

Book For Syndicate Bank



Syndicate Bank PO Aptitude Sample Paper



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(1) A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

[A] Rs. 375

[B] Rs. 400

[C] Rs. 600

[D] Rs. 800

Answer : [B]

Explanation:

$$C's \ 1 \ day's \ work = \frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8} \right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$$

$$A's \ wages : B's \ wages : C's \ wages = \frac{1}{6} : \frac{1}{8} : \frac{1}{24} = 4 : 3 : 1.$$

$$\therefore C's \ share \ (for \ 3 \ days) = Rs. \left(3 \times \frac{1}{24} \times 3200 \right) = Rs. \ 400.$$

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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:

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

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

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

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

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(3) 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 can together finish the work in :

[A] 4 days

[B] 6 days

[C] 8 days

[D] 18 days

Answer : [A]

Explanation:

Ratio of rates of working of A and B = 2 : 1.

So, ratio of times taken = 1 : 2.

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

∴ A's 1 day's work = $\frac{1}{6}$; (2 times of B's work)

(A + B)'s 1 day's work = $\left(\frac{1}{6} + \frac{1}{12}\right) = \frac{3}{12} = \frac{1}{4}$.

So, A and B together can finish the work in 4 days.

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(4) Twenty women can do a work in sixteen days. Sixteen men can complete the same work in fifteen days. What is the ratio between the capacity of a man and a woman?

[A] 3 : 4

[B] 4 : 3

[C] 5 : 3

[D] Data inadequate

Answer : [B]

Explanation:

(20 x 16) women can complete the work in 1 day.

∴ 1 woman's 1 day's work = $\frac{1}{320}$.

(16 x 15) men can complete the work in 1 day.

∴ 1 man's 1 day's work = $\frac{1}{240}$

So, required ratio = $\frac{1}{240} : \frac{1}{320}$

$$= \frac{1}{3} : \frac{1}{4}$$

$$= 4 : 3 \text{ (cross multiplied)}$$

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(5) A and B can do a job together in 7 days. A is $\frac{3}{4}$ times as efficient as B. The same job can be done by A alone in :

[A]

$9\frac{1}{3}$ days

[B] 11 days

[C]

$12\frac{1}{4}$ days

[D]

$16\frac{1}{3}$ days

Answer : [B]**Explanation:**

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

Let A's and B's 1 day's work be $7x$ and $4x$ respectively.

$$\text{Then, } 7x + 4x = \frac{1}{7} \Rightarrow 11x = \frac{1}{7} \Rightarrow x = \frac{1}{77}.$$

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

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(6) What is the difference between the compound interests on Rs. 5000 for $1\frac{1}{2}$ years at 4% per annum compounded yearly and half-yearly?

[A] Rs. 2.04

[B] Rs. 3.06

[C] Rs. 4.80

[D] Rs. 8.30

Answer : [A]**Explanation:**

$$\begin{aligned} \text{C.I. when interest compounded yearly} &= \text{Rs. } \left[5000 \times \left(1 + \frac{4}{100} \right) \times \left(1 + \frac{\frac{1}{2} \times 4}{100} \right) \right] \\ &= \text{Rs. } \left(5000 \times \frac{26}{25} \times \frac{51}{50} \right) \\ &= \text{Rs. } 5304. \end{aligned}$$

$$\begin{aligned} \text{C.I. when interest is compounded half-yearly} &= \text{Rs. } \left[5000 \times \left(1 + \frac{2}{100} \right)^3 \right] \\ &= \text{Rs. } \left(5000 \times \frac{51}{50} \times \frac{51}{50} \times \frac{51}{50} \right) \\ &= \text{Rs. } 5306.04 \end{aligned}$$

$$\therefore \text{Difference} = \text{Rs. } (5306.04 - 5304) = \text{Rs. } 2.04$$

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(7) There is 60% increase in an amount in 6 years at simple interest. What will be the compound interest of Rs. 12,000 after 3 years at the same rate?

