TIME & WORK

(Ref: FM-QAH2022005)

Individual Type

1. A takes 30 hours to do a job. B takes 20 hours to do the same job. How long does it take both A & B, working together, to do the same job?
   a) 6 b) 9 c) 12 d) 5

2. A, B and C can complete a piece of work in 12, 20 and 15 days respectively. Working together, they will complete the same work in.
   a) 4.5 b) 7 c) 5 d) 4

3. Ajay can copy 50 pages in 10 hours; Ajay and Vijay together can copy 300 pages in 40 hours. In how much time can Vijay copy 30 pages?
   a) 13 h b) 12 h c) 11 h d) 9 h

4. A, B, and C together can reap a field in 6 days. If A can do it alone in 10 days and B in 24 days. In how many days will C alone be able to reap the field?
   a) 40 days b) 36 days c) 35 days d) 32 days

5. Arun and Barun can do a piece of work in 28 days. With the help of Varun, they can finish it in 21 days. How long will Varun take to finish the work all alone?
   a) 84 days b) 80 days c) 75 days d) 70 days

6. A takes 5 days more than B to do a certain job and 9 days more than C; A and B together can do the job in the same time as C How many days A would take to do it?
   a) 20 days b) 15 days c) 10 days d) 16 days

7. A, working alone, takes 80 days more than the time taken by A and B working together to complete the work. B, working alone, takes 20 days more than the time taken by A and B working together to complete the work. Find the time taken by A alone to complete the work.

8. Working together, A and B can complete a piece of work in 12 days, B and C can complete the same work in 20 days while A and C can complete it in 15 days. Find the number of days in which each of them can complete the same work.

9. A and B together can complete a piece of work in 30 days, B and C together can complete the work in 40 days. A and C together can complete the work in 60 days. What is the ratio of number of days A alone takes to do the work to the number of days C alone takes to do the work?
   a) 1 : 6 b) 1 : 3 c) 2 : 3 d) 3 : 2

10. a) A and B can complete a work in 10 days and 15 days respectively. If they work on alternate days, find the number of days in which the work will be completed.
    b) A and B can complete a work in 20 days and 40 days respectively. If they work on alternate days, find the least number of days in which the work will be completed.

11. A, B and C can complete a piece of work in 12, 15 and 18 days respectively. They work on a rotation basis with A working on the first day, B on the second, C on the third. then again-A on the fourth day and so on. In how many days will the work be completed?

12. A, B and C can do a piece of work in 10, 15 and 30 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?
    a) 7.5 b) 8 c) 9 d) 6

Joining/Leaving

13. Aman can complete a work in 30 days. Baman can complete the same work in 45 days. If Baman starts the work and Aman joins him after 15 days, in how many days will the work be completed?

14. A can finish a work in 36 days and B can do the same work in 30 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work?
    a) 18 b) 15 c) 24 d) 16

15. A and B can together finish a work in 40 days. They worked together for 30 days and then B left. After another 30 days, A finished the remaining work. In how many days A alone can finish the work?
    a) 135 b) 150 c) 120 d) 90

16. A can do a piece of work in 72 days. He works at it for 9 days and then B alone finishes the remaining work in 35 days. In how much time will A & B, working together, finish the work?
    a) 25 5/7 b) 32 2/3
    c) 22 2/5 d) NOT

17. Arun and Barun can do a piece of work in 45 days and 40 days respectively. They began to do the work together but Arun leaves after some days and then Barun completed the remaining work in 23 days. The number of days after which Arun left the work was
    a) 9 b) 15 c) 21 d) 12

18. Working together, A and B can complete a work in 24 days. They work together for 18 days after which B leaves. If A finishes the remaining work in 10 days. Find the number of days that B alone would take to complete the work.

19. A can complete a job in 27 days. He starts it and after three days B joins him. They work together for six days. A then leaves and C takes his place. B and C complete the job in 12 more days. If B takes at most 54 days to complete the job, then which of the following cannot be a possible value of the number of days taken by C to complete it?
    a) 36 b) 34 c) 40 d) 38

20. Amar, Akbar and Anthony can complete a piece of work in 10, 15 and 12 days respectively. All the three of them started working and after an integral number of days(y). Amar stopped working and Akbar stopped working exactly (y) days before the work got completed. If the number of days, taken to complete the work is an integer, in how many days did the work get completed?

Efficiency

21. Sunny is thrice as good a workman as Bunny and therefore is able to finish the job in 60 days less than Bunny. In how many days will they finish the job working together?
    a) 20 days b) 11 days
    c) 15 days d) 22.5 days

22. A can do a certain job in 14 days. B is 40% more efficient than a) How many days does B alone take to do the double same job?
    a) 24 b) 40
    c) 26 d) 20

23. A is twice as good as B Together, they finish the work in 14 days. In how many days can B alone do the same work?
    a) 15 days b) 21 days
    c) 30 days d) 42 days

24. A can finish a piece of work in 24 days. B is 20% more efficient than A and C is 25% more efficient than b) Find the time B and C will take to finish the work?
    a) 8 days b) 9 days
    c) 7 days d) 6 days

25. The rate of work of B is twice that of a) A can complete a piece of work in 30 days. A started the work and B joined him after a few days. The work was completed in 22 days. For how many days did A work alone?

26. John, Rock and Kane are three brothers. The rate of work of John is one third of that of Rock and Kane together. If Rock can complete the work in 8 days, while Kane can complete it in 24 days, in how many days can they together complete the same work?

