TIME AND WORK ASSIGNMENT 1

1) A takes 10 days to complete a work and B takes 25 days to complete a work . In how many days can A and B together complete the work.

2) Hunny Malhotra can do a work in 10 days . After working for 4 days he was joined by Abhinav Tyagi . If they complete the remaining work in 2 more days. In how many days Abhinav alone can complete the work

3) Aashna, Risitha, Vineet can do a work in 15 days. After all three worked for 2days , Aashna left , Risitha and Vineet worked for 10 more days and then Risitha left .. Vineet worked for another 40 days and completed the work . In how many days Aashna alone complete the work If Vineet alone can complete it in 75 days.

4) Gee-k can do a piece of work in 20 days and Rishi can do the same in 30 days .. They finished the work with the help of Prateek in 8 days .. If they earned a total of 5550 rs . what is share of prateek.

5) Two painters, A and B are under contract to paint a certain wall every day. Their rate of painting is constant and never varies, even from day to day. On day 1, they notice that they can paint the wall together in 'x' minutes. The next day, A does not turn up and B works alone. B notices that he takes 5 minutes more than they had taken the previous day to paint the wall. On day 3, B does not turn up. A calculates the time he took to paint the wall alone and tells B that he had taken 40 minutes more than B had taken on day 2. What is the value of x?

6) A and B , working together can build a wall , 221 m long in 100/9 days . If they work on alternate days , with A starting the work , it takes 89/4 days to build the same wall . If A and B work together and build a similar wall but of twice the length and earn a total of Rs. 1800 for it . then B's Share of the earnings will be

7) Gopal can complete a piece of work in 6 hrs, Hemant in 3 hrs, Indu in 2 hrs, Jasdeep in 1 hr 30 minutes, Keira in 1 hr 12 minutes and Lolita in 1 hr. These 6 people make two teams, Humpy and Dumpy such that one team has twice the number of people than the other. Team Humpy takes twice the time to complete the work as compared to the team Dumpy. How many such pairs of Humpy and Dumpy are possible?

8) To complete a certain job, A, working alone, takes twice as long as B and C together take, whereas B, working alone, takes 11 times as long as A and C together take. If all the three of them together can complete the job in four days, find the time taken by B, working alone, to complete the job

9) 2 men and 4 boys can complete a piece of work in 8 days . 4 men and 2 boys can complete the same work in 6 days . How much time does a man and a boy working together require to complete the work

10))A can do a piece of work in 24 days. If B is 60% more efficient than A , then the no of days required by B to do the same piece of work?

11) A man builds 1/8th part of a wall every day . Out of the length of the wall built per day , 20% falls off at the end of the day till the wall is completely built . In how many days can he complete the construction of the wall ?

12) The ratio of efficiency of a is to c is 5:3. the ratio of number of days taken by b is to c is 2:3. a takes 6 days less than c,when a and c completes the work individually.b and c started the work and left after 2 days .the number of days taken by a to finish the remaining work is

13) A and B working alone can do a certain piece of work in 40 days and 120 days respectively . A and B start working together on that work but after having worked for 10 days, additional work came in . The additional work is such that B would take 40 days working alone to complete it . In order to cope with the additional load , C is induced and the remaining work is finished in 5 days . Find the number of days that C alone would take to complete the original work.

14) On a certain Day , Ram works at 11/7 th of his usual rate of doing work and completes a work 28 minutes earlier than the usual time required . Had Ajay worked at 7/11 th of usual rate of doing work , then the time taken by him to complete the work would have been how much more than the usual time required ?

15) Six men and fourteen women can complete a work in 5 days ,whereas two men and three women can complete one-fourth of the same work in four days . If one man and two women take up and complete the same work , earning a total wage of Rs. 11791 for the same , What is the total share of the two women in this amount.

16) A piece of work can be done by 11 men and 16 boys in 2 days . The same work can be done by 5 men and 11 boys in 4 days . In how many days can 1 man and 4 boys complete the same work .

17) A group of 15 workers take 9 hours to plough a field . If the group starts the work at 9:00 AM . and one worker per hour is then added to the group , starting from 12:00 noon , at what time will the work get completed

18) Pipe A can fill a cistern in 2 hours. Pipe B can fill the same cistern in 6 hours. On account of a leak that has developed at the bottom of the tank it takes two and a half hour for an empty tank to overflow when both the pipes are kept open. How long will the leak at the bottom take to empty the tank

19) 3 pipes can fill a reservoir in 10,15 and 20 hours respectively . If three taps are opened one after another in the given order . with a certain fixed time gap between them . The reservoir fills in 5 hours . find the time gap

20) Aman, Baman and Chaman can finish a job working alone in 15, 20 and 25 days respectively. However, while working with somebody the efficiency of Aman, Baman and Chaman reduces by 30%, 20% and 50% respectively. If none of them is allowed to work for three consecutive days, then what is the maximum possible fraction of the job that they can complete in four days.

