Book For

State Bank Of India

SBI Officer Aptitude Sample Paper For Pre Exam

(1) A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

[A] 12 days

[B] 15 days

[C] 16 days

[D] 18 days

Answer : [B]

Explanation:

A's 2 day's work = $\left(\frac{1}{20} \times 2\right) = \frac{1}{10}$.

(A + B + C)'s 1 day's work = $\left(\frac{1}{20} + \frac{1}{30} + \frac{1}{60}\right) = \frac{6}{60} = \frac{1}{10}$.

Work done in 3 days = $\left(\frac{1}{10} + \frac{1}{10}\right) = \frac{1}{5}$.

Now, $\frac{1}{5}$ work is done in 3 days.

∴ Whole work will be done in (3 x 5) = 15 days.

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(2) 10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?

[A] 3

[B] 5

[C] 7

[D] Cannot be determined

[E] None of these

Answer : [C]

Explanation:

1 woman's 1 day's work = $\frac{1}{70}$

1 child's 1 day's work = $\frac{1}{140}$

(5 women + 10 children)'s day's work = $\left(\frac{5}{70} + \frac{10}{140}\right) = \left(\frac{1}{14} + \frac{1}{14}\right) = \frac{1}{7}$

∴ 5 women and 10 children will complete the work in 7 days.

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(3) A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work?

[A] 5

[B] $5\frac{1}{2}$

[C] 6

[D] 8

Answer : [C]

Explanation:

B's 10 day's work = $\left(\frac{1}{15} \times 10\right) = \frac{2}{3}$.

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Remaining work = $\left(1 - \frac{}{3}\right) = \frac{}{3}$.

Now, $\frac{1}{18}$ work is done by A in 1 day.

$\therefore$ $\frac{1}{3}$ work is done by A in $\left(18 \times \frac{1}{3}\right)$ = 6 days.

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(4) 4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?

[A] 35

[B] 40

[C] 45

[D] 50

Answer : [B]

Explanation:
Let 1 man's 1 day's work = x and 1 woman's 1 day's work = y.
Then, $4x + 6y = \frac{1}{8}$ and $3x + 7y = \frac{1}{10}$.

Solving the two equations, we get: $x = \frac{11}{400}$, $y = \frac{1}{400}$

$\therefore$ 1 woman's 1 day's work = $\frac{1}{400}$.

$\Rightarrow$ 10 women's 1 day's work = $\left(\frac{1}{400} \times 10\right) = \frac{1}{40}$.

Hence, 10 women will complete the work in 40 days.

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(5) A can finish a work in 24 days, B in 9 days and C in 12 days. B and C start the work but are forced to leave after 3 days. The remaining work was done by A in:

[A] 5 days

[B] 6 days

[C] 10 days

[D]
$10\frac{1}{2}$ days

Answer : [C]

Explanation:
(B + C)'s 1 day's work = $\left(\frac{1}{9} + \frac{1}{12}\right) = \frac{7}{36}$.

Work done by B and C in 3 days = $\left(\frac{7}{36} \times 3\right) = \frac{7}{12}$.

Remaining work = $\left(1 - \frac{7}{12}\right) = \frac{5}{12}$.

Now, $\frac{1}{24}$ work is done by A in 1 day.

So, $\frac{5}{12}$ work is done by A in $\left(24 \times \frac{5}{12}\right)$ = 10 days.

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(6) In order to obtain an income of Rs. 650 from 10% stock at Rs. 96, one must make an investment of:

[A] Rs. 3100

[B] Rs. 6240

[C] Rs. 6500

[D] Rs. 9600

Answer : [B]

Explanation:
To obtain Rs. 10, investment = Rs. 96.
To obtain Rs. 650, investment = Rs. $\left(\frac{96}{10} \times 650\right)$ = Rs. 6240.

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(7) A man bought 20 shares of Rs. 50 at 5 discount, the rate of dividend being $13\frac{1}{2}$. The rate of interest obtained is:

[A] $12\frac{1}{2}\%$

[B] $13\frac{1}{2}\%$

[C] 15%

[D] $16\frac{2}{3}\%$

Answer : [C]

Explanation:
Investment = Rs. [20 x (50 - 5)] = Rs. 900.
Face value = Rs. (50 x 20) = Rs. 1000.
Dividend = Rs. $\left(\frac{27}{2} \times \frac{1000}{100}\right)$ = Rs. 135.