27. A does half as much work as B does in one sixth of the time. If together they take 20 days to complete the work, then what is the time taken by B to complete the work independently.
    a) 120 days b) 140 days
    c) 80 days d) 100 days
    e) None

28. A man starts a piece of work. Starting from the second day onwards, every day a new man joins. With every new man joining, the work that each man can do per day doubles. The work is completed in 5 days. On which day would they have completed the work, if the work that each of them could do per day had remained constant?

Wages

29. A can complete work in 100 days and B can complete the same work in 150 days. If A and B work together and earn 13000, find the individual earnings.

30. A and B undertake to do a piece of work for Rs. 200. A can do it in 5 days and B can do it in 10 days. With the help of C, they finish it in 2 days. How much C should be paid for his contribution?
    a) 80 b) 40 c) 120 d) 60

31. Ajay, Vijay, and Sanjay are employed to do a piece of work for Rs. 529. Ajay and Vijay together are supposed to do 19/23 of the work and Vijay and Sanjay together 8/23 of the work. How much Ajay should be paid?
    a) 245 Rs. b) 295 Rs.
    c) 300 Rs. d) 345 Rs.

32. Arun can do a piece of work in 10 days, Bala in 15 days. They work together for 5 days, the rest of the work is finished by Chitra in two more days. If they get Rs. 24000 as wages for the whole work, what are the daily wages of Arun, Bala and Chitra respectively (in Rs)?
    a) 2400, 1600, 2000 b) 800, 1200, 1600
    c) 2000, 1200, 1600 d) 2400, 2000, 1200

33. P, Q and R together can complete a job in 5 days. The wages paid to P, Q and R for completing the job were Rs. 4050, Rs. 5400 and Rs. 6750 respectively. In how many days can P working alone, complete the job?
    a) 36 b) 30 c) 24 d) 20

Group Based

34. In a fort there was sufficient food for 200 soldiers for 31 days. After 27 days 120 soldiers left the fort. For how many extra days will the rest of the food last for the remaining soldiers?
    a) 12 days b) 10 days
    c) 8 days d) 6 days

35. X number of men can finish a piece of work in 60 days. If there were 6 men more, the work could be finished in 10 days less. What is the original number of men?
    a) 20 b) 22 c) 24 d) 30

36. If 36 persons can complete 3/5 of a work in 10 days, then find the number of persons required to complete the remaining work in 10days?
    a) 21 b) 24 c) 27 d) 30

37. Seven men can complete a work in 10 days. They started the work and after 5 days, two men left. In how many days will the work be completed by the remaining men?
    a) 9 b) 8 c) 6 d) 7

38. A certain job was assigned to a group of men to do it in 20 days. But 12 men did not turn up for the job and the remaining men did the job in 32 days. The original number of men in the group was

a) 34 b) 32 c) 40 d) 36

39. If 40 people can make 60 toys in 8 hrs, if 8 people leave the work, how many toys can make in 12 hrs?
a) 70 b) 75 c) 65 d) None

40. A contractor undertook a job and employed 40 men to do a piece of work in 80 days. But after 60 days he found that only 3/5 of the work is completed. To complete the work in time, how many more men he should employ.
a) 15 b) 20 c) 25 d) 40

41. A project manager hired 16 men to complete a project in 40 days. However, after 30 days he realized that only 4/9th of the work is complete. How many more men does he need to hire to complete the project on time?
a) 30 b) 32 c) 44 d) 40

42. Four girls or six boys can complete a work in 24 days. In how many days can four girls and three boys working together complete the work? **16 days**

43. 24 men working 8 h a day can finish work in 10 days. Working at a rate of 10 h a day, the number of men required to finish the work in 6 days is
a) 36 b) 34 c) 32 d) 30

44. Six women and seven men working together take 24 days to complete a work. Four men and seven women can complete the same work in 32 days. Find the number of days in which three men and four women can complete the work. **48 days**

45. 25 men can complete a piece of work in 12 days and 24 women can complete the same piece of work in 12 days. What is the ratio of the amount of work done by 30 men in one day to the amount of work done by 16 women in 1 day?
a) 6:7 b) 9:5 c) 7:5 d) 5:9

46. 12 men complete a work in 18 days. 6 days after they had started working, 6 men join them. How many more days will all of them take to complete the remaining work?
a) 8 days b) 6 days
c) 4 days d) 9 days

Mixed

47. Twenty-four men can complete a work in 16 days. Thirty- two women can complete the same work in twenty-four days. Sixteen men and sixteen women started working and worked for 12 days. How many more men are to be added to complete the remaining work in 2 days?
a) 24 men b) 12 men
c) 16 men d) 20 men

48. Three men, four women and six children can complete a work in 7 days. A woman does double the work a man does and a child does half the work a man does. How many women alone can complete this work in 7 days?
a) 7 b) 6 c) 8 d) 10

49. 20 men can complete a work in 14 days and 20 women can complete the same work in 18 days. 7 men and 9 women started the work. After working for some days, they were replaced by 10 men and 10 women who complete the remaining work in 9 days. How much work was completed by initially employed men and women?
a) 2/5 b) 3/7 c) 4/7 d) 3/8

50. X takes 4 days to complete one-third of a job, Y takes 3 days to complete one-sixth of the same work and Z takes 5 days to complete half the job. If all of them work together for 3 days and X and Z quit, how long will it take for Y to complete the remaining work done.
a) 6 days b) 8.1 days
c) 5.1 days d) 7 days