[A] Rs. 2160

[B] Rs. 3120

[C] Rs. 3972

[D] Rs. 6240

[E] None of these

Answer : [C]**Explanation:**

Let $P = \text{Rs. } 100$. Then, S.I. Rs. 60 and $T = 6$ years.

$$\therefore R = \left(\frac{100 \times 60}{100 \times 6} \right) = 10\% \text{ p.a.}$$

Now, $P = \text{Rs. } 12000$, $T = 3$ years and $R = 10\%$ p.a.

$$\begin{aligned} \therefore \text{C.I.} &= \text{Rs. } \left[12000 \times \left\{ \left(1 + \frac{10}{100} \right)^3 - 1 \right\} \right] \\ &= \text{Rs. } \left(12000 \times \frac{331}{1000} \right) \\ &= 3972. \end{aligned}$$

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(8) The effective annual rate of interest corresponding to a nominal rate of 6% per annum payable half-yearly is:

- [A] 6.06%
 [B] 6.07%
 [C] 6.08%
 [D] 6.09%

Answer : [D]

Explanation:

$$\left. \begin{array}{l} \text{Amount of Rs. } 100 \text{ for } 1 \text{ year} \\ \text{when compounded half-yearly} \end{array} \right\} = \text{Rs. } \left[100 \times \left(1 + \frac{3}{100} \right)^2 \right] = \text{Rs. } 106.09$$

$$\therefore \text{Effective rate} = (106.09 - 100)\% = 6.09\%$$

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(9) The difference between simple interest and compound on Rs. 1200 for one year at 10% per annum reckoned half-yearly is:

- [A] Rs. 2.50
 [B] Rs. 3
 [C] Rs. 3.75
 [D] Rs. 4
 [E] None of these

Answer : [B]

Explanation:

$$\text{S.I.} = \text{Rs. } \left(\frac{1200 \times 10 \times 1}{100} \right) = \text{Rs. } 120.$$

$$\text{C.I.} = \text{Rs. } \left[1200 \times \left(1 + \frac{5}{100} \right)^2 - 1200 \right] = \text{Rs. } 123.$$

$$\therefore \text{Difference} = \text{Rs. } (123 - 120) = \text{Rs. } 3.$$

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(10) The difference between compound interest and simple interest on an amount of Rs. 15,000 for 2 years is Rs. 96. What is the rate of interest per annum?

- [A] 8
 [B] 10
 [C] 12
 [D] Cannot be determined

[E] None of these

Answer : [A]

Explanation:

$$\left[15000 \times \left(1 + \frac{R}{100} \right)^2 - 15000 \right] - \left(\frac{15000 \times R \times 2}{100} \right) = 96$$

$$\Rightarrow 15000 \left[\left(1 + \frac{R}{100} \right)^2 - 1 - \frac{2R}{100} \right] = 96$$

$$\Rightarrow 15000 \left[\frac{(100 + R)^2 - 10000 - (200 \times R)}{10000} \right] = 96$$

$$\Rightarrow R^2 = \left(\frac{96 \times 2}{3} \right) = 64$$

$$\Rightarrow R = 8.$$

∴ Rate = 8%.

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(11) A and B together have Rs. 1210. If $\frac{4}{15}$ of A's amount is equal to $\frac{2}{5}$ of B's amount, how much amount does B have?

[A] Rs. 460

[B] Rs. 484

[C] Rs. 550

[D] Rs. 664

Answer : [B]

Explanation:

$$\frac{4}{15} A = \frac{2}{5} B$$

$$\Rightarrow A = \left(\frac{2}{5} \times \frac{15}{4} \right) B$$

$$\Rightarrow A = \frac{3}{2} B$$

$$\Rightarrow \frac{A}{B} = \frac{3}{2}$$

$$\Rightarrow A : B = 3 : 2.$$

$$\therefore B's \text{ share} = \text{Rs.} \left(1210 \times \frac{2}{5} \right) = \text{Rs.} 484.$$

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(12) In a mixture 60 litres, the ratio of milk and water 2 : 1. If this ratio is to be 1 : 2, then the quantity of water to be further added is:

[A] 20 litres

[B] 30 litres

[C] 40 litres

[D] 60 litres

Answer : [D]

Explanation:

$$\text{Quantity of milk} = \left(60 \times \frac{2}{3} \right) \text{ litres} = 40 \text{ litres.}$$

Quantity of water in it = $(60 - 40)$ litres = 20 litres.