Interest obtained = $\left(\frac{135}{900} \times 100\right)_{\%}$ = 15%

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(8) By investing Rs. 1620 in 8% stock, Michael earns Rs. 135. The stock is then quoted at:

[A] Rs. 80

[B] Rs. 96

[C] Rs. 106

[D] Rs. 108

Answer : [B]

Explanation:
To earn Rs. 135, investment = Rs. 1620.
To earn Rs. 8, investment = Rs. $\left(\frac{1620}{135} \times 8\right)$ = Rs. 96.

∴ Market value of Rs. 100 stock = Rs. 96.

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(9) Rs. 9800 are invested partly in 9% stock at 75 and 10% stock at 80 to have equal amount of incomes. The investment in 9% stock is:

[A] Rs. 4800

[B] Rs. 5000

[C] Rs. 5400

[D] Rs. 5600

Answer : [B]

Explanation:
Let the investment in 9% stock be Rs. x.
Then, investment in 10% stock = Rs. (9800 - x).
$\frac{9}{75} \times x = \frac{10}{80} \times (9800 - x)$

$\Rightarrow \frac{3x}{25} = \frac{9800 - x}{8}$

$\Rightarrow 24x = 9800 \times 25 - 25x$
$\Rightarrow 49x = 9800 \times 25$
$\Rightarrow x = 5000.$

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(10)

The cost price of a Rs. 100 stock at 4 discount, when brokerage is $\frac{1}{4}\%$ is:

[A] Rs. 95.75

[B] Rs. 96

[C] Rs. 96.25

[D] Rs. 104.25

Answer : [C]

Explanation:
C.P. = Rs. $\left(100 - 4 + \frac{1}{4}\right)$ = Rs. 96.25

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(11) A man has Rs. 480 in the denominations of one-rupee notes, five-rupee notes and ten-rupee notes. The number of notes of each denomination is equal. What is the total number of notes that he has ?

[A] 45

[B] 60

[C] 75

[D] 90

Answer : [D]

Explanation:
Let number of notes of each denomination be x.
Then $x + 5x + 10x = 480$
$\Rightarrow 16x = 480$
$\therefore x = 30.$
Hence, total number of notes = $3x = 90$.

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(12) The price of 10 chairs is equal to that of 4 tables. The price of 15 chairs and 2 tables together is Rs. 4000. The total price of 12 chairs and 3 tables is:

[A] Rs. 3500

[B] Rs. 3750

[C] Rs. 3840

[D] Rs. 3900

Answer : [D]

Explanation:
Let the cost of a chair and that of a table be Rs. x and Rs. y respectively.
Then, $10x = 4y$ or $y = \frac{5}{2}x$.

$\therefore\ 15x + 2y = 4000$
$\Rightarrow 15x + 2 \times \frac{5}{2}x = 4000$

$\Rightarrow 20x = 4000$
$\therefore\ x = 200.$
So, $y = \left(\frac{5}{2} \times 200\right) = 500.$

Hence, the cost of 12 chairs and 3 tables = $12x + 3y$
= Rs. (2400 + 1500)
= Rs. 3900.

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(13) Eight people are planning to share equally the cost of a rental car. If one person withdraws from the arrangement and the others share equally the entire cost of the car, then the share of each of the remaining persons increased by:

[A]
$\frac{1}{7}$

[B]
$\frac{1}{8}$

[C]
$\frac{1}{9}$

[D]
$\frac{7}{8}$

Answer : [A]

Explanation:
Original share of 1 person = $\frac{1}{8}$

New share of 1 person = $\frac{1}{7}$

Increase = $\left(\frac{1}{7} - \frac{1}{8}\right) = \frac{1}{56}$

$\therefore$ Required fraction = $\frac{(1/56)}{(1/8)} = \left(\frac{1}{56} \times \frac{8}{1}\right) = \frac{1}{7}$

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(14) To fill a tank, 25 buckets of water is required. How many buckets of water will be required to fill the same tank if the capacity of the bucket is reduced to two-fifth of its present ?

