TIME & WORK ASSIGNMENT 2

Q1) When working alone X, Y and Z can complete a piece of work in 8, 12 and 30 days respectively. At the most only two people can work on each day and nobody works for more than two consecutive days. What is the minimum number of days that they will take to finish the work.
1) 4(4/29)
2) 6(4/25)
3) 6(6/29)
4) 12(4/25)

Q2) Nakul and Ram are working on aproduction company. Nakul takes 6 hours to make 32 products, while Ram takes 5 hours to make 40 products. How much time will they take, working together to make 110 products?
A.8 hours
B.8 hours 15 minutes
C.9 hours
D.8 hours 25 minutes

Q3) A takes 9 days and B takes D days to complete a job working alone. A and B work on the job on alternate days. If they take exactly the same time irrespective of who starts the job, how many positive integer values are possible for D
1) 1
2) 2
3) 3
4) 4

Q4) A and B can do a work in 6 days and 8 days respectively. If A, B and Ctogether can complete the work in 2 days, then what is the ratio of the earnings of A, B and C, if they are paid in the ratio of the work done by them?
(a) 5 : 4 : 3
(b) 3 : 4 : 5
(c) 4 : 3 : 5
(d) 4 : 5 : 3

Q5) 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?
(a) 2.0 hours
(b) 3.0 hours
(c) 2.5 hours
(d) 7.0 hours

Q6) 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?

(a) 23 (b) 22 (c) 19 (d) 17

Q7) A contractor agreed to finish a piece of work in 150 days. He employed 75 men and made them work for 8 hours per day. However, after 90 days, he realized that only (2/7 th) of the work was completed. How many more men would he need to employ to complete the work on time if he intended to make everybody work for 10 hours per day henceforth?

(a) 75 (b) 100
(c) 150 (d) 225

Q8) A, B and C can finish a job working alone in 15, 20 and 25 days respectively. However, while working with somebody the efficiency of A, B and C 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

Q9) It takes 30 hours 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 get filled completely in 10 hours. How much time (in hours) 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) 3

Q10) 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

Q11) A, B and J can do a job in 20, 30 and 40 days respectively. The three started the job together; A left the job 4 days before it was completed and B left the job 3 days before it was completed. In how many days was the job completed?
(a) 14
(b) 12
(c) 16
(d) 15

Q12) P and Q working together can do a piece of work in 10 days whereas Q and R working together can do the same work in 12 days. All three work together to do a job for which they are paid Rs. 300. If Q's share is Rs. 140, then what is P's share? (a) Rs. 100
(b) Rs. 60
(c) Rs. 80
(d) Cannot be determined

Q13) A and B work on alternate days with A starting on the first day. A does 12.5% of the total work on the last day and finishes the work. If A alone can do the work in 6 days then which of following can be the number of days in which B alone can do the whole work?
(a) 24 days
(b) 12 days
(c) 8 days
(d) 10 days

Q14) A group of 10 men can do a job in 15 days. The group starts working and after every three days they are joined by two more men. On which day does the job get completed?
(a)10^{th}
(b)11^{th}
(c)12^{th}
(d)13^{th}

Q15) When Ashok and Karthik are working alone, they can complete a piece of work in 25 days and 30 days respectively. On day 1, Karthik started the work and Ashok joined B from day 3 on-wards. Find approximately after how many days will the work be completed?
A.20 days
B.10 days
C.15 days
D.25 days
E.30 days

Q16) A firm has tractors of four models, A, B, C, D. Four tractors (2 of model B and one each of models C and D) plough a field in two days. Two model A tractors and one model C tractor take three days to do this job. Three tractors one each of models A, B and C take four days to do the same task. How long will it take to do the job if a team is made up of four tractors of different models?

(a) 10/7 days
(b) 14/7 days
(c) 13/7 days
(d) 12/7 days

Q17) The radius of the cross-sections of pipes P1 and P2 are 7 m and 14 m respectively. Water flows through P1 at a constant rate of 10 m/s and it can alone fill a tank in 2 hours. If P1 is used as the inlet pipe and P2 as the outlet pipe then together they fill the tank in 4 hours. What is the rate of water flow (in m/s) through P2?