51. A, B and C working together completed a job in 10 days. However, C only worked for the first three days Also, the work done by A in 7 days is equal to the work done by B in 5 days. How many days would be required by the fastest worker to complete the entire work if C alone can do the work in 25 days?
a) 20 days b) 25 days
c) 30 days d) 40 days

52. A and B completed a work together in 5 days. Had A worked at twice the speed and B at half the speed, it would have taken them four days to complete the job. How much time would it take for A alone to do the work?
a) 10 days b) 20 days
c) 25 days d) 15 days

53. One man and six women working together can do a job in 10 days. The same job is done by two men in '*p*' days and by eight women in *p* + 5 days. By what percentage is the efficiency of a man greater than that of a woman?
a) 300% b) 500% c) 600% d) 700%

54. B and *C* are equally efficient, but the efficiency of *A* is half of each *B* and *c) A* and *B* started a work and 3 days later *C* joined them. If *A* alone can do the work in 14 days, then in how many more days the work will be completed?
a) 1 b) 2 c) 3 d) 4.5

55. A piece of work can be completed by 25 men in 20 days. 20 men start the work together.
a) If starting from the first day, one person leaves at the end of each day, what fraction of the work was finally completed?
b) If starting from the second day, one additional person joins each day, in how many days will the work be completed?

56. A factory produces nuts and bolts. A machine in it produces only nuts while another produces only bolts. The machine producing only nuts produces 500 nuts per minute and need to be cleared for 10 min after production of 2000 nuts. The machine producing only bolts produces 600 bolts per minute and needs to be cleared for 15 min after production of 3000 bolts. Find the minimum time required to

produce 6000 pairs of bolts and nuts if both machines are operated simultaneously.
a) 32 min b) 20 min
c) 25 min d) 40 min

57. Three professors P, Q, R are evaluating answer script of a subject. P is 40 more efficient than Q, who is 20 more efficient than R. P takes 10 days less than Q to complete the evaluation work. P starts the evaluation work and works for 10 days and then Q takes over. Q evaluates for next 15 days and then stops. In how many days, R can complete the remaining evaluation work?
a) 6.2 days b) 7.2 days
c) 8.2 days d) 9.2 days

58. Sekar, Pradeep and Sandeep can do a piece of work in 15 days. After all the three worked for 2 days, Sekar left. Pradeep and Sandeep worked for 10 more days and Pradeep left. Sandeep worked for another 40 days and completed the work. In how many days can Sekar alone complete the work if Sandeep can complete it in 75 days?
a) 25 days b) 20 days
c) 30 days d) 35 days

59. Madhavan can finish a work in 5 hrs. He invites Manohar and Manjima who can work 3/4th as fast as he can to join him. He also invites Mani and Mohan who can work only 1/5th as fast as he can to join him. If the five person team works the same job and they start together, how long will it take for them to finish the job?
a) 50/97 days b) 87 days
c) 50/29 days d) 78 days

60. A typing work is done by three person P, Q and R. P alone takes 10 hrs to type a single booklet but B and C working together takes 4 hrs, for the completion of the same booklet. If all of them worked together and completed 14 booklets, then how many hrs have they worked?
a) 30hrs b) 40hrs
c) 25hrs d) 45hrs

61. Kiran can do a work in 25 days, while Ravi can do the same work in 50 days. They started the work jointly. Few days later Sumit also joined them and thus all of them completed the whole work in 10 days. All of them were paid total Rs.600. What is the Share of Sumit?
a) Rs.360 b) Rs.385
c) Rs.240 d) RS.390

62. Working together Bala and Chitra take 50% more number of days than Angel, Bala and Chitra together take and Angel and Bala working together, take 8/3 more number of days than Angel, Bala and Chitra take together. If Angel, Bala and Chitra all have worked together till the completion of the work and Bala has received Rs.120 out of total earnings of Rs. 480 then in how many days did Angel, Bala and Chitra together complete the whole work?
a) 2 days b) 4 days
c) 6 days d) 5 days

63. Ravi can do a piece of work in 16 days. Rakesh can do the same work in 64/5 days, while Geeta can do it in 32 days. All of them started to work together but Ravi leaves after 4 days. Rakesh leaves the job 3 days before the completion of the work. How long would the work last?
a) 6 days b) 9 days c) 18 days d) 5 days

64. Ramu, Hari and Sanjay are three typists, who working simultaneously, can type 228 pages in four hrs. In one hour, Sanjay can type as many pages more than Hari as Hari can type more than Ramu. During a period of five hrs, Sanjay can type as many passages as Ramu can, during seven hrs. How many pages does each of them type per hour?
a) 16, 18, 22 b) 14, 17, 20
c) 15, 17, 22 d) 16, 19, 22

65. Arun can do a piece of work in 40 days, but Bala can do the same work in 5 days less, than Arun, when working alone. Arun and Bala both started the work together but Bala left after some days and Arun finished the remaining work in 30 days with half of his efficiency but he did the work with Bala with his complete efficiency. For how many days they had worked together?
a) 25/3 days b) 31/3 days
c) 35/3 days d) 38/3 days

66. 7 Indian and 4 American finish a job in 6 days. 7 African and 3 American finish the same job in 8 days. The efficiency of each person of a particular nationality is same but different from others. One Indian One American and One African will complete the work in:
a) 10 days b) 12 days
c) 24 days d) 36 days

