SRI KRISHNAVENI BANKING COACHING CENTRE

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TIME & WORK

Max.Marks : 50
Time :1/2 Hour

1. 18 men together can complete a work in 14 days. In how many days 12 men finish that work?
   A. 9.3 days
   B. 21 days
   C. 12 days
   D. 16 days
   E. None of these

2. "A" can complete a work in 240 days and A and B together can complete the same work in 144 days. In what time does B alone complete that work?
   A. 15 days
   B. 96 days
   C. 148 days
   D. 360 days
   E. None of these

3. 24 men can reap 10 acres in 8 days. How many men are required to reap 15 acres in 6 days?
   A. 32
   B. 48
   C. 56
   D. 40
   E. None of these

4. A, B and C can do a piece of work in 30 days, 24 days and 40 days respectively. They started working together but c left 4 days before the completion of the work. In how many days was the work finished?
   A. 5
   B. 11
   C. 12
   D. 8
   E. None of these

5. If 2 men and 3 boys can do a piece of work in 8 days and 3 men and 2 boys can do it in 7 days. In how many days will 5 men and 4 boys take to complete it?
   A. 4 days
   B. 6 days
   C. 7 days
   D. 3 days
   E. None of these

6. A is thrice as efficient as B and therefore able to complete the work 40 days less than B. In what time B alone can complete that work? (days).
   A. 60
   B. 20
   C. 40
   D. 25
   E. None of these

7. 16 men can do a piece of work in 16 days. 4 days after they started the work, 8 more men joined them. How many days will they now take to complete the remaining work?
   A. 12 days
   B. 8 days
   C. 15 days
   D. 6 days
   E. None of these

8. 57 men can complete a piece of work in 16 days. How many men must be hired to complete the same work in 12 days?
   A. 76
   B. 19
   C. 38
   D. 18
   E. None of these

9. Tanisha can complete a piece of work in 8 days. Manisha is 60 % more efficient than Tanisha. In how many days they both can complete the work, working together?
   A. 3 1/7 days
   B. 3 1/13 days
   C. 5 1/11 days
   D. 4 1/13 days
   E. None of these

10. 15 men take 21 days of 8 hours each to do a piece of work. How many days of 6 hours each would 21 women take, if 3 women do as much as 2 men?
    A. 18
    B. 20
    C. 25
    D. 30
    E. None of these

11. 2 men or 3 women alone can complete a piece of work in 4 days. In how many days can 1 woman and one man together complete the same work?
    A. 16 days
    B. 24/5 days
    C. 12/1.75 days
    D. 30 days
    E. None of these

12. 8 men can complete a piece of work in 20 days. 8 women can complete the same work in 32 days. In how many days will 5 men and 8 women together complete the same work?
    A. 16 days
    B. 12 days
    C. 14 days
    D. 10 days
    E. None of these

13. Two pipes A and B can fill a tank in 3 hours and 4 hours respectively. A drain pipe C can empty a full tank in 6 hours. In what time can the tank be filled when all the three are open simultaneously?

A. 7.5 hours   B. 2.8 hours

C. 2.4 hours   D. 6 hours

E. None of these

14. A tank can be filled by two taps in 6 hours and 9 hours respectively. The first tap was opened at 7 am and the second at 8 am. At what time will the tank befull?

A. 1 pm   B. 12 am C. 11 am D. 2 pm

E. None of these

15. Pipe A can fill a tank in 5 hours, pipe B in 10 hours, pipe C in 30 hours. If all the pipes are open, in how many hours will the tank be filled?

A. 2   B. 2.5   C. 3   D. 3.5

E. None of these

16. A and B can do a job together in 7 days. A is 1 3/4 times as sufficient as B. The same job can be done by A alone in:

A. 9 1/3 days   B. 11 days

C. 12 1/4 days   D. 16 1/3 days

E. None of these

17. A works twice as fast as B. If B can complete a work in 12 days independently, the number of days in which A and B together finish the work is?