New ratio = 1 : 2

Let quantity of water to be added further be x litres.

$$\text{Then, milk : water} = \left(\frac{40}{20 + x} \right).$$

$$\text{Now, } \left(\frac{40}{20 + x} \right) = \frac{1}{2}$$

$$\Rightarrow 20 + x = 80$$

$$\Rightarrow x = 60.$$

\therefore Quantity of water to be added = 60 litres.

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(13) The sum of three numbers is 98. If the ratio of the first to second is 2 : 3 and that of the second to the third is 5 : 8, then the second number is:

[A] 20

[B] 30

[C] 48

[D] 58

Answer : [B]

Explanation:

Let the three parts be A, B, C. Then,

$$A : B = 2 : 3 \text{ and } B : C = 5 : 8 = \left(5 \times \frac{3}{5} \right) : \left(8 \times \frac{3}{5} \right) = 3 : \frac{24}{5}$$

$$\Rightarrow A : B : C = 2 : 3 : \frac{24}{5} = 10 : 15 : 24$$

$$\Rightarrow B = \left(98 \times \frac{15}{49} \right) = 30.$$

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(14) If Rs. 782 be divided into three parts, proportional to $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$, then the first part is:

[A] Rs. 182

[B] Rs. 190

[C] Rs. 196

[D] Rs. 204

Answer : [D]

Explanation:

$$\text{Given ratio} = \frac{1}{2} : \frac{2}{3} : \frac{3}{4} = 6 : 8 : 9.$$

$$\therefore \text{1st part} = \text{Rs. } \left(782 \times \frac{6}{23} \right) = \text{Rs. } 204$$

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(15) The fourth proportional to 5, 8, 15 is:

[A] 18

[B] 24

[C] 19

[D] 20

Answer : [B]**Explanation:**Let the fourth proportional to 5, 8, 15 be x .Then, $5 : 8 : 15 : x$

$$\Rightarrow 5x = (8 \times 15)$$

$$x = \frac{(8 \times 15)}{5} = 24.$$

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(16) Six bells commence tolling together and toll at intervals of 2, 4, 6, 8, 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together ?

[A] 4

[B] 10

[C] 15

[D] 16

Answer : [D]**Explanation:**

L.C.M. of 2, 4, 6, 8, 10, 12 is 120.

So, the bells will toll together after every 120 seconds(2 minutes).

In 30 minutes, they will toll together $\frac{30}{2} + 1 = 16$ times.

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(17)Reduce $\frac{128352}{238368}$ to its lowest terms.[A] $\frac{3}{4}$ [B] $\frac{5}{13}$ [C] $\frac{7}{13}$ [D] $\frac{9}{13}$ **Answer : [C]****Explanation:**

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(18) The ratio of two numbers is 3 : 4 and their H.C.F. is 4. Their L.C.M. is:

[A] 12

[B] 16

[C] 24

[D] 48

Answer : [D]

Explanation:

Let the numbers be $3x$ and $4x$. Then, their H.C.F. = x . So, $x = 4$.
So, the numbers 12 and 16.
L.C.M. of 12 and 16 = 48.

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(19) The least number, which when divided by 12, 15, 20 and 54 leaves in each case a remainder of 8 is:

[A] 504

[B] 536

[C] 544

[D] 548

Answer : [D]

Explanation:

Required number = (L.C.M. of 12, 15, 20, 54) + 8
= 540 + 8
= 548.

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(20) The L.C.M. of two numbers is 48. The numbers are in the ratio 2 : 3. Then sum of the number is:

[A] 28

[B] 32

[C] 40

[D] 64

Answer : [C]

Explanation:

Let the numbers be $2x$ and $3x$.
Then, their L.C.M. = $6x$.
So, $6x = 48$ or $x = 8$.
 \therefore The numbers are 16 and 24.
Hence, required sum = $(16 + 24) = 40$.

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