

Quant

Instructions

For the following questions answer them individually

Question 86

Total area of the square Glass Piece is 324cm^2 , which is placed on the top of a table. The width between the edge of the table and the glass piece is 3 cm wide. Find the length of the table.

A 32 cm

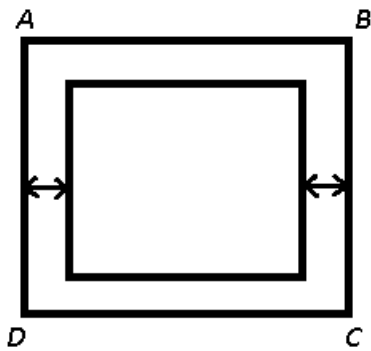
B 24 cm

C 22 cm

D 28 cm

Answer: B

Explanation:



ABCD is the table and the glass piece is placed inside.

Side of glass = $\sqrt{324} = 18$ cm

Width between glass and table = 3 cm

=> Side of table = $3 + 18 + 3 = 24$ cm

=> Ans - (B)

Question 87

A person cycles from hostel to college at a speed of 10 kmph and reaches 7 minutes late. If he cycles at a speed of 12 kmph, he reaches early by 6 minutes. Find the distance between hostel and college.

A 13 km

B 17 km

C 19 km

D 11 km

Answer: A

Explanation:

Let ideal time taken = t hours

Also, speed is inversely proportional to time.

$$\Rightarrow \frac{10}{12} = \frac{t - \frac{60}{7}}{t + 60}$$

$$\Rightarrow 10t + \frac{7}{6} = 12t - \frac{6}{5}$$

$$\Rightarrow 12t - 10t = \frac{7}{6} + \frac{6}{5}$$

$$\Rightarrow t = \frac{35+36}{60} = \frac{71}{60}$$

∴ Distance = speed × time

$$= 10 \times \left(\frac{71}{60} + \frac{7}{60} \right)$$

$$= \frac{78}{6} = 13 \text{ km}$$

⇒ Ans - (A)

Question 88

Binoy donates 16% of his Salary to Visually challenged organization, 12% of his Salary to orphanage, 13% of his Salary to Physically challenged organization and 14% of his Salary to the foundations for medical help. The remaining amount Rs.20925 of his Salary has been deposited in the bank for monthly expenses. Find the amount donated to orphanage.

A Rs.6890

B Rs.4840

C Rs.5580

D Rs.5680

Answer: C

Explanation:

If total salary is 100%, then % salary remaining after the donations = $100 - (16 + 12 + 13 + 14) = 45\%$

According to ques, $45\% \equiv \text{Rs. } 20,925$

Thus, amount donated to orphanage = $12\% \equiv \frac{20925}{45} \times 12$

$$= 465 \times 12 = \text{Rs. } 5,580$$

⇒ Ans - (C)

Question 89

In a support project of an English based company, there are 503 male and 503 female employees. The average productivity of all the employees is 53 calls per day. The average calls attended by a male employee is 53 calls per day. What is the average calls attended per day by a female employee?

A 51

B 55

C 53

D 49

Answer: C

Explanation:

Since, there are an equal number of male and female employees in the company, and also the average productivity is 75 calls per day which is equal to the number of calls attended by the males.

Thus, number of calls attended per day by a female employee will also equal to = **53**

⇒ Ans - (C)

Question 90

A train takes 53 seconds to cross a bridge of length 288 m. if the same train takes 17 seconds to cross a sign board, find the length of the train

- A 140 m
- B 124 m
- C 132 m
- D 136 m

Answer: D

Explanation:

Let length of train = l m and speed = s m/s

Speed of train which takes 53 seconds to cross a bridge of length 288 m = $s = \frac{288+l}{53}$ -----(i)

Also, $s = \frac{l}{17}$ -----(ii)

Substituting value of s from equation (ii) in (i), we get :

$$\Rightarrow \frac{l}{17} = \frac{288+l}{53}$$

$$\Rightarrow 53l = (288 \times 17) + 17l$$

$$\Rightarrow 53l - 17l = 36l = 288 \times 17$$

$$\Rightarrow l = \frac{288 \times 17}{36} = 136$$

\therefore Length of train = **136 m**

\Rightarrow Ans - (D)

Question 91

Find the number of trailing Zeros in 64!

