

# SSC CHSL 13 March 2018 Morning Shift

## Quant

### Instructions

For the following questions answer them individually

### Question 1

7/15 of 5/3 of a number is greater than 7/9 of 3/5 of the same number by 9. Find the quadruple of the number.

A 115.72

B 114.72

C 113.72

D 112.72

Answer: A

### Explanation:

Let the number be  $45x$

According to ques,

$$\Rightarrow \left(\frac{7}{15} \times \frac{5}{3} \times 45x\right) - \left(\frac{7}{9} \times \frac{3}{5} \times 45x\right) = 9$$

$$\Rightarrow 35x - 21x = 9$$

$$\Rightarrow x = \frac{9}{14}$$

$$\therefore \text{Quadruple of the number} = 4 \times 45x$$

$$= 180 \times \frac{9}{14} \approx 115.72$$

$$\Rightarrow \text{Ans - (A)}$$

### Question 2

In a farm, in addition to 48 hens there are 42 sheep and 11 oxen with some shepherds. If the total number of feet be 224 more than the number of heads, find the number of shepherd.

A 11

B 13

C 15

D 17

Answer: D

**Explanation:**

Let there are  $x$  shepherds.

$$\Rightarrow \text{Number of heads} = 48 + 42 + 11 + x = (x + 101)$$

$$\text{Number of legs} = (48 \times 2) + (42 \times 4) + (11 \times 4) + (x \times 2)$$

$$= 96 + 168 + 44 + 2x = (2x + 308)$$

According to ques,

$$\Rightarrow (2x + 308) - (x + 101) = 224$$

$$\Rightarrow x + 207 = 224$$

$$\Rightarrow x = 224 - 207 = 17$$

$\Rightarrow$  Ans - (D)

**Question 3**

Which of the following value of 'X' satisfies the equation  $81^{4x+4} = 243^{2x+8}$  ?

A 3

B 4

C 5

D 6

**Answer: B**

**Explanation:**

$$\text{Expression : } 81^{4x+4} = 243^{2x+8}$$

$$\Rightarrow (3^4)^{4x+4} = (3^5)^{2x+8}$$

$$\Rightarrow (3)^{16x+16} = (3)^{10x+40}$$

$$\Rightarrow 16x + 16 = 10x + 40$$

$$\Rightarrow 16x - 10x = 40 - 16$$

$$\Rightarrow 6x = 24$$

$$\Rightarrow x = \frac{24}{6} = 4$$

$\Rightarrow$  Ans - (B)

**Question 4**

What will be the value of  $r^2 + p^2 + s^2 - rp - ps - rs$

A 8

B 18

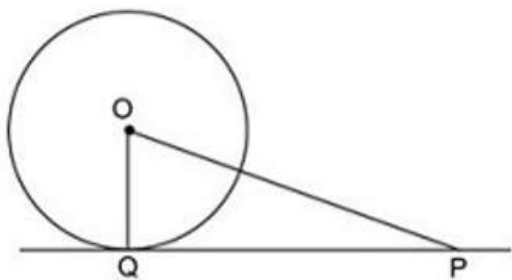
C 28

D 38

Answer: C

### Question 5

Calculate the length (in cm) of PQ, if the radius of the circle is 7 cm and the line through the centre O meets the tangent at point P such that OP = 25 cm.



A 20

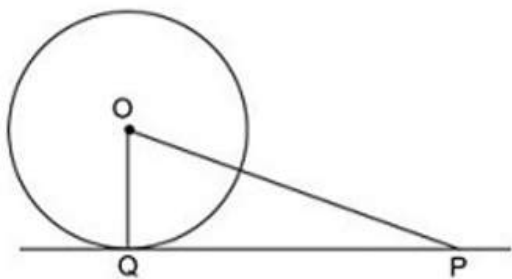
B 22

C 24

D 26

Answer: C

Explanation:



Given :  $OQ = 7$  cm and  $OP = 25$  cm

To find :  $PQ = ?$

Solution : In right  $\triangle POQ$

$$\Rightarrow (PQ)^2 = (OP)^2 - (OQ)^2$$

$$\Rightarrow (PQ)^2 = (25)^2 - (7)^2$$

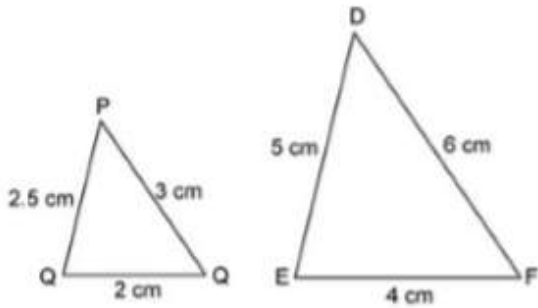
$$\Rightarrow (PQ)^2 = 625 - 49 = 576$$

$$\Rightarrow PQ = \sqrt{576} = 24 \text{ cm}$$

=> Ans - (C)

### Question 6

Consider the following figure shown below and choose which of the following equation is correct about the similarity of both triangles?