(a) 1.00
(b) 1.25
(c) 1.50
(d) 2.00

Q18) A contractor, intending to finish a work in 150 days, employed 75 men. They worked for 8 hours every day for 90 days and completed 2/7th part of the work. Then the contractor increased the number of men by x and thereafter all the men were made to work for 10 hours every day. If the work was completed just in time, then what is the value of x?

(a) 225
(b) 150
(c) 75
(d) None of these

Q19) 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

Q20) One man and six women working together can do a job in 10 days. The same job is done by two men in 'x' days and by eight women in x+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%

Q21) Six men can complete two-third of a work in 5 days, six women can complete one-fifth of the work in 3 days and five children can complete one-fourth of the work in 6 days. In how many days can a man, a woman and a child working together complete the work?
(a) 18
(b) 20
(c) 24
(d) 30

Q22) A can complete one-fourth of a piece of work in five-twelfth of the time taken by B to complete the entire work. If they together can complete the work in 15 days, then in how many days can B working alone complete the work?
(a) 17
(b) 24
(c) 30
(d) 40

Q23) Ten pipes working at full efficiency can fill a tank completely in 30 hours. Five pipes start filling the tank. The pipes work for exactly 40 minutes in every odd hour i.e. 1st hour, 3rd hour etc while they work for exactly 50 minutes in every even hour i.e. 2nd hour, 4th hour etc. If seven more pipes (working in the same manner as the existing five) are added after 12 hours, then in which hour will the tank be full?
(a) 41st
(b) 40th
(c) 37th
(d) 33rd

Q24) Two taps with emptying capacities in the ratio 1 : 2, empty a full tank in 2 hours when opened together. How much time does the first tap alone take to empty half the tank?
(a) 1.5 hr
(b) 2 hr
(c) 3 hr
(d) 6 hr

Q25) There are three drain pipes P1, P2 and P3, all of equal capacity, fitted to a cylindrical tank of height 6 metres. P1 is fitted at the bottom of the tank, while P3 is fitted at a height of 5 m above P1, and P2 is fitted in between P3 and P1. P1 alone can empty the full tank in T minutes and if all the three pipes are in operation, the full tank can be emptied in (2T/3) minutes. What is the height (above P1) at which P2 is fitted to the tank?
(a) 3 (1/2) m (b) 2 (5/6) m
(c) 2 (1/3) m (d) 2 (2/3) m

Q26) There are n taps, numbered 1, 2, 3, …… n, fitted to a tank. If each tap, starting from the second tap, has a filling capacity equal to the sum of the filling capacities of all the taps numbered less than it, and the difference in the filling capacities of the twelfth tap and the eleventh tap is 1792 litres per hour, find the filling capacity (in litres per hour) of the eighth tap.

a) 448 b) 896 c) 224 d) Cannot be determined

Q27) P, V and G had to paint three identical fences. On the first day, only P turned up for work and he completed the work only on the first fence, taking m hours. On the second day, all three of them turned up for work and they completed the work only on the second fence, taking (m – 4) hours. On the third day, V and G turned up and they completed the work on the third fence, taking (m+ 5) hours. What is the value of m?

a) 8 b) 6 c)10 d)9

Q28) A pipe, P, can fill an empty tank in 12 minutes and another pipe, Q, can empty the same tank completely in 20 minutes. Pipe P closes automatically when the water level in the tank reaches 3/4th of the height of the tank and simultaneously the pipe Q opens and operates until the water level falls to exactly 1/4th of the height of the tank, after which Q closes and simultaneously P opens. If the pipe P is opened first and this process continues indefinitely, what fraction of the tank is filled after exactly one hour? (assume that the tank is initially empty).