- A 16
- B 14
- C 12
- D 18

Answer: B

Explanation:

$$\text{Number of trailing zeroes} = \frac{64}{5} + \frac{64}{25}$$

$$= 12 + 2 = 14 \quad [\text{Number will be round off to the lowest value}]$$

\Rightarrow Ans - (B)

Question 92

A gift box consists of 10 rings. The average weight of the first 4 rings is 27 grams and the average weight of the remaining 6 rings is 28 grams. Find the average weight of the total rings.(in grams)

- A 27.6

B 27.4

C 27

D 28

Answer: A

Explanation:

Average weight of first 4 rings = 27 grams

=> Weight of first 4 rings = $27 \times 4 = 108$ grams

Similarly, weight of remaining 6 rings = $28 \times 6 = 168$ grams

∴ Average weight of the total rings = $\frac{108+168}{10} = 27.6$ grams

=> Ans - (A)

Question 93

Station master decides that the length and the breadth of the rectangular Digital Board should be increased by 2% and decreased by 2% respectively. Find the overall change in the area.

A 0.04% Increase

B 0.09% Decrease

C 0.04% Decrease

D 0.09% Increase

Answer: C

Explanation:

Let the length and breadth of rectangle be 100 cm

=> Original area = $100 \times 100 = 10000 \text{ cm}^2$

Increasing the length by 2%, => new length = $100 \times \frac{102}{100} = 102$ cm

Similarly, new breadth = 98 cm

=> New area = $102 \times 98 = 9996 \text{ cm}^2$

∴ Area is **decreased** by = $\frac{10000-9996}{10000} \times 100 = 0.04\%$

=> Ans - (C)

Question 94

Simplify:

$$\frac{1}{8} \div \frac{1}{8} \div \frac{1}{8} \div \frac{1}{8} \div \frac{1}{8} = ?$$

A 512

B 524

C 484

D 464

Answer: A

Explanation:

$$\text{Expression : } 8 \div 8 \div 8 \div 8 \div 8 \div 8$$

$$= \left[8 \div 8 \right] \div \left[8 \div 8 \div 8 \right]$$

$$= \left(1 \div 8 \right) \div 8 \div 8$$

$$= \left(8 \div 8 \right) \div 8$$

$$= 8 \times 8 \div 8$$

$$= 64 \times 8 = 512$$

=> Ans - (A)

Question 95

A bulb producing company found that 11% of the overall product is defective. If the number of non defective products is 2848 then find the number of defective products.

A 245

B 324

C 352

D 286

Answer: C

Explanation:

$$\% \text{ of non defective bulbs} = 100 - 11 = 89\% \equiv 2848$$

$$\Rightarrow \text{Number of defective products} = 11\% \equiv \frac{2848}{89} \times 11$$

$$= 32 \times 11 = 352$$

=> Ans - (C)

Question 96

Simplify:

$$\left((3^4)^2 \times 27^2 \right)^2 + 9 = ?$$

A 80

B 60

C 100

D 90

Answer: D

Explanation:

$$\text{Expression : } \left((3^4)^2 \times 27^2 \right)^2 + 9 = ?$$

$$= \left[(3)^8 \times (3)^{-6} \right]^2 + 9$$

$$= \left[(3)^{8-6} \right]^2 + 9$$

$$= 3^4 + 9 = 90$$

=> Ans - (D)

Question 97

Find the product of two numbers, whose LCM is 25 and HCF is 8.

- A 200
- B 180
- C 160
- D 220

Answer: A

Explanation:

Product of the 2 numbers = Product of L.C.M. and H.C.F.

$$= 25 \times 8 = 200$$

=> Ans - (A)

Question 98

Dorlin walks certain distance at $(5/6)$ th of the usual speed and takes 16 minutes more than the usual time. Find the usual time taken.