67. Chitra is twice efficient as Arun. Bala takes thrice as many days as Chitra. Arun takes 12 days to finish the work alone. If they work in pairs(i.eArun-Bala, Bala-Chitra, Chitra-Arun) starting with Arun – Bala on the first day, Bala – Chitra on the second day and Chitra – Arun on the third day and so on, then how many days are required to finish the work?
a) $\frac{26}{9}$ days b) $\frac{46}{9}$ days
c) $\frac{16}{9}$ days d) $\frac{56}{9}$ days

68. The work done by 4 men in 12 days is equal to the work done by 6 women in 10 days and is also equal to the work done by 8 children in 9 days. A man, a woman and a child working together take 10 days to complete a particular job. In how many days will the same job be completed by 2 women and 5 children working together?
a) 5 b) 6 c) 4 d) 7

69. C is twice efficient as *A*, *B* takes thrice as many days as *c) A* takes 12 days to finish the work alone. If they work in pairs (*i.e.*, *AB*, *BC*, *CA*) starting with *AB* on the first day then *BC* on the second day and *AC* on the third day and so on, then how many days are required to finish the work?
a) 6 .2 days b) 4.5 days
c) 5 .11 d) 8 days

70. According to a plan, a drilling team had to drill to a depth of 270 metres below the ground level. For the first three days the team drilled as per the plan. However, subsequently finding that their resources were getting underutilized according to the plan, it started to drill 8 metres more than the plan every day. Therefore, a day before the planned date they had drilled to a depth of 280 metres. How many metres of drilling was the plan for each day.
a) 38 metres b) 30 metres
c) 27 metres d) 28 metres

71. 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?
a) 21/50 b) 17/50 c) 8/25 d) 1/3

72. 4 men and 2 boys can finish a piece of work in 5 days. 3 women and 4 boys can finish the same work in 5 days. Also 2 men and 3 women can finish the same work in 5 days. In how many days 1 man, 1 woman and 1 boy can finish the work, at their double efficiency?
a) $4\frac{8}{13}$ b) $4\frac{7}{13}$ c) $3\frac{7}{13}$ d) None

73. The work done by 2 men in a day is equal to the work done by 3 children in a day. The work done by 3 men in a day is equal to the work done by 5 women in a day. It takes 10 days for a man, a woman and a child to complete a job working together. How many days will 2 children working together take to complete the same job?
a) 30 b) 15 c) 17 d) 34

74. It takes 30 hrs for an inlet pipe to fill an empty tank completely. When 5 identical inlet pipes and 4 identical outlet pipes operate together, the same empty tank gets filled completely in 10 hrs. How much time (in hrs) will an outlet pipe take to empty the same tank when it's filled upto half its volume?
a) 15 b) 20 c) 24 d) 30

75. Pawan and Qureshi working together can do a piece of work in 10 days whereas Qureshi and Rohit working together can do the same work in 12 days. All three work together to do a job for which they are paid 300. If Qureshi's share is 140, then what is Pawan's share?
a) 100 b) 60 c) 80 d) CBD

76. Tap *A* can fill a tank in 20 hrs, *B* in 25 hrs but tap *C* can empty a full tank in 30 hrs. Starting with *A*, followed by *B* and *C* each tap opens alternatively for one hour period till the tank gets filled up completely. In how many hour the tank will be filled up completely?
a) $51\frac{11}{15}$ b) $52\frac{2}{3}$ c) $24\frac{4}{11}$ d) None of these

77. Each of *A*, *B* and *C* need a certain unique time to do a certain work. *C* needs 1 hour less than *A* to complete the work. Working together, they require 30 min to complete 50% of the job. The work also gets completed if *A* and *B* start working together and *A* leaves after 1 hour and *B* works for a further 3 hrs. How much work does *C* do per hour?
a) 16.66% b) 33.33% c) 50% d) 66.66%

78. Two men and a woman are entrusted with a task. The second man needs three hrs more to cope with the job than the first man and the woman would need working together. The first man, working alone, would need as much time as the second man and the woman working together. The first man, working alone, would spend eight hrs less than the double period of time the second man would spend working alone. How much time would the two men and the woman need to complete the task if they all worked together?
a) 2 hrs b) 3 hrs c) 4 hrs d) 5 hrs

79. Two pipes A and B can fill a cistern in 15 hrs and 10 hrs respectively. A tap *C* can empty the full cistern in 30 hrs. All the three taps were open for 2 hrs, when it was remembered that the emptying tap had been left open. It was then closed. How many hrs more would it take for the cistern to be filled?
a) 30 min. b) 1.2 hrs c) 24 min. d) 35 min.

