Quiz Date: 9th June 2020

Q1. Two persons X and Y can dig a pit in 16 hours together. They worked together 4 hours and then a third person Z whose efficiency is half of their together's efficiency joins them. Find in how much time the whole work will be completed?
(a) 10 hrs.
(b) 13 hrs.
(c) 12 hrs.
(d) 16 hrs.
(e) 18 hrs.

Q2. A can complete 1/4 of a work in 10 days, B can complete 40% of the work in 15 days, C completes 1/3 of the work in 13 days and D completes 1/6 of work in 7 days. Who will be able to complete work fastest?
(a) A
(b) B
(c) C
(d) D
(e) Can't be determined

Q3. A pump can fill a tank with water in 2 hours. Because of a leak in the tank it was taking $2\frac{1}{3}$ hours to fill the tank. The leak can drain all the water off the tank in:
(a) 8 hours
(b) 7 hours
(c) $4\frac{1}{3}$ hours
(d) 14 hours
(e) $3\frac{1}{3}$ hours

Q4. A is 30% more efficient than *B*. How much time will they take, working together, to complete a job which *A* alone could have done in 23 days ?
(a) 11 days
(b) 13 days
(c) $20\frac{3}{17}$ days
(d) 9 days
(e) 15 days

Q5. 12 men complete a work in 18 days. Six days after they had started working, 4 men joined them. How many days will all of them take to complete the remaining work ?
(a) 10 days

(b) 12 days
(c) 15 days
(d) 9 days
(e) 8 days

Q6. 12 men and 16 boys can do a piece of work in 5 days while 13 men and 24 boys can do it in 4 days. Then the ratio of daily work done by a man to that of a boy is
(a) 2 : 1
(b) 3 : 1
(c) 3 : 2
(d) 5 : 4
(e) None of these

Q7. A cistern normally takes 6 hours to be filled by a tap but because of a leak, takes 2 hours more. In how many hours will the leak empty a full cistern ?
(a) 20 hrs
(b) 24 hrs
(c) 26 hrs
(d) None of these
(e) Can't be determined
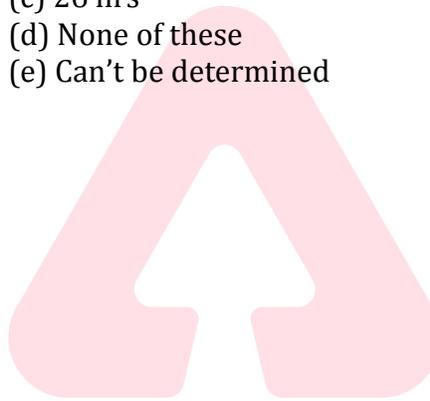
Q8. The work done by a woman in 8 hours is equal to the work done by a man in 6 hours and by a boy in 12 hours. If working 6 hours per day 9 men can complete a work in 6 days, then in how many days can 12 men, 12 women and 12 boys together finished the same working 8 hours per day?
(a) 2 ½ days
(b) 1 ½ days
(c) 3 ½ days
(d) 4 days
(e) None of these

Q9. A tank is filled by three pipes with uniform flow. The first two pipes operating simultaneously fill the tank in the same time during which the tank is filled by the third pipe alone. The second pipe fills the tank 5 hrs faster than the first pipe and 4 hrs slower than the third pipe. The time required by the first pipe is :
(a) 6 hrs

(b) 10 hrs
(c) 15 hrs
(d) 30 hrs
(e) 24 hrs

Q10. N number of men can finish a piece of work in 40 days. If there were 8 more men, the work could be finished in 10 days less. What will be double the original no of men?
(a) 36
(b) 54
(c) 24
(d) 48
(e) 42

Q11. Akshay starts working on a job and continues for 15 days and completes 36% of the work. To complete the work, he employs Monika and together they work for 20 days and completed the work. What will be the efficiency ratio of Akshay and Monika?
(a) 7 : 5
(b) 4 : 3
(c) 5 : 3
(d) 1 : 3
(e) 3 : 1