A  $\triangle PQR \sim \triangle EFD$

B  $\triangle PQR \sim \triangle DEF$

C  $\triangle PQR \sim \triangle FDE$

D  $\triangle RQP \sim \triangle DFE$

Answer: B

### Question 7

If  $y\%$  of  $y$  is 289, then what is the value of  $y$ ?

A 149

B 160

C 170

D 173

Answer: C

### Explanation:

Given :  $y\%$  of  $y = 289$

$$\Rightarrow \frac{y}{100} \times y = 289$$

$$\Rightarrow y^2 = 289 \times 100$$

$$\Rightarrow y = \sqrt{289 \times 100}$$

$$\Rightarrow y = 17 \times 10 = 170$$

=> Ans - (C)

### Question 8

P, Q and R are partners in a company. In any year P receives  $\frac{1}{9}$  part of profit, Q receives  $\frac{1}{6}$  part of profit and R receives Rs 130000. How much amount (in Rs) will P get as profit?

- A 40000
- B 36000
- C 18000
- D 20000

**Answer:** D

### Explanation:

Let total profit earned = Rs.  $18x$

$$\text{Profit earned by P} = \frac{1}{9} \times 18x = 2x$$

$$\text{Profit earned by Q} = \frac{1}{6} \times 18x = 3x$$

$$\Rightarrow \text{Profit earned by R} = 18x - (2x + 3x) = 13x$$

According to ques,

$$\Rightarrow 13x = 130,000$$

$$\Rightarrow x = \frac{130,000}{13} = \text{Rs. } 10,000$$

$$\therefore \text{Amount earned by P as profit} = 2 \times 10,000 = \text{Rs. } 20,000$$

$\Rightarrow$  Ans - (D)

### Question 9

In a container, two types of liquids P and Q are in the ratio of 3 : 7. If 10 litres mixture is drawn off from the container and filled with 6 litres of liquid Q, then the ratio of P and Q becomes 1 : 3. What was the original quantity (in litres) of mixture?

- A 34
- B 36
- C 30
- D 40

**Answer:** D

### Explanation:

Let original quantity of mixture =  $100x$  litres

=> Quantity of P =  $30x$  and Q =  $70x$  litres

If 10 litres mixture is drawn, => quantity of P taken out = 3 litres and Q = 7 litres

6 litres of liquid Q is added, thus new ratio

$$\Rightarrow \frac{30x-3}{70x-7+6} = \frac{1}{3}$$

$$\Rightarrow \frac{30x-3}{70x-1} = \frac{1}{3}$$

$$\Rightarrow 90x - 9 = 70x - 1$$

$$\Rightarrow 90x - 70x = 9 - 1$$

$$\Rightarrow 20x = 8$$

$$\Rightarrow x = \frac{8}{20} = 0.4$$

∴ Original quantity of mixture =  $100 \times 0.4 = 40$  litres

=> Ans - (D)

### Question 10

The average weight of 35 apples is 50 grams. If some apples of weight 40 grams each were removed, then average weight becomes 57.5 grams. How many apples of weight 40 grams were removed?

A 5

B 10

C 15

D 20

**Answer: C**

### Explanation:

Average weight of 35 apples = 50 grams

=> Total weight of 35 apples =  $50 \times 35 = 1750$  grams

Let  $n$  apples of 40 grams of weight were removed, then

$$\Rightarrow \frac{1750-40n}{35-n} = 57.5$$

$$\Rightarrow 1750 - 40n = 2012.5 - 57.5n$$

$$\Rightarrow 57.5n - 40n = 2012.5 - 1750$$

$$\Rightarrow 17.5n = 262.5$$

$$\Rightarrow n = \frac{262.5}{17.5} = 15$$

=> Ans - (C)

### Question 11

Simple interest on a sum for 18 months at 14% per annum is Rs 1365. What is the value (in Rs) of sum?

- A 6100
- B 7300
- C 8100
- D 6500

**Answer: D**

#### Explanation:

Let principal amount = Rs.  $x$

Rate of interest = 14% and time period =  $\frac{18}{12} = 1.5$  years

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

$$\Rightarrow \frac{x \times 14 \times 1.5}{100} = 1365$$

$$\Rightarrow \frac{21x}{100} = 1365$$

$$\Rightarrow x = \frac{1365 \times 100}{21}$$

$$\Rightarrow x = 65 \times 100 = \text{Rs. } 6500$$

$\Rightarrow$  Ans - (D)

### Question 12

The difference between cost price and selling price is Rs 494. If loss percentage is 19%, then what is the selling price (in Rs)?

- A 2106
- B 2600
- C 3094
- D 2208

**Answer: A**

#### Explanation:

Difference between cost price and selling price = Loss = Rs. 494

$$\text{Loss \%} = \frac{\text{loss}}{\text{C.P.}} \times 100$$

$$\Rightarrow \frac{494}{\text{CP}} \times 100 = 19$$

$$\Rightarrow \text{CP} = \frac{49400}{19} = \text{Rs. } 2600$$

$\therefore$  Selling price = Rs.  $(2600 - 494) = \text{Rs. } 2106$

=> Ans - (A)

### Question 13

Manik marks the price of his toys 40% above the cost price. If he allows 20% discount, then what is the profit or loss percentage?