80. Working together *B* and C take 50% more number of days than A, B and C together take and *A* and *B* working together, take 8/3 more number of days than *A*, *B* and *C* take together. If *A*, *B* and *C* all have worked together till the completion of the work and *B* has received 120 out of the total earning of 450, then in how many days did *A*, *B* and *C* together complete the whole work?
a) 10 b) 6 c) 4 d) 2

81. Eklavya can do the 6 times the actual work in 36 days while Faizal can do the one-fourth of the original work in 3 days. In how many days will both working together complete the 3 times of the original work?
a) 6 b) 10 c) 12 d) 15

82. Sixty-four men working 8 h a day plan to complete a piece of work in 9 days. However, 5 days later they found that they had completed only 40% of the work. They now wanted to finish the remaining portion of the work in 4 more days. How many hrs per day should they need to work in order to achieve the target?
a) 11 b) 12 c) 13 d) 15

83. *A* can do a job in 3 days less time than *b) A* works at it alone for 4 days and then *B* takes over and completes it. If altogether 14 days were required to finish the job, then in how many days would each of them take alone to finish it?
a) 17 days, 20 days b) 12 days, 15 days
c) 13 days, 16 days d) None of these

84. A ship 55 kms from the shore springs a leak which admits 2 tones of water in 6 min ; 80 tones would suffer to sink her, but the pumps can throw out 12

tones an hour. Find the average rate of sailing that she may just reach the shore as she begins to sink.
a) 5.5 km/h b) 6.5 km/h
c) 7.5 km/h d) 8.5 km/h

85. A work was completed by three persons of equal ability, first one doing m hours for m days, second one doing n hours for n days (m and n being integers) and third one doing 16 hours for 16 days. The work could have been completed in 29 days by third person alone with his respective working hours. If all of them do the work together with their respective working hours, then they can complete it in about
a) 12 days b) 13 days
c) 14 days d) 15 days

86. Three labourers worked together for 30 days, in the course of work, all of them remained absent for few days. One of them was absent for 10 days more than the second labourer and the third labourer did one-third of the total work. How many days more than the third labourer was the first one absent?
a) 4 b) 5 c) 6 d) CBD

87. To do a certain piece of work, B would take three times as long as A and C together and C twice as long as A and B together. The three men working together can complete the work in 10 days. How long would B take by himself to complete the same piece of work?
a) 24 days b) 30 days
c) 40 days d) 36 days

88. Three labourers started working together to complete a task in certain number of days. But in the course of work, they remained absent for few days due to some unavoidable circumstances and therefore the work was completed 3 days late. If the first and second labourers (assume that the wage per day are fixed and late completion of work did not affect it.) remained absent for 2 and 4 days more than the third labourer remained, then the third labourer remained absent for
a) 1 day b) 2 days c) 3 days d) CBD

89. Three labourers started working together to complete a task in certain number of days. But in the course of work, they remained absent for few days due to some unavoidable circumstances and therefore the work was completed 3 days late. If the first and second labourers (assume that the wage per day are fixed and late completion of work did not affect it.) got Rs 10 and Rs 20 less than the third labourer got, then the extra money the third labourer earned is
a) Rs 10 b) Rs 20 c) Rs 30 d) CBD

90. Three labourers started working together to complete a task in certain number of days. But in the course of work, they remained absent for few days due to some unavoidable circumstances and therefore the work was completed 3 days late. If the first and second labourers (assume that the wage per day are fixed and late completion of work did not affect it.) Rs 80 and Rs 100 less than the third labourer got, then the wage per day per labourer is
a) Rs 5 b) Rs 10 c) Rs 20 d) CBD

91. Three labourers started working together to complete a task in certain number of days. But in the course of work, they remained absent for few days due to some unavoidable circumstances and therefore the work was completed 3 days late. If the first and second labourers (assume that the wage per day are fixed and late completion of work did not affect it.) got Rs 15 and Rs 30 less than the third labourer got, then the third labourer remained absent for
a) 0 days b) 1 days
c) 2 days d) CBD

92. Three labourers started working together to complete a task in certain number of days. But in the course of work, they remained absent for few days due to some unavoidable circumstances and therefore the work was completed 3 days late. If the first and second labourers (assume that the wage per day are fixed and late completion of work did not affect it.) got Rs x and Rs y less then the third labourer got, then which of the following value of (x, y) is feasible?
a) (18, 24) b) (18, 30)
c) (24, 30) d) all of these

93. A drain pipe can drain a tank in 12 hours, and a fill pipe can fill the same tank in 6 hours. A total of n pipes – which include a few fill pipes and the remaining drain pipes – can fill the entire tank in 2 hours. How many of the following values could 'n' take?
a. 24 b. 16 c. 33
d. 13 e. 9 f. 8
a) 3 b) 4 c) 2 d) 1

94. Pipe A, B and C are kept open and together fill a tank in t minutes. Pipe A is kept open throughout, pipe B is kept open for the first 10 minutes and then closed. Two minutes after pipe B is closed, pipe C is opened and is kept open till the tank is full. Each pipe fills an equal share of the tank. Furthermore, it is known that if pipe A and B are kept open continuously, the tank would be filled completely in t minutes. How long will it take C alone to fill the tank?
a) 18 b) 36 c) 27 d) 24

95. B takes 12 more days than A to finish a task. B and A start this task and A leaves the task 12 days before the task is finished. B completes 60% of the overall task. How long would B have taken to finish the task if he had worked independently?
a) 48 days b) 36 days
c) 28 days d) 32 days

96. B takes 12 more hours than A to complete a task. If they work together, they take 16 fewer hours than B would take to complete the task. How long will it take A and B together to complete a task twice as difficult as the first one?
a) 16 hrs b) 12 hrs c) 14 hrs d) 18 hrs

97. A cistern of 475 litres is completely filled using pipes A and B, with Pipe A being open for 5 more hours than pipe B. If we are to interchange the operating hours of the two pipes than pipe A would have pumped half the water as much as pipe B, then find the time for which pipe B was open. Also, given that if the two pipes were open simultaneously the tank would fill in 19 hours.
a) 10 hrs b) 14 hrs c) 16 hrs d) 20 hrs

98. There is a ground where the grass grows up with a uniform rate in length and thickness. If forty cows can eat whole of the grass in forty days and thirty cows can eat the whole grass in sixty days. How much time will twenty guys take to eat whole of the grass?