[A] 10

[B] 35

[C] 62.5

[D] Cannot be determined

[E] None of these

Answer : [C]

Explanation:
Let the capacity of 1 bucket = x.
Then, the capacity of tank = $25x$.
New capacity of bucket = $\frac{2}{5}x$

$\therefore$ Required number of buckets = $\frac{25x}{}$

$(2x/5)$

$= \left({}_{25x} \times \frac{5}{2x} \right)$

$= \frac{125}{2}$

$= 62.5$

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(15) A man has some hens and cows. If the number of heads be 48 and the number of feet equals 140, then the number of hens will be:

[A] 22

[B] 23

[C] 24

[D] 26

Answer : [D]

Explanation:
Let the number of hens be x and the number of cows be y.
Then, $x + y = 48$ .... (i)
and $2x + 4y = 140 \Rightarrow x + 2y = 70$ .... (ii)
Solving (i) and (ii) we get: $x = 26$, $y = 22$.
$\therefore$ The required answer = 26.

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(16) A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The sum is:

[A] Rs. 650

[B] Rs. 690

[C] Rs. 698

[D] Rs. 700

Answer : [C]

Explanation:
S.I. for 1 year = Rs. (854 - 815) = Rs. 39.
S.I. for 3 years = Rs.(39 x 3) = Rs. 117.
$\therefore$ Principal = Rs. (815 - 117) = Rs. 698.

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(17) Mr. Thomas invested an amount of Rs. 13,900 divided in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. If the total amount of simple interest earned in 2 years be Rs. 3508, what was the amount invested in Scheme B?

[A] Rs. 6400

[B] Rs. 6500

[C] Rs. 7200

[D] Rs. 7500

[E] None of these

Answer : [A]

Explanation:
Let the sum invested in Scheme A be Rs. x and that in Scheme B be Rs. $(13900 - x)$.
Then, $\left(\frac{x \times 14 \times 2}{100} \right) + \left(\frac{(13900 - x) \times 11 \times 2}{100} \right) = 3508$

$\Rightarrow 28x - 22x = 350800 - (13900 \times 22)$
$\Rightarrow 6x = 45000$
$\Rightarrow x = 7500$.
So, sum invested in Scheme B = Rs. (13900 - 7500) = Rs. 6400.

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(18) Reena took a loan of Rs. 1200 with simple interest for as many years as the rate of interest. If she paid Rs. 432 as interest at the end of the loan period, what was the rate of interest?

[A] 3.6

[B] 6

[C] 18

[D] Cannot be determined

[E] None of these

Answer : [B]

Explanation:
Let rate = R% and time = R years.
Then, $\left(\frac{1200 \times R \times R}{100}\right) = 432$

$\Rightarrow 12R^2 = 432$
$\Rightarrow R^2 = 36$
$\Rightarrow R = 6.$

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(19) A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest?

[A] 3%

[B] 4%

[C] 5%

[D] 6%

[E] None of these

Answer : [D]

Explanation:
S.I. = Rs. (15500 - 12500) = Rs. 3000.
Rate = $\left(\frac{100 \times 3000}{12500 \times 4}\right)\%$ = 6%

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(20) An automobile financier claims to be lending money at simple interest, but he includes the interest every six months for calculating the principal. If he is charging an interest of 10%, the effective rate of interest becomes:

[A] 10%

[B] 10.25%

[C] 10.5%

[D] None of these

Answer : [B]

Explanation:
Let the sum be Rs. 100. Then,
S.I. for first 6 months = Rs. $\left(\frac{100 \times 10 \times 1}{100 \times 2}\right)$ = Rs. 5

S.I. for last 6 months = Rs. $\left(\frac{105 \times 10 \times 1}{100 \times 2}\right)$ = Rs. 5.25

So, amount at the end of 1 year = Rs. (100 + 5 + 5.25) = Rs. 110.25
∴ Effective rate = (110.25 - 100) = 10.25%

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