 1/4. How many total days are required to complete the work?

Q15. A, B, C, D together finish a work in 6 days. If A and B together are twice as efficient as C and D together, and A alone takes 18 days, while D alone takes 36 days, find the number of days B and C would take individually to finish the job.

D. Pipes & Cisterns (Inlets/Outlets)

Q16. Pipe A fills a cistern in 12 hours, Pipe B in 18 hours, and a leak L can empty the filled cistern in 24 hours. If A and B are opened together with L from the start, the tank is full; but if L is opened after 3 hours, the tank is full 2 hours earlier. After how many hours is the tank full in the second case?

Q17. Two inlet pipes A and B can fill a tank in 10 hours and 15 hours respectively, while outlet pipe C can empty it in 12 hours. A and B are opened together; after some time C is also opened. If the tank gets filled in 9 hours, after how many hours from the start was C opened?

Q18. A tank has two inlets, one fills 1/6 per hour and the other 1/8 per hour. An outlet empties 1/12 per hour but is opened only after half the tank is filled. In how many hours will the tank be full?

Q19. Pipe A and B fill a tank in 9 and 18 hours; Pipe C empties it in 27 hours. All three are opened simultaneously. After t hours, C is closed and the tank is filled 3 hours later. Find t.

Q20. Three pipes A, B, and C fill a tank in 12, 15, and 20 hours respectively. After some time A is closed; B and C continue. If the total time is 9 hours and A worked twice as long as C, find for how many hours each pipe worked.

E. Work & Wages (Shares & Proportions)

Q21. A, B, and C are paid in proportion to the work done. They finish a job together in 10 days. A works throughout; B joins on Day 3; C joins on Day 6. If A:B:C = 3:2:1 in efficiency, how much of the total wage does B get?

Q22. A and B undertook a contract for Rs. 1,20,000. A alone can finish the work in 24 days, B alone in 30 days. They work together for some days; then A leaves and B finishes in 6 more days. If the wage split is proportional to work done, how much does A earn?

Q23. A, B, C contract to complete a work for Rs. 1,50,000. A works for the first 4 days, B works for the last 5 days, and C works throughout. If A alone would take 20 days, B 25 days, and C 30 days, find each person's share.

Q24. Two teams T1 and T2 undertake a project. T1 has 3 workers each with efficiency 1 unit/day; T2 has 2 workers with efficiency 1.5 units/day each. If the project is 60 units, T1 works alone for 5 days, then both teams work together until completion. If the total payout is Rs. 2,40,000 split proportionally, what is T2's share?

Q25. A and B take a job for Rs. 90,000. A is 20% more efficient than B. After working together for 6 days, A leaves and B finishes in 5 more days. If the whole job would have taken A alone 15 days, how much does B receive?

F. Advanced Efficiency Variation / Alternation

Q26. A works alone for 2 days, then B works alone for 1 day, and this pattern repeats. A alone would take 12 days to finish the work and B alone would take 18 days. In how many days will the work be finished under this pattern?

Q27. A's efficiency increases by 20% after every 3 days of work, starting with base rate of completing the whole work in 30 days. If A works alone with this compounding improvement (no rest days), how many days are needed to finish the work? (Answer as the least integer greater than or equal to the exact time.)

Q28. A and B alternate by days starting with A. A's efficiency is constant and would finish alone in 10 days. B starts at 60% of A's efficiency but improves by 10% (of A's efficiency) every time B works. In how many days will the work be finished?

Q29. A leak develops in a machine that undoes 1/30 of the total project per day when active. A and B together can finish the project in 8 days without the leak. If the leak is discovered and fixed after day k, and the work finishes in exactly 10 days, find k (assume leak active from Day 1).

Q30. A, B, and C start together. A works every day; B works 2 days on, 1 day off; C works only on prime-numbered days. If A, B, and C alone would take 12, 18, and 24 days respectively, on which day is the work completed? (Assume Day 1 is prime.)