99. A certain number of pages need to be typed. A, B and C are assigned to do this job. However, C leaves after 4 days when 40% of the job was complete. In this way, it takes 13 days to finish the job. Also, B can type twice as fast as A. How much would the fastest worker take to type the entire set of pages alone?
a) 22.5 days b) 45 days
c) 30 days d) 20 days

100. A, B and C do a piece of work in alternate days. If A starts doing the work first followed by B then C, it will be completed in 38 1/3 days, if B starts doing the work first followed by C then A it will be completed in 38 2/3 days and if C starts doing the same work followed by A then B it will be completed in 38 3/5 days. Find in how many days does A complete the whole work alone. [All takes integral days to complete the work]
a) 20 b) 80 c) 40 d) 30

101. A builder employed a certain number of workers to finish constructing a building in a certain number of days. But soon he realized that the work would get delayed by 1/4of the time He then increased the number of workers by a third and they managed to finish the work on schedule. What percentage of the work had been finished by the time the new labour joined?

102. A take 24 days and B takes X days to complete a job working alone. They work on alternate days. If they take exactly the same time irrespective of who starts the job, how many positive integral values are possible for X? **10**

Pipe & Cistern

103. A cistern is normally filled in 10 hours. However, it takes 12 hours when there is leak in its bottom. If the cistern is full, in what time shall the leak empty it?
a) 12 h b) 10 h c) 60 h d) 30 h

104. Pipe A and B running together can fill a cistern in 6 minutes. If B takes 5 minutes more than A to fill the cistern, then the time in which A and B will fill the cistern separately will be respectively?
a) 15 min, 10 min b) 15 min, 20 min
c) 25 min, 20 min d) 10 min, 15 min

105. A cistern is normally filled in 6 h but takes 4 h longer to fill because of a leak in its bottom. If the cistern is half, the leak will empty it in how much time?
a) 7.5 h b) 8 h c) 10 h d) None

106. Two pipes A and B can fill a tank in 20 min. and 40 min. respectively. A water pipe C can empty the tank in 20 min. First A and B are opened. After 7 min, C is also opened. In how much time, the tank is full?
a) 19 min b) 26 min c) 20 min d) 30 min

107. Two pipes A and B can fill a tank in 6 hrs and 5 hrs respectively. If they are turned on alternatively for 1 hour each, find the time in which the tank is full. (Assume pipe A is opened first)
a) 4hrs 30min b) 5hrs
c) 6hrs 25min d) 5hrs 30min

108. Two pipes A and B can fill a tank in 20 min and 40 min. If both pipes are opened simultaneously, after how much time should B be closed so that the tank is full in 16 min?
a) 10 min b) 9 min c) 8 min d) 7min

109. One pipe can fill a tank twice as fast as another pipe. If together the two pipes can fill the tank in 36 min, then the slower pipe alone will be able to fill the tank in
a) 90 min b) 99 min
c) 108 min d) 105 min

110. A cistern is filled by 3 pipes A, B and C with uniform flow. The second pipe B takes3/2 times the time taken by A to fill the tank, while C takes twice the time taken by B to fill the tank. If all the three pipes can fill the tank in 7 hrs, find the time required by pipe A alone to fill the tank.
a) 14 hrs b) 15 hrs c) 10 hrs d) 12 hrs

111. 20 Buckets of water fill a tank, when the capacity of each bucket is 11.5 litres. How many buckets will be needed to fill the same tank, If the capacity of each bucket is 5 litres?
a) 44 b) 64 c) 42 d) 46

112. A Special pump can be used for filling as well as for emptying a Cistern. The capacity of the Cistern is 2400m³. The emptying capacity of the Cistern is 10m³ per minute higher than its filling capacity and the pump needs 8 min lesser to Cistern the tank than it needs to fill it. What is the filling capacity of the pump?
a) 40m³/min b) 50m³/min
c) 60m³/min d) 30m³/min

113. A tank of capacity 25 litres has an inlet and an outlet tap. If both are opened simultaneously, the tank is filled in 5 min. But if the outlet flow rate is doubled and taps opened the tank never gets filled up. Which of the following can be outlet flow rate in liters/min?
a) 2 b) 6 c) 4 d) 3

114. Two pipes can fill a cistern in 14 and 16 hours respectively. The pipes are opened simultaneously and it is found that due to leakage in the bottom of the cistern, it takes 32 minutes extra for the cistern to be filled up. When the cistern is full, in what time will the leak empty it?
a) 100 h b) 80 h c) 114 h d) 112 h

115. A tank of 7200 cu m capacity is being filled with water. The delivery of the pump discharging the tank is 20% more than the delivery of the pump filling the same tank. As a result, twelve minutes more time is needed to fill the tank than to discharge it. Determine the delivery of the pump discharging the tank.
a) 80 m^3/min b) 100 m^3/min
c) 120 m^3/min d) 160 m^3/min

116. Two pipes P and Q can fill a tank in 10 min and 12 min respectively and a waste pipe can carry off 24 litres of water per minute. If all the pipes are opened when the tank is full and it takes one hour to empty the tank. Find the capacity of the tank.
a) 60 b) 90 c) 120 d) 150