21) B is twice as efficient as A. A does a piece of work in 15days. A started the work and B joined a few days later. They completed the work in 11 days. For how many days they worked together?

22) If 15 men or 24 women or 36 boys can complete a piece of work in 12 days by working 8 hours a day, then how many men must be required to work with 12 women and 6 boys to complete another piece of work 9/4times the previous piece of work in 30 days by working 6 hours a day?

23) In one-half the time, A can produce three times as much work as B and B can do in twice the time 1/3 as much work as C. If C does a job in 1 hour, how many hours will it take A to do the same job?

24) A certain construction job could Finished in 150 days if 50 men are working full time. 60 men started working on the job and after 20 days, 20 more men are added. But after 80 days 50 men quit the job. How long could it take for them to finish the job

25) A tank has four inlet pipes such that each inlet pipe while working independently can fill the tank in 4 hours. The tank also has two outlet pipes such that each outlet pipe while working independently can empty the tank in 3 hours. If all the six pipes are opened simultaneously, then in how much time will the tank get filled completely?

26) Ajay, Bhavan and Charan work together to complete a piece of work. Working individually, Ajay, Bhavan and Charan take twice the time, 2 hours more and 5 hours more respectively to complete the work than if they work together. The time taken by Charan to complete the work is twice the time taken by two other workers, Dinesh and Eswar, to complete the work working together. Find the time taken by Charan, Dinesh and Eswar, working together to complete the work (in hours).

27) A group of workers was put on a job. From the second day onwards, one worker was withdrawn each day. The job was finished when the last worker was withdrawn. Had no worker been withdrawn at any stage, the group would have finished the job in 2/3rd the time . How many worker were there in the Group ?

28) X is 3 times as fast as Y and is able to complete a piece of work in 40 days less than Y. The time in which they, working together, can complete the work in.

29) A takes 4 more hours to complete a work than A and B combined. B takes 9 more hours to complete than A and B combined. The time taken to Complete the work if done combined by A and B .

30) Two workers are arranged to do a job. The 2nd worker starts the job 2 hours after the 1st worker starts. 5 hours after the 2nd worker starts, the amount of work still left is 9/20. When the job is completed, it turns out that the 1st worker has done 60% of the job. How much time can each of the worker individually do the job in?

Q33. Pipes A and B can completely fill a water tank independently in 4 hrs and 5 hrs respectively. A pipe C can empty the tank filled completely with water in 3 hrs. Initially the tank is empty and all the pipes are closed. Pipe A is opened first at time t = 0 hrs and pipe C is opened at the instant when the tank is exactly half filled with water. Pipe B is opened after pipe C and at the instant when the tank is exactly one- fourth filled with water. Find the total time taken to fill the tank completely counting from t = 0 hrs

Q34. A can do a certain piece of work in 18 days more than the time taken by A and B together to do the same work . B can do the same work in 8 days more than the time taken by the two to complete

the same work . They agree to do the work for a total compensation of Rs 18000 and with the help of C complete it in 10 days. How much money will C get as his share ?

Q35. A large tank of height 10 m is filled with an inlet pipe which can fill the tank in 60 minutes. The tank has three emptying outlets pipes fitted at the heights of 5 m, 8 m and 9.5 m respectively from the bottom. All the pipes are opened simultaneously with the tank being empty initially. In how much time will 95% of the tank be filled, if the outlet pipe at the bottom alone can empty hall the tank in one and a half hours, the outlet pipe In the middle alone can empty 20% of the tank in 1 hour 12 minutes and the outlet pipe at the top alone can empty 5% of the tank in 18 minutes?

Q36. .Ten workers started a job and worked on it for 10 days. Eleventh day onwards, a new worker joined them every day till the job was finished. It took exactly 20 days to finish the entire job. The same job has to be done starting with the minimum possible number of workers when it is known that a worker will quit the job every day after the first day. How many days will it take to finish the job in such a manner

Q37. On a certain day, Vijay works at 11/8 th of his usual rate of doing work and completes a work 33 minutes earlier than the usual time required. Had Vijay worked at 5/9 th of his usual rate of doing work, then the time taken by him to complete the work would have been how much more than the usual time required?