Q29) A dye company received an order of 400 litres of black dye and 360 litres of brown dye. It has two machines - X and Y - to make these dyes. X takes 4 hours to make 16 litres of black dye and 3 hours to make 9 litres of brown dye. Y takes 4 hours to make 12 litres of black dye and 3 hours to make 12 litres of brown dye. If the company has to deliver the order in 93 hours, the delivery will be delayed by at least

(a) 2 (1/7)hr (b) 2 (2/7) hr

(c) 2 (4/7)hr (d) 2 (5/7) hr

Q30) A piece of work is carried out by a group of men, all of equal capacity, in such a way that on the first day one man works and on every subsequent day one additional man joins the work. A group of women, all of equal capacity is engaged to carry out a second piece of work with ten women starting the work on the first day and one woman leaving the work at the end of everyday. The second piece of work requires three times the effort required for the first piece of work and each man is thrice as efficient as each woman. It is known that one man working alone can complete the first piece of work in 6 days.
I. Number of days in which the second piece of work is completed.
II. Number of days in which the first piece of work is completed.

a) if I > II

b) if II > I

c) if I = II

d) if the relationship cannot be determined from the given information.

Q31.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

Q32. **Madhavan can finish a work in 5 hours. 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

Q33) Three friends A, B and C have decided to complete a work together. The time taken by A, working alone, to the complete the work is 12.5% more than the time taken by B and C, working together, to complete the work. The time taken by B, working alone, is 426/7% more than the time taken by A and C, working together, to complete the work. If C, working alone, takes 63 days to complete the work, find the time taken by all three of them together to complete the work.

a) 7 (7/17) days b) 11 (7/17) days
c) 17 (7/17) days d) None of these

Q34) A group of 2N (N > 5) persons can do a piece of work in N days. When the group started the work, one of them could not join the work as he met with an accident. The remaining people started the work and, starting from the first day, at the end each day one person left the group. After the group finishes working in this manner, the remaining work, if any, is then taken up on the immediately following day by the first person (who could not initially join the group due to the accident) alone, who continues till the work is completed. In how many days will the work be completed?

a) 2N b) 3N - 1
c) 2N - 1 d) 2N - 2

Q35) A and B can finish a work, working on alternate days, in 17 days, where A works on the first day. Similarly, they can finish the work, working on alternate days, in 17(2/3) days, where B works on the first day. If C, working alone, can complete the work in 35 days, in how many days can the work be completed when A, B and C work together

a) 6 days b) 7 days c) 7(2/5) days d) 6 (2/5) day

Q36) Rohan and Sohan together completed a task in a certain number of days. Had each of them worked independently on the task, they would have taken d more days and (16/9) d more days respectively. If they received a total of Rs. 7000 for completing the work, what is Rohan's share?

a) Rs.3000 b) Rs.4200
c) Rs.4000 d) Rs.3500

Q37) Ajay can complete a work in 32 days. Bhanu can complete the same work in half the time taken by Ajay. Chandu completes the work in half the time taken by Bhanu. Dinesh completes the work in half the time taken by Chandu. They are paired into two groups of two each. If the first group takes 2/3 times the time taken by the other group to complete the work, the second group comprises

a) Ajay and Chandu. b) Bhanu and Chandu.
c) Ajay and Dinesh. d) Bhanu and Dinesh.

Q38) Two identical tanks are provided with inlets of different flow rates, such that the first tank can be filled in 10 minutes, while the second tank can be filled in 20 minutes. If the two tanks are placed at the same level and connected at the bottom, and both the inlets are opened simultaneously, how long does it take for both of them to be filled?

a) 15 minutes
b) 13(1/3) minutes
c) 16(2/3) minutes
d) 14(1/4) minutes

Q39) A group of men, working together, can complete a job in M hours. However, if after every eight hours, half the number of men working at that point of time leave the job and, continuing this way, the job takes exactly 40 hours to be completed, what is the value of M

a) 15 b) 15 (1/4)
c) 15 (3/4) d) 15 (1/2)

Q40) A group of workers in a puppet manufacturing company was assigned the task of making 395 puppets. Each worker in the group works at a constant rate and makes five puppets per hour. At the end of the first hour, some of the workers were reassigned to another task; at the end of the second hour, the same number of the remaining workers were also reassigned to another task, and a similar reassignment occurred at the end of every hour till the task was complete. If the entire task was completed in 4 hours and 20 minutes, how many puppets were finished in the first three hours?