Q12. Three taps A, B and C are connected to a water tank and the rate of flow of water from them is 42 litres/hr, 56 litre/hr and 48 litres/hr. Tap A and B fill the tank and tap C empties it. If the tank gets completely filled in 16 hours, what is the capacity of the tank?
(a) 146 litres
(b) 960 litres
(c) 800 litres
(d) 1200 litres
(e) 500 litres

Q13. Tap A fills tank in 10 hours and B can fill it in 15 hours. Both are opened simultaneously. After some time tap B was closed and time taken to fill the whole tank was 8 hours. B was opened for how much time?
(a) 2 hours
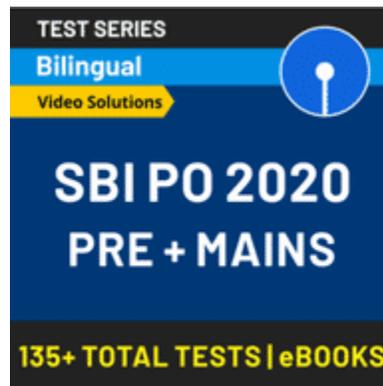(b) 3 hours
(c) 4 hours
(d) 5 hours
(e) 7 hours

Q14. A can do a piece of work in 12 days alone, B can do the same work in 16 days alone. After A has been working for 5 days and B for 7 days, C finishes it in 14 days. In how many days will C alone be able to do the work?
(a) 86 days
(b) 94 days
(c) 96 days

(d) 98 days
(e) 92 days

Q15. A and B working separately can do a piece of work in 10 days and 15 days respectively. It they work on alternate days beginning with A, in how many days will the work be completed?
(a) 18 days
(b) 13 days
(c) 12 days
(d) 6 days
(e)14 days

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S1. Ans. (c)
Sol.

4 hour work of X and Y together = $\dfrac{4}{16}$

$= \dfrac{1}{4}$

∴ One hour work of all the three persons

$= \dfrac{1}{16} + \dfrac{1}{32}$

$= \dfrac{3}{32}$

∴ Rest work i.e. $\dfrac{3}{4}$ th will be completed by

all the three in $= \dfrac{32}{3} \times \dfrac{3}{4}$

= 8 hours

∴ Total time to compete the whole work

= 4 + 8 = 12 hours

S2. Ans. (b)
Sol.

Time taken to complete whole work

by A = 4 × 10 = 40 days

By B = $\frac{100}{40}$ × 15 = $37\frac{1}{2}$ days

By C = 3 × 13 = 39 days
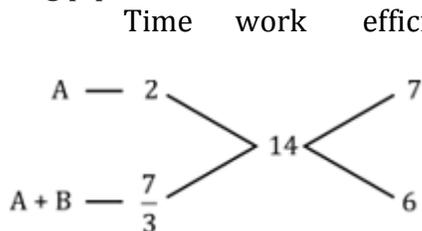
By D = 6 × 7 = 42 days

So B can complete the work in least time

S3. Ans.(d)
Sol.
Let filing pipe and leak be A and B respectively.

Time   work   efficiency

So efficiency of B = 6-7 = -1

So, required time = $\frac{14}{1}$ = 14 hours

S4. Ans.(b)
Sol.
Ratio of efficiency of A and B
= 130:100=13:10
Total work=13×23=299
Required time = $\frac{299}{13+23}$ = 13 days

S5. Ans.(d)
Sol.

In 1 day, work done by 12 men = $\frac{1}{18}$

In 6 days, work done by 12 men = $\frac{6}{18} = \frac{1}{3}$

Remaining work = $\frac{2}{3}$

Now, $m_1 \times d_1 \times w_2 = m_2 \times d_2 \times w_1$

or 12 × 18 × $\frac{2}{3}$ = 16 × d_2 × 1

or $d_2 = \frac{4 \times 18 \times 2}{16}$ = 9 days

S6. Ans.(a)
Sol.