- A 1 Hr 40 mins
- B 1 Hr
- C 56 mins
- D 1 Hr 20 mins

Answer: D

Explanation:

Let usual speed = 6 m/min and usual time taken = t min

=> New speed = 5 m/min and new time = $(t + 16)$ min

Also, speed is inversely proportional to time.

$$\Rightarrow \frac{6}{5} = \frac{t+16}{t}$$

$$\Rightarrow 6t = 5t + 80$$

$$\Rightarrow 6t - 5t = t = 80$$

\therefore Usual time taken = **1 hr 20 mins**

=> Ans - (D)

Question 99

A sum of Rs.4400 invested under simple interest at the rate of 8% p.a. If the amount after 5 years is withdrawn and half of the total amount is invested in Share market. Find the remaining amount.(in Rs.)

- A 3080
- B 4060
- C 4200
- D 2080

Answer: A

Explanation:

Principal sum = Rs. 4400

Rate of interest = 8% and time period = 5 years

$$\text{Simple interest} = \frac{P \times R \times T}{100}$$

$$= \frac{4400 \times 8 \times 5}{100} = \text{Rs. } 1760$$

Thus, total amount after 5 years = $\text{Rs. } (4400 + 1760) = \text{Rs. } 6160$

\therefore Remaining amount after half of the total amount is been invested in Share market = $\frac{6160}{2} = \text{Rs. } 3080$

=> Ans - (A)

Question 100

What is the height of the cuboid, if the cube of diagonal $6\sqrt{3}$ cm is melted and casted, the cuboid's length is the same as the cube's side and the breadth of the cuboid is 3 cm?

A 8 cm

B 12 cm

C 14 cm

D 10 cm

Answer: B

Explanation:

Let side of cube be a cm

$$\Rightarrow \text{Diagonal} = \sqrt{a^2 + a^2 + a^2} = 6\sqrt{3}$$

$$\Rightarrow \sqrt{3}a = 6\sqrt{3}$$

$$\Rightarrow a = 6 \text{ cm}$$

Let height of cuboid = h cm, length, $l = 6$ cm and breadth, $b = 3$ cm

According to ques, Volume of cuboid = Volume of cube

$$\Rightarrow lbh = a^3$$

$$\Rightarrow 6 \times 3 \times h = (6)^3$$

$$\Rightarrow h = \frac{6 \times 6}{3} = 12 \text{ cm}$$

=> Ans - (B)

Question 101

A Person travels an Equilateral triangular area with the speed of 12kmph, 18kmph, and 36kmph along the planes of the triangular field. Find the average speed of the journey.

A 32kmph

B 24 kmph

C 22 kmph

D 18 kmph

Answer: D

Explanation:

Since, the distance travelled is equal on the three sides, hence average speed will be the harmonic mean of the speeds.

$$= \frac{1}{\frac{1}{12} + \frac{1}{18} + \frac{1}{36}}$$

$$= \frac{3}{\frac{3}{36} + \frac{2}{36} + \frac{1}{36}}$$

$$= \frac{3}{6} \times 36 = 18 \text{ km/hr}$$

=> Ans - (D)

Question 102

Simplify:

$$2^3 \div 2^{-2} + \sqrt{36} + \sqrt{144} = ?$$

A 33

B 44

C 66

D 50

Answer: D

Explanation:

$$\text{Expression : } 2^3 \div 2^{-2} + \sqrt{36} + \sqrt{144} = ?$$

$$= (2)^{3-(-2)} + 6 + 12$$

$$= 32 + 18 = 50$$

=> Ans - (D)

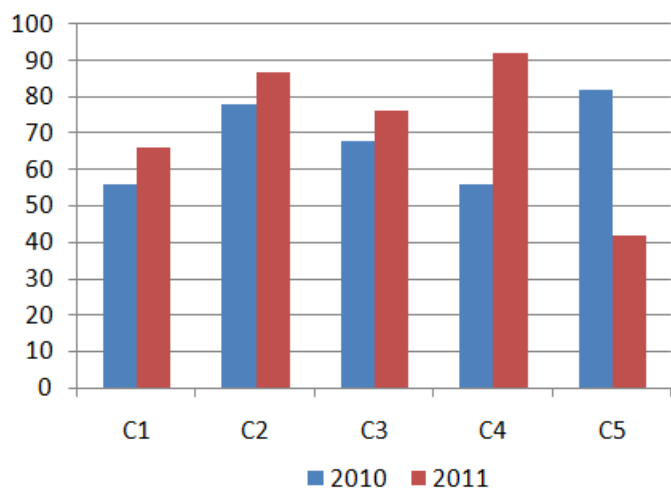
Question 103

Directions:

Study the following bar graph and answer the question that follows:

Sales of books (in thousands) from 5 branches (C1,C2,C3,C4&C5) of a publishing company for the two successive years 2010 and 2011.