Q41) A tank has four emptying taps, all of equal efficiencies, but each fixed at (1/5)th, (2/5)th, (3/5)th and (4/5)th of the height of the tank respectively. Two filling taps, each of which individually can fill the tank in 200 minutes, are also connected to the tank. If the ratio of the efficiency of each emptying tap and the efficiency of each filling tap is
1 : 3, and all the six taps are opened simultaneously, then in how much time will the empty tank be filled?

a) 166 minutes b) 174 minutes
c) 182 minutes d) 154 minutes

Q42) If 2 men and 5 women can complete a job in(15/2)days, while 5 men and 25 women can complete it in 2 days, find time in which 10 men would complete the work.

a) ¾ day b) 1 day
c) 3 days d) 9/2 days

Q43) A tank, of capacity 200 litres, has N taps, numbered from 1 to N, fitted to it. At the start of the nth minute, where $1 \leq n \leq N$, the tap numbered n, which emptities the tank at the rate of n litres per minute, is opened. If $N > 60$ and the tank was completely full initially, then find the time (in minutes) after which the tank will be empty

a) 8 (5/9) b) 10(4/11)
c) 11 (3/13) d) 9(7/11)

Q44) Each of Rohit, Sameer and Tarun has a field. The ratio of the areas of their fields is 3 : 8 : 3 respectively. Sameer is half as efficient as Tarun and twice as efficient as Rohit. Each person begins the work on his field at the same time. The first person who completes the work on his field moves on to the person's field on which the least amount of work has been completed. Both of them together then complete the work on that field and then move on to the third person's field, if there is any work still left on it. All three together then complete the work in that field. If it is known that Tarun working alone, can complete the work on his field in 6 hours, find the time taken to complete the work on all the three fields.

a) 12 hours b) 14 hours

c) 16 hours d) 18 hours

Q45) Two persons A and B work on a certain job on alternate days. If A works on Day 1, the job gets completed in 17 days. If B works on Day 1, the job gets completed in (71/4) days. If both of them work together on the job, then the job will be completed in

a) 8 (4/7)days b) 5 (4/5) days

c) 8 (4/5) days d) 6 (3/7) days

Q46) A and B can build a certain wall in 20 days and 30 days respectively. In how many days can they together build two such walls? a) 12

b) 18

c) 20

d) 24

Q47) Eight men and three women can complete a certain work in eight days, which twelve men and a women take six days to complete. If a men and nine women take ten days to complete the same work, find a. (Assume that both men and women have a positive rate of work)

a) 5 b) 4

c) 3 d) 2

Q48) 87 men can do a certain job in 94 days. The same job is instead started by one man on the first day and then, from the second day onwards, each day some more persons join the work. If the number of persons joining on the nth day ($n \geq 2$) is twice that of those joining on the $(n-1)$th day, in how many days will the job get completed? **Q49)** Ten men working together can do a certain job in 56 days. lf on the first day, one man slarts the work; on the second day, two men join him; on the third day, three men ioin, and so on, with exactly n men joining the work on the nth day, find the number of days in which th'e work would be completed.

Q50) . A piece of work can be done by 11 men and 16 boys in 2 days. If 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?

a)16 (2/5)

b) 20 (1/2)

c) 41 (1/4)

d) 14 (3/5)

Solutions – 1) Discussed in Live Session in Sunday long Session

2) Check All other pending Questions Video & Solutions here
https://www.facebook.com/events/3087317017999979/

Answer key :-

1)B
2)B
3)C
4)C
5)B
6)D
7)C
8)B
9)D
10)C
11)B
12)A
13)C
14)C
15)C
16)D
17)B
18)B
19)A
20)B
21)C
22)B
23)A
24)C
25)C
26)C
27)C
28)3/5
29)D
30)A
31)C
32)C
33)A
34)B
35)B
36)C
37)B
38)B
39)D
40)315
41)B
42)C
43)D
44)C
45)C
46)D
47)D
48)12
49)14
50)A