117. Bucket A has thrice the capacity as bucket B. It takes 20 turns for bucket A to fill the empty drum. How many turns it will take for both buckets A and B having each turn together to fill the empty drum?
a) 12 b) 10 c) 15 d) 16

118. Two pipes A and B can separately fill a tank in 10 and 15 min respectively. A third pipe C can drain off 32 liters of water per minute. If all the pipes are opened, the tank can be filled in 10 min. What is the capacity of the tank?
a) 500 litres b) 480 liters
c) 450 liters d) 320 liters

119. Twelve pipes are connected to a Cistern. Some of them are inlet pipes and the others are outlet pipes. Each of the inlet pipes can fill the tank in 20 hrs and each of the outlet pipes can empty the cistern completely in 12 hrs. If all the pipes are kept open, the empty tank gets filled in 5 hrs. How many inlet pipes are there?
a) 9 b) 7 c) 8 d) 6

120. There are 10 taps connected to a tank. Some of them are waste pipe and some of them are water pipe. A water pipe can fill the tank in 15 hrs and a waste pipe can empty the tank in 30 hrs. Find the number of waste pipes if the tank is filled in 6 hrs.
a) 3 b) 4 c) 5 d) 7

121. In what time would a cistern be filled by three pipes whose diameters are 1cm, 2 cm and 3 cm running together the largest pipe alone can fill the tank in 21 min? The amount of water flowing through the pipe is directly proportional to the square of its diameter.
a) 10.5 min b) 13.5 min
c) 12.5 min d) 11.5 min

122. A Cistern has an inlet pipe and outlet pipe. The inlet pipe fills the cistern completely in 1 hour 20 min when the outlet pipe is plugged. The outlet pipe empties the tank completely in 6 hrs when the inlet pipe is plugged. If there is a leakage also which is capable of draining out the water from the tank at half of the rate of the outlet pipe, then what is the time taken to fill the empty tank when both the pipes are opened?
a) 3 hrs b) 2 hrs c) 5 hrs d) 4 hrs

123. A bathing tub can be filled by a cold pipe in 15 min and by a hot pipe in 10 min. Ramesh opened both the tap and leaves the bathroom and returns at the time when the tub should be full. He observed that a waste pipe is opened at the bottom, he now closes it. Now the tub will take more 5 min to fill the tank, find the time in which the leak can empty the tank.
a) $\frac{36}{5}$ min b) $\frac{33}{5}$ min
c) $\frac{37}{5}$ min d) $\frac{38}{5}$ min

124. A pipe can fill a tank in 20 min and another pipe can fill the tank in 40 min. There is a waste pipe which can empty the tank in 15 min. First two pipes are opened for 5 min and then the third pipe is also opened. In what time the cistern is emptied after the third pipe also opened
a) 60 b) 75 c) 80 d) 90

125. Two pipes can separately fill the tank in 15hrs and 30hrs respectively. Both the pipe are opened and when the tank is 1/3 full a leak is developed due to which 1/3 water supplied by the pipe leaks out. What is the total time to fill the tank?
a) $\frac{20}{3}$ hr b) $\frac{35}{3}$ hr c) $\frac{40}{3}$ hr d) $\frac{50}{3}$ hr

126. Two pipes can fill a tank in 15 and 20 hrs respectively. The pipes are opened simultaneously and it is found that due to the leakage in the bottom, 17/7 hrs extra are taken extra to fill the tank. If the tank is full, in what approximate time would the leak empty it?
a) 27 hrs b) 32 hrs c) 36 hrs d) 39 hrs

127. Three pipes A, B, and C can fill the tank in 10 hrs, 20 hrs and 40 hrs respectively. In the beginning all of them are opened simultaneously. After 2 hrs, tap C is closed and A and B are kept running. After the 4th hour, tap B is also closed. The remaining work is done by tap A alone. What is the percentage of the work done by tap A alone?
a) 30 % b) 35 % c) 45 % d) 50%

128. A dam has four inlets – A, B, C and D The dam can be filled in 12 min through the first three inlets and it can be filled in 15 min through the second, the third and fourth inlet also it can be filled through the first and the fourth inlet in 20 min. How much time required to fill up the dam by all the four inlets?
a) 10 mins b) 15 mins
c) 20 mins d) 25 mins

129. Three pipes P, Q and R connected to a Cistern. The first pipe (i.e) P can fill 1/2 part of the tank in one hour, second pipe, Q can fill 1/3 part of the cistern in one hour. R is connected to empty the cistern. After opening all the three pipes 7/12 part of the

cistern. Then how much time required to empty the cistern completely?
a) 2 hrs b) 3 hrs c) 4 hrs d) 5 hrs

130. Two pipes P and Q are opened together to fill a tank. Both the pipes fill the tank in time "x" If Q separately took 25 min more time than "x" to fill the tank and Q took 49 min more time than "x" to fill the tank, then find out the value of x?
a) 48 min b) 35 min c) 54 min d) 68 min

CAT PAST YEAR QUESTIONS

131. Amar, Akbar and Anthony are working on a project. Working together Amar and Akbar can complete the project in 1 year, Akbar and Anthony can complete in 16 months, Anthony and Amar can complete in 2 years. If the person who is neither the fastest nor the slowest works alone, the time in months he will take to complete the project is. **CAT 2021**

132. Anu, Vinu and Manu can complete a work alone in 15 days, 12 days and 20 days, respectively. Vinu works everyday. Anu works only on alternate days starting from the first day while Manu works only on alternate days starting from the second day. Then, the number of days needed to complete the work is **CAT 2021**
a) 5 b) 6 c) 8 d) 7