What is the ratio of the total sales of branch C2 for both years to the total sales of branch C4 for both years?



A 163:146

B 164:147

C 165:148

D 163:145

Answer: C

Explanation:

Total sales of branch C2 for both years = $78 + 87 = 165$

Total sales of branch C4 for both years = $56 + 92 = 148$

=> Required ratio = **165:148**

=> Ans - (C)

Question 104

Directions:

Study the following bar graph and answer the question that follows:

Sales of books (in thousands) from 5 branches (C1,C2,C3,C4&C5) of a publishing company for the two successive years 2010 and 2011.

What is the total sales in the branches C1, C3 and C5 together for both the years? (in thousands)



A 380

B 390

C 400

D 370

Answer: B

Explanation:

Total sales of branch C1, C3 and C5 for both years

= $(56 + 66) + (68 + 76) + (82 + 42) = \mathbf{390}$

=> Ans - (B)

Question 105

Simplify:

$$\sqrt{17.64} + \sqrt{70.56} \div 2 = ?$$

- A 8.2
- B 8.8
- C 8.4
- D 7.8

Answer: C

Explanation:

Expression : $\sqrt{17.64} + \sqrt{70.56} \div 2 = ?$

$$= 4.2 + \frac{8.4}{2}$$

$$= 4.2 + 4.2 = 8.4$$

=> Ans - (C)

Question 106

The average weight of 93 Notebooks in a box is 9.3 kg. When a new Notebook is added to the box the average goes to 9.4 kg. Find the weight of the new Notebook.

- A 18.7 kg
- B 19.1 kg
- C 19.5 kg
- D 18.3 kg

Answer: A

Explanation:

Average weight of 93 Notebooks in a box = 9.3 kg

$$\Rightarrow \text{Total weight} = 93 \times 9.3 = 864.9 \text{ kg}$$

Let weight of new book = x kg

$$\Rightarrow \text{New average} = \frac{864.9 + x}{94} = 9.4$$

$$\Rightarrow 864.9 + x = 94 \times 9.4 = 883.6$$

$$\Rightarrow x = 883.6 - 864.9 = 18.7 \text{ kg}$$

=> Ans - (A)

Question 107

In how many ways that 520 mobiles can be distributed equally to the students in the class?

- A 16
- B 20
- C 14
- D 24

Answer: A

Question 108

When the article sold at the rate of Rs.1220 earned a profit of 11% more than that of the loss incurred when the same article sold at the rate of Rs.798. Find the Cost price of the article.

A Rs.824

B Rs.964

C Rs.998

D Rs.898

Answer: C

Explanation:

Let cost price of the article = Rs. x

Loss = Rs. $(x - 798)$

Profit = Rs. $(1220 - x)$

According to ques, $\Rightarrow \frac{P-L}{L} \times 100 = 11$

$$\Rightarrow \frac{(1220-x)-(x-798)}{(x-798)} \times 100 = 11$$

$$\Rightarrow \frac{2018-2x}{x-798} = \frac{11}{100}$$

$$\Rightarrow 11x - 8778 = 201800 - 200x$$

$$\Rightarrow 11x + 200x = 201800 + 8778 = 210578$$

$$\Rightarrow x = \frac{210578}{211} = 998$$

\therefore Cost price = **Rs. 998**

\Rightarrow Ans - (C)

Question 109

The shopkeeper added 31% of the cost price as mark up and then he gives a discount of same 31% on the marked price for a sale, then what will be the overall profit or loss percentage.