A. 4 days   B. 6 days

C. 8 days   D. 18 days

E. None of these

18. A, B and C can complete a piece of work in 24, 6 and 12 days respectively, working together, they will complete the same work in:

A. 1/24 day   B. 7/24 day

C. 3 3/7 day   D. 4 days

E. None of these

19. A can do a piece of work in 16 days and B can do the same work in 12 days. With the help of C, they did the work in 4 days only. Then C alone can do the work in?

A. 9 1/5 days   B. 9 2/5 days

C. 9 3/5 days   D. 10 days

E. None of these

20. A takes twice as much time as B or thrice as much time as C to finish a peiece of work. Working together, they can finish the work in 2 days. B can do the work in?

A. 4 days   B. 6 days   C. 8 days   D. 12 days

E. None of these

Key Sheet			
1. B	6. A	11. B	16. B
2. D	7. B	12. A	17. A
3. B	8. B	13. C	18. C
4. B	9. B	14. C	19. C
5. A	10. D	15. C	20. B

(1) B   (6) A   (11) B   (16) B
(2) D   (7) B   (12) A   (17) A
(3) B   (8) B   (13) C   (18) C
(4) B   (9) B   (14) C   (19) C
(5) A   (10) D   (15) C   (20) B

Explanation:-

(1) Sol:-

Men	Days
18	14
12	?

$$= \frac{18}{12} \times 14 = 21 \text{ days (B)}.$$

(2) Sol:-

A — 240 days

A & B — 144 days

B — ?

$$B's \text{ workdays} = \frac{xy}{x-y} = \frac{240 \times 144}{240-144} = \frac{240 \times 144}{96} = 360 \text{ days (D)}$$

(3) Ans:-

Men	Days	Work
24	8	10
?	6	15

$$= \frac{8}{6} \times \frac{15}{10} \times 24$$

$$= 48 \text{ men (B)}$$

(4) Ans:- Let, the work finished in 'x' days.

$$\frac{x}{30} + \frac{x}{24} + \frac{x-4}{40} = 1$$

$$\therefore x = 11 \text{ days (B)}$$

(5) Ans:-   2 men + 3 boys — 8 days

⟹ 16 men + 24 boys — 1 day.

Similarly, 3 men + 2 boys — 7 days.

21 men + 14 boys — 1 day.

$$16M + 24B = 21M + 14B$$

$$5M = 10B$$

$$\therefore 1M = 2B.$$

$$\Rightarrow 2M + 3B = (2 \times 2) + 3$$

$$= 7 \text{ boys} \quad - \quad 8 \text{ days}$$

$$5M + 4B = (5 \times 2) + 4$$

$$= 14 \text{ boys} \quad - \quad ?$$

$$= \frac{7}{14} \times 8$$

$$= 4 \text{ days (A)}$$

⑥ Ans:- If A completes in x days, B can complete in 3x days.

$$3x - x = 40 \text{ days}$$

$$2x = 40$$

$$x = 20.$$

$\therefore$ B can complete in $3 \times 20 = 60$ days (A)

⑦ Ans:- workdone by 16 men in 16 days = 1

workdone by 16 men in 4 days $= \frac{4}{16} = \frac{1}{4}$

Remaining work $= 1 - \frac{1}{4} = \frac{3}{4}$, Total Men Now $= 16 + 8$

$$= 24$$

Men	Work	Days
16	1	16
24	$\frac{3}{4}$	?

$$= \frac{16}{24} \times \frac{3}{4} \times 16 = 8 \text{ days (B)}$$

⑧ Ans:-

Men	Days
57	16
?	12

$$= \frac{16}{12} \times 57$$

$$= 76 \text{ men.}$$

$\therefore$ Required Men $= 76 - 57$

$$= 19 \text{ more men (B)}$$

9) Ans:- Nanisha is 60% more efficient than Tanisha.