133. Two pipes A and B are attached to an empty water tank. Pipe A fills the tank while pipe B drains it. If pipe A is opened at 2 pm and pipe B is opened at 3 pm, then the tank becomes full at 10 pm. Instead, if pipe A is opened at 2 pm and pipe B is opened at 4 pm, then the tank becomes full at 6 pm. If pipe B is not opened at all, then the time, in minutes, taken to fill the tank is **CAT 2021**
a) 144 b) 264 c) 140 d) 120

134. Anil can paint a house in 60 days while Bimal can paint it in 84 days. Anil starts painting and after 10 days, Bimal and Charu join him. Together, they complete the painting in 14 more days. If they are paid a total of ₹ 21000 for the job, then the share of Charu, in INR, proportionate to the work done by him, is **CAT 2021**
a) 9200 b) 9100 c) 9000 d) 9150

135. One day, Rahul started a work at 9 AM and Gautam joined him two hours later. They then worked together and completed the work at 5 PM the same day. If both had started at 9 AM and worked together, the work would have been completed 30 minutes earlier. Working alone, the time Rahul would have taken, in hours, to complete the work is **CAT 2021**
a) 10 b) 12 c) 11.5 d) 12.5

136. Anil can paint a house in 12 days while Barun can paint it in 16 days. Anil, Barun, and Chandu undertake to paint the house for ₹ 24000 and the three of them together complete the painting in 6 days. If Chandu is paid in proportion to the work done by him, then the amount in INR received by him is **CAT 2021**

137. A contractor agreed to construct a 6 km road in 200 days. He employed 140 persons for the work. After 60 days, he realized that only 1.5 km road has been completed. How many additional people would he need to employ in order to finish the work exactly on time? **CAT 2020**

138. John takes twice as much time as Jack to finish a job. Jack and Jim together take one-thirds of the time to finish the job than John takes working alone. Moreover, in order to finish the job, John takes three days more than that taken by three of them working together. In how many days will Jim finish the job working alone? **CAT 2020**

139. 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? **CAT 2020**
a) 13 b) 12 c) 15 d) 14

140. John gets Rs 57 per hour of regular work and Rs 114 per hour of overtime work. He works altogether 172 hours and his income from overtime hours is 15% of his income from regular hours. Then, for how many hours did he work overtime? **CAT 2019**

141. 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? **CAT 2019**
a) 18 b) 12 c) 24 d) 36

142. 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? [TITA] **CAT 2019**

143. A tank is emptied every day at a fixed time point. Immediately thereafter, either pump A or pump B or both start working until the tank is full. On Monday, A alone completed filling the tank at 8 pm. On Tuesday, B alone completed filling the tank at 6 pm. On Wednesday, A alone worked till 5 pm, and then B worked alone from 5 pm to 7 pm, to fill the tank. At what time was the tank filled on Thursday if both pumps were used simultaneously all along? **CAT 2018**
a) 4 : 12 PM b) 4 : 24 PM
c) 4 : 48 PM d) 4 : 36 PM

144. 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? **CAT 2018**

a) 12 b) 14.5 c) 13.5 d) 11

145. 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? (TITA) **CAT 2018**

146. 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? **CAT 2018**

a) 16 b) 22 c) 20 d) 18

147. 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? **CAT 2018**

a) 40 b) 32 c) 36 d) 45

148. 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] **CAT 2018**

149. 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? **CAT 2017**

a) 20 b) 30 c) 40 d) 45

150. 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 **CAT 2017**

a) 100 b) 200 c) 300 d) 400

151. 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? (TITA) **CAT 2017**

Answer Key							
1. c	2. c	3. b	4. a	5. a	6. b	7. 120	8. 20,30, 60
9. b	10. a) 12 days b) 26 1/2 days	11. 14.5 days	12. b	13. 27 days	14. c	15. c	16. a
17. a	18. 60 days	19. a	20. 6 days	21. d	22. d	23. d	24. b
25. 18 days	26. 4.5 days	27. c	28. 16th day	29. 780 & 520	30. a	31. d	32. a
33. d	34. d	35. d	36. b	37. d	38. b	39. d	40. d
41. c	42. 16 days	43. c	44. 48 days	45. b	46. a	47. a	48. b
49. b	50. b	51. b	52. a	53. b	54. a	55. a) 21/50 b) 17 24/37	56. a
57. b	58. c	59. c	60. b	61. c	62. c	63. b	64. d
65. c	66. c	67. b	68. a	69. c	70. b	71. b	72. d
73. c	74. d	75. a	76. a	77. c	78. a	79. c	80. c
81. b	82. d	83. b	84. a	85. b	86. b	87. c	88. a
89. a	90. c	91. a	92. c	93. a	94. d	95. b	96. c
97. c	98. 120	99. a	100. d	101. 0.2	102. 10	103. c	104. d
105. a	106. b	107. d	108. c	109. c	110. a	111. d	112. b
113. b	114. d	115. c	116. c	117. c	118. b	119. a	120. c
121. b	122. b	123. a	124. b	125. c	126. d	127. b	128. a
129. c	130. b	131. 32	132. D	133. A	134. B	135. A	136. 3000
137. 40	138. 4	139. A	140. 12	141. A	142. 13	143. B	144. C
145. 48	146. C	147. B	148. 10	149. A	150. A	151. 15	