A 7.44% Profit

B 10.21% Loss

C 9.61% Loss

D 8.64% Profit

Answer: C

Explanation:

Let cost price = Rs. 100

$$\Rightarrow \text{Marked price} = 100 \times \left(\frac{131}{100}\right) = \text{Rs. } 131$$

$$\text{Thus, selling price after discount of 31\%} = 131 \times \frac{100-31}{100} = \text{Rs. } 90.39$$

$$\therefore \text{Loss \%} = \frac{100-90.39}{100} \times 100 = 9.61\%$$

\Rightarrow Ans - (C)

Question 110

If the radius of a circle is Five times, its perimeter will become how many times of its previous perimeter?

A 4

B 6

C 5

D 7

Answer: C

Explanation:

Radius of circle is directly proportional to perimeter, $P = 2\pi r$

So, if radius is increased 5 times, hence the perimeter will become **5 times** of its previous perimeter.

=> Ans - (C)

Question 111

A bag contains different types of old coins in the ratio 11:13:12 whose values are 3 rupees, 4 rupees and 5 rupees respectively. If the total value of the coins is Rs.725, find the number of coins of 3 rupees coin.

A 44

B 55

C 33

D 22

Answer: B

Explanation:

Let number of 3 rupees, 4 rupees and 5 rupees respectively be $11x$, $13x$ and $12x$

$$\text{Total amount} = (3 \times 11x) + (4 \times 13x) + (5 \times 12x) = 725$$

$$\Rightarrow 33x + 52x + 60x = 725$$

$$\Rightarrow x = \frac{725}{145} = 5$$

$$\therefore \text{Number of 3 rupees coins} = 11 \times 5 = 55$$

=> Ans - (B)

Question 112

The difference between the interest earned on the same amount invested under compound interest and simple interest at same rate of interest for 2 years is Rs.28. If the rate of interest is 4% p.a. then find the amount invested.(in Rs.)

A 17500

B 14500

C 16500

D 18500

Answer: A

Explanation:

Rate of interest = 4% and time period = 2 years

Let principal sum = Rs. P

Also, difference between compound interest and simple interest for 2 years = $P\left(\frac{r}{100}\right)^2$

$$\Rightarrow P\left(\frac{4}{100}\right)^2 = 28$$

$$\Rightarrow P = 28 \times \frac{10000}{16}$$

$$\Rightarrow P = \text{Rs. } 17,500$$

\Rightarrow Ans - (A)

Question 113

The amount doubles itself under Compound interest in 3 years. In how many years will it become 8 times of it?

A 7

B 8

C 9

D 6

Answer: C

Explanation:

The amount gets doubled in 3 years.

In case of compound interest, the amount will become 2^n times in $3n$ years

$$\Rightarrow \text{Final amount} = 8 = (2)^3$$

Thus, after $3 \times 3 = 9$ years, amount will become 8 times.

\Rightarrow Ans - (C)

Question 114

The salary ratio of Ram, Raj and Rio is 5:7:9, if Rio is getting Rs.280 more than Ram. What is the salary of Raj?(in Rs.)

A 490

B 460

C 480

D 440

Answer: A

Explanation:

Let salary of Ram, Raj and Rio be $5x$, $7x$ and $9x$ respectively.

According to ques, $\Rightarrow 9x - 5x = 280$

$$\Rightarrow x = \frac{280}{4} = 70$$

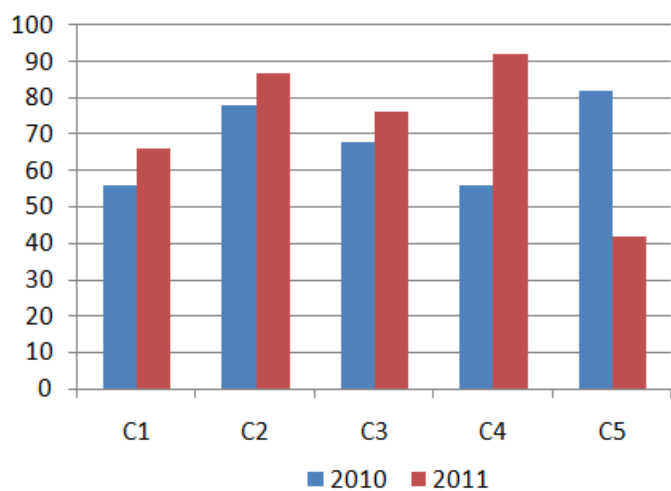
$$\therefore \text{Raj's salary} = 7 \times 70 = \text{Rs. } 490$$