(12M+16M)5=(13M+24B)4
60M-52M=96B-80B
1M=2B
M:B=2:1

S7. Ans.(b)
Sol.

∵ Cistern fill in 6 hours.

∴ in 1 hour, filled part $= \frac{1}{6}$th

Now, due to leakage, filled part in 1 hour

$= \frac{1}{8}$th

Part of the cistern emptied, due to

leakage in 1 hours $= \frac{1}{6} - \frac{1}{8} = \frac{1}{24}$th

∴ The leakage will empty the full

cistern in 24 hrs

S8. Ans.(b)
Sol.

8W = 6M = 12B convert 12W, 12B to men.

Then $M_1 D_1 T_1 = M_2 D_2 T_2$

$= 9 \times 6 \times 6 = (12 + 9 + 6) \times D_2 \times 8$

$\Rightarrow D_2 = 1\frac{1}{2}$ days

S9. Ans.(c)
Sol.

A → $x + 5$ hr

B → x hr

C → $x - 4$ hr

According to question,

$\frac{1}{x+5} + \frac{1}{x} = \frac{1}{x-4}$

$\Rightarrow \frac{2x+5}{x(x+5)} = \frac{1}{x-4}$

$\Rightarrow x^2 - 8x - 20 = 0$

$\Rightarrow x = 10$ hr

∴ Time required by first pipe = 15 hrs.

S10. Ans.(d)
Sol.

$M_1 D_1 = M_2 D_2$
$40N = (N + 8)30$
$\Rightarrow 10N = 240$
$N = 24$
$\therefore$ Double the N = 24 × 2 = 48 men

S11. Ans.(e)
Sol.
Akshay : 15 days → 36% of the work
$\therefore$ 20 days → 48% of the work
Total workdone by Akshay = 48% + 36% = 84%
Which means Monika did only 16% of the work in
20 days while comparing the working efficiency

	Akshay	Monika
In 20 days,	48%	16%
$\therefore$ Efficiency	3 :	1

S12. Ans.(c)
Sol.
Total water filled in 1 hour = 42 + 56 – 48 = 50 litres
Water filled in 16 hours = 16 × 50 = 800 litres
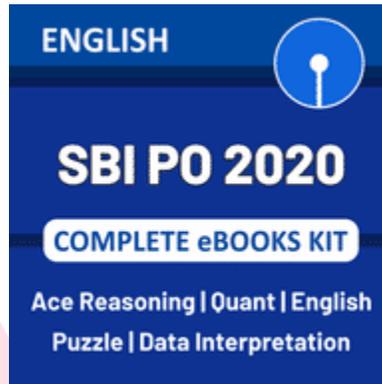Hence the capacity of tank = 800 litres

S13. Ans.(b)
Sol.
Let required time $= x$
$\therefore \dfrac{8}{10} + \dfrac{x}{15} = 1$
$x = 3$

S14. Ans.(c)
Sol.

Let C will take x days to finish the same work alone.

$$\therefore \frac{5}{12} + \frac{7}{16} + \frac{14}{x} = 1$$

$$\Rightarrow \frac{14}{x} = 1 - \frac{(20 + 21)}{48}$$

$$\Rightarrow \frac{14}{x} = \frac{7}{48}$$

$$\Rightarrow x = 96 \text{ days}$$

S15. Ans.(c)
Sol.
LCM (10, 15) = 30 unit

A's unit = $\frac{30}{10}$ = 3 unit
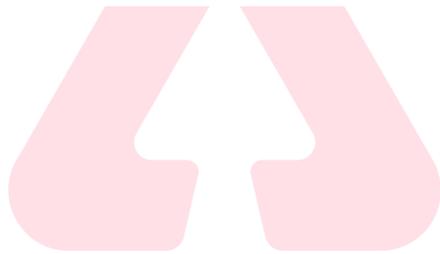
B's unit = $\frac{30}{15}$ = 2 unit

AB AB …………

1st day = 3 unit

2nd day = 2 unit

Work till 2nd day = 5 unit

In 12 days = 30 units

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