Q38. . Three friends Ramya ,Sudha and Shanti were to do all the arrangements for a party and they decided to work together. The time it takes to finish the entire work for all three of them , working together is 3 hours less than what it takes for Sudha,working alone , Half an hour less than what it takes for Ramya working alone , and half of what it takes for Shanti working alone . How long will it take all three of them to finish the entire work, working together

Q39.. A group of men can complete a work in a certain number of days. The entire group starts the work .However,exactly 16 days after the start , one thirt of the group left . To complete the remaining work , the rest of the group took as many days as the entire group woul have taken to complete the entire work . Find the total time that would have been taken to complete the entire work, if instead , one fourth of the group had left after working for exactly 21 days from the start

Q40 . (CAT 2019)= **At their usual efficiency levels, A and B together finish a task in 12 days. If A had worked half as efficiently as she usually does, and B had worked thrice as efficiently as he usually does, the task would have been completed in 9 days. How many days would A take to finish the task if she works alone at her usual efficiency?**

A. 18
B. 12
C. 24
D. 36

Q41. (CAT 2019)- **Three men and eight machines can finish a job in half the time taken by three machines and eight men to finish the same job. If two machines can finish the job in 13 days, then how many men can finish the job in 13 days?**

Q42(CAT 2019)- Anil alone can do a job in 20 days while Sunil alone can do it in 40 days. Anil starts the job, and after 3 days, Sunil joins him. Again, after a few more days, Bimal joins them and they together finish the job. If Bimal has done 10% of the job, then in how many days was the job done?

Q43.(CAT 2018) When they work alone, B needs 25% more time to finish a job than A does. They two finish the job in 13 days in the following manner: A works alone till half the job is done, then A and B work together for four days, and finally B works alone to complete the remaining 5% of the job. In how many days can B alone finish the entire job?

Q44- (CAT 2018) -A tank is fitted with pipes, some filling it and the rest draining it. All filling pipes fill at the same rate, and all draining pipes drain at the same rate. The empty tank gets completely filled in 6 hours when 6 filling and 5 draining pipes are on, but this time becomes 60 hours when 5 filling and 6 draining pipes are on. In how many hours will the empty tank get completely filled when one draining and two filling pipes are on? [TITA]

Q45. (CAT 2018) Ramesh and Ganesh can together complete a work in 16 days. After seven days of working together, Ramesh got sick and his efficiency fell by 30%. As a result, they

completed the work in 17 days instead of 16 days. If Ganesh had worked alone after Ramesh got sick, in how many days would he have completed the remaining work?

A. 12

B. 14.5

C. 13.5

D. 13

Q46. (CAT 2018)- **A water tank has inlets of two types A and B. All inlets of type A when open, bring in water at the same rate. All inlets of type B, when open, bring in water at the same rate. The empty tank is completely filled in 30 minutes if 10 inlets of type A and 45 inlets of type B are open, and in 1 hour if 8 inlets of type A and 18 inlets of type B are open. In how many minutes will the empty tank get completely filled if 7 inlets of type A and 27 inlets of type B are open?**

Q47. (CAT 2017)- A person can complete a job in 120 days. He works alone on Day 1. On Day 2, he is joined by another person who also can complete the job in exactly 120 days. On Day 3, they are joined by another person of equal efficiency. Like this, everyday a new person with the same efficiency joins the work. How many days are required to complete the job

Q48. (CAT 2018) **Humans and robots can both perform a job but at different efficiencies. Fifteen humans and five robots working together take thirty days to finish the job, whereas five humans and fifteen robots working together take sixty days to finish it. How many days will fifteen humans working together (without any robot) take to finish it?**

A. 40

B. 32

C. 36

D. 45

Q49. (CAT 2017)- **A tank has an inlet pipe and an outlet pipe. If the outlet pipe is closed then the inlet pipe fills the empty tank in 8 hours. If the outlet pipe is open then the inlet pipe fills the**

empty tank in 10 hours. If only the outlet pipe is open then in how many hours the full tank becomes half-full?

A. 20
B. 30
C. 40
D. 45

Q50. **15 workers working 4 hours a day for 25 days can build a platform of width 120 meters, length 10 meter and height 14 meters. How many days will 12 workers working 5 hours a day will take if they have to build a platform of width 600 meters, length 14 metres and height 12 metre.**

Q51.(CAT 2017) - **Amal can complete a job in 10 days and Bimal can complete it in 8 days. Amal, Bimal and Kamal together complete the job in 4 days and are paid a total amount of Rs 1000 as remuneration. If this amount is shared by them in proportion to their work, then Kamal's share, in rupees, is**

A. 100
B. 200
C. 300
D. 400

ANSWER KEYS

1. 50/7
2. 5
3. 30
4. 1850
5. 15
6. 1000
7. 3
8. 48
9. 144/7
10. 15
11. 9.8
12. 6
13. 6
14. 44
15. 1814
16. 16.4
17. 5:00 PM
18. 3.75
19. 30 min
20. 34%
21. 2
22. 8
23. .
24. 50 more days or 130 total
25. .
26. .
27. .
28. .
29. .
30. .
31. .
32. .
33. .
34. .
35. .
36. .
37. .
38. .
39. .
40. 18

41. 13
42. 13
43. 20
44. 10
45. 13.5
46. 48
47. 15
48. 32
49. 20
50. .
51. 100