\Rightarrow Ans - (A)

Question 115

Study the following bar graph and answer the question that follows:

Sales of books (in thousands) from 5 branches (C1,C2,C3,C4&C5) of a publishing company for the two successive years 2010 and 2011. What is the average sales of all the branches (in thousands) for the year 2010?



A 70

B 67

C 68

D 69

Answer: C

Explanation:

Total sales of all the branches (in thousands) for the year 2010

$$= 56 + 78 + 68 + 56 + 82 = 340$$

$$\Rightarrow \text{Average sales of all the branches (in thousands) for the year 2010} = \frac{340}{5} = 68$$

\Rightarrow Ans - (C)

Question 116

Time taken by Binu and Caro to cover a distance of 1000 km are in the ratio 17:14. Find the ratio of their speeds.

A 14:17

B 12:13

C 14:15

D 11:12

Answer: A

Explanation:

Ratio of time taken = 17 : 14

Since, both are covering the same distance, and speed is inversely proportional to time.

Thus, ratio of their speeds = **14 : 17**

\Rightarrow Ans - (A)

Question 117

Sachin shared 250 gifts among 4 kids. The share of the first kid, twice the share of second kid, thrice the share of third kid and four times the share of fourth kid are all equal. Find the number of gifts received by 2nd kid.

- A 30
- B 140
- C 120
- D 60

Answer: D

Explanation:

Let share of each kid be a, b, c, d respectively.

Then according to ques, $\Rightarrow a = 2b = 3c = 4d = k$

$$\Rightarrow a = k, b = \frac{k}{2}, c = \frac{k}{3}, d = \frac{k}{4}$$

Thus, total = $a + b + c + d = 250$

$$\Rightarrow k + \frac{k}{2} + \frac{k}{3} + \frac{k}{4} = 250$$

$$\Rightarrow k \times \left(\frac{12+6+4+3}{12} \right) = 250$$

$$\Rightarrow k = 250 \times \frac{12}{25} = 120$$

\therefore Number of gifts received by the 2nd kid = $b = \frac{k}{2}$

$$= \frac{120}{2} = 60$$

\Rightarrow Ans - (D)

Question 118

When a number divided by 36 it leaves a remainder 7. What will be the remainder, when the same number divided by 9.

- A 7
- B 5
- C 6
- D 8

Answer: A

Explanation:

When a number is divided by 36 it leaves a remainder 7, let the number be = $36 + 7 = 43$

Now, when 43 is divided by 9, $\Rightarrow 43 = 9 \times 4 + 7$

Thus, remainder = 7

\Rightarrow Ans - (A)

Question 119

Darmik obtained 71 marks out of 80 in French, 81 marks out of 100 in English, 51 out of 70 in Spanish and 31 out of 50 in Japanese. What was the overall percentage obtained by him?

- A 64%

B 68%

C 88%

D 78%

Answer: D

Explanation:

Marks obtained = $71 + 81 + 51 + 31 = 234$

Maximum marks = $80 + 100 + 70 + 50 = 300$

\therefore Overall percentage obtained by him = $\frac{234}{300} \times 100 = 78\%$

=> Ans - (D)

Question 120

A shopkeeper sells a product at the rate of Rs.1089 and earns a profit of 12.5%. Find the amount which is equal to half of the cost price of the product.

A Rs.968

B Rs.484

C Rs.784

D Rs.684

Answer: B

Explanation:

Selling price = Rs. 1089 and profit % = 12.5%

=> Cost price = $\frac{1089}{(100+12.5)} \times 100$

= $9.68 \times 100 = Rs. 968$

\therefore Amount which is equal to half of the cost price of the product = $\frac{968}{2} = Rs. 484$

=> Ans - (B)