∴ Tanisha takes 60% more time i.e., 160%.

$$160\% - 8$$
$$180\% - ?$$

$$\frac{100}{160} \times 8 = 5 \text{ days.}$$

∴ If both work together $= \frac{8 \times 5}{8+5} = \frac{40}{13} = 3\frac{1}{13}$ days (B)

10) Ans:- 3 women = 2 men

⇒ 21 women = 14 men.

men	Days	Hours
15	8	21
14	6	?

$$= \frac{15}{14} \times \frac{8}{6} \times 21 = 30 \text{ days (D)}$$

11) Ans:- 2 men = 3 women

1 men = $\frac{3}{2}$ women.

$$1M + 1W = \frac{3}{2}W + 1W = \frac{5}{2}W$$

Men	Days	
3	4	$\frac{3}{\frac{5}{2}} \times 4$
$\frac{5}{2}$	?	$= \frac{3 \times 2}{5} \times 4 = \frac{24}{5}$ days (B)

12) Ans:-
$$8M \times 20 = 6W \times 32$$
$$20M = 32W$$
$$5M = 8W.$$

∴ 5M + 8W = 8W + 8W = 16W.

Men	Days
8	32
16	?

$$= \frac{8}{16} \times 32 = 16 \text{ days (A)}$$

(13) Sol:-
$1\ hour = \frac{1}{3} + \frac{1}{4} - \frac{1}{6}$

$= \frac{4+3-2}{12}$

$= \frac{5}{12}$

$\therefore$ Total hours $= \frac{12}{5} = 2.4$ hours (c).

(14) Sol:- First pipe fills $\frac{1}{6}$ part in one hour.

The Balance $1 - \frac{1}{6} = \frac{5}{6}$ filled by both pipes

$= \frac{5}{6} \times \frac{6 \times 9}{6+9} = \frac{5}{6} \times \frac{6 \times 9}{15} = 3$ hours.

$\therefore$ The tank is filled in $= 8am + 3$

$= 11\ am$ (c)

(15) Ans:- part filled by $(A+B+C)$ in 1 hour $= \left(\frac{1}{5} + \frac{1}{10} + \frac{1}{30}\right)$

$= \frac{1}{3}$.

$\therefore$ All pipes together fill the tank in '3' hours (c)

(16) Ans:- A's 4 day work : B's 4 day work $= \frac{7}{4} : 1 = 7:4$.

$\therefore 7x + 4x = \frac{1}{7} \Rightarrow 11x = \frac{1}{7} \Rightarrow x = \frac{1}{77}$.

$\therefore$ A's one day work $= \left(\frac{1}{77} \times 7\right) = \frac{1}{11}$

$= 11$ days (B)

(17) Ans:- Ratio of rates of working $= 2:1$

$\therefore$ Ratio of times takes $= 1:2$

B's one day work $= \frac{1}{12}$

similarly, A's one day work $= \frac{1}{6}$.

$\therefore (A+B)$'s one day work $= \frac{1}{6} + \frac{1}{12} = \frac{3}{12} = \frac{1}{4}$ i.e., 4 days (A)

(18) Ans:- $(A+B+C)$'s one day work $= \frac{1}{24} + \frac{1}{6} + \frac{1}{12} = \frac{7}{24}$.

i.e., $\frac{24}{7}$ days $= 3\frac{3}{7}$ days (c)

(19) Ans:- $(A+B+C)$'s one day work $= \frac{1}{4}$.

A's one day work $= \frac{1}{16}$.

B's one day work $= \frac{1}{12}$.

$\therefore$ C's one day work $= \frac{1}{4} - \left(\frac{1}{16} + \frac{1}{12}\right)$

$= \frac{1}{4} - \frac{7}{48}$

$= \frac{5}{48}$.

i.e., $\frac{48}{5}$ days $\Rightarrow 9\frac{3}{5}$ days (C)

(20) Ans:- Let, Time taken by A to finish the work $= x$ hours.

$\therefore$ B's time taken $= \frac{x}{2}$ hours.

C's time taken $= \frac{x}{3}$ hours.

then $\frac{1}{x} + \frac{2}{x} + \frac{3}{x} = \frac{1}{2}$

$\frac{6}{x} = \frac{1}{2}$

$x = 12$

$\therefore$ B's time to finish work $= \frac{x}{2} = \frac{12}{2} = 6$ hours (B)