- A 4% profit
- B 12% profit
- C 8% loss
- D 12% loss

**Answer: B**

#### Explanation:

Let cost price = Rs.  $100x$

$$\Rightarrow \text{Marked price} = 100x + \left(\frac{40}{100} \times 100x\right) = \text{Rs. } 140x$$

Discount % = 20%

$$\Rightarrow \text{Selling price} = 140x - \left(\frac{20}{100} \times 140x\right) = \text{Rs. } 112x$$

$$\therefore \text{Selling price} > \text{Cost price, thus profit \%} = \frac{(112x - 100x)}{100x} \times 100 = 12\%$$

=> Ans - (B)

### Question 14

What is the simplified value of  $\frac{1}{\sqrt{7}-\sqrt{16}} - \frac{1}{\sqrt{16}-\sqrt{15}} + \frac{1}{\sqrt{15}-\sqrt{14}} - \frac{1}{\sqrt{14}-\sqrt{13}} + \frac{1}{\sqrt{13}-\sqrt{12}}$

- A  $4 - 2\sqrt{3}$
- B  $\sqrt{17} - 3\sqrt{2}$
- C  $\sqrt{17} + \sqrt{12}$
- D  $4 + 2\sqrt{3}$

**Answer: C**

#### Explanation:

$$\text{Expression: } \frac{1}{\sqrt{17}-\sqrt{16}} - \frac{1}{\sqrt{16}-\sqrt{15}} + \frac{1}{\sqrt{15}-\sqrt{14}} - \frac{1}{\sqrt{14}-\sqrt{13}} + \frac{1}{\sqrt{13}-\sqrt{12}}$$

Rationalizing the denominator, we get :



$$= \left( \frac{1}{\sqrt{17}-\sqrt{16}} \times \frac{\sqrt{17}+\sqrt{16}}{\sqrt{17}+\sqrt{16}} \right) - \left( \frac{1}{\sqrt{16}-\sqrt{15}} \times \frac{\sqrt{16}+\sqrt{15}}{\sqrt{16}+\sqrt{15}} \right) + \left( \frac{1}{\sqrt{15}-\sqrt{14}} \times \frac{\sqrt{15}+\sqrt{14}}{\sqrt{15}+\sqrt{14}} \right) - \left( \frac{1}{\sqrt{14}-\sqrt{13}} \times \frac{\sqrt{14}+\sqrt{13}}{\sqrt{14}+\sqrt{13}} \right) + \left( \frac{1}{\sqrt{13}-\sqrt{12}} \times \frac{\sqrt{13}+\sqrt{12}}{\sqrt{13}+\sqrt{12}} \right)$$

Using,  $(a + b)(a - b) = a^2 - b^2$

$$= \left( \frac{(\sqrt{17}+\sqrt{16})}{(17-16)} \right) - \left( \frac{(\sqrt{16}+\sqrt{15})}{(16-15)} \right) + \left( \frac{(\sqrt{15}+\sqrt{14})}{(15-14)} \right) - \left( \frac{(\sqrt{14}+\sqrt{13})}{(14-13)} \right) + \left( \frac{(\sqrt{13}+\sqrt{12})}{(13-12)} \right)$$

$$= \sqrt{17} + \sqrt{16} - \sqrt{16} - \sqrt{15} + \sqrt{15} + \sqrt{14} - \sqrt{14} - \sqrt{13} + \sqrt{13} + \sqrt{12}$$

$$= \sqrt{17} + \sqrt{12}$$

=> Ans - (C)

### Question 15

30 women do half of the total work in 30 days. How many more women will be required to complete the remaining work in 10 days?

- A 45
- B 30
- C 60
- D 80

Answer: C

### Explanation:

30 women do half of the total work in 30 days

Let  $x$  women are required to complete the remaining half work.

$$\text{Using, } M_1 D_1 = M_2 D_2$$

$$\Rightarrow 30 \times 30 = x \times 10$$

$$\Rightarrow x = \frac{900}{10} = 90$$

$$\therefore \text{Number of more women required} = 90 - 30 = 60$$

=> Ans - (C)

### Question 16

When Amar walk from P to Q and return from Q to P on cycle, it takes him 29 minutes. By walking both ways, it takes him 49 minutes. If he rides cycle both ways then what will be the total time (in minutes)?

- A 9
- B 11
- C 13
- D 15

**Answer: A**

**Explanation:**

Let speed of walking =  $x$  m/min and speed of cycling =  $y$  m/min

Let distance between P and Q =  $d$  m

According to ques, when he walks both ways,

$$\Rightarrow \frac{d}{x} + \frac{d}{x} = 49$$

$$\Rightarrow \frac{d}{x} = \frac{49}{2} = 24.5$$

$$\text{Also, } \frac{d}{x} + \frac{d}{y} = 29$$

$$\Rightarrow \frac{d}{y} = 29 - 24.5 = 4.5$$

$$\therefore \text{Time taken if he cycles both ways} = \frac{d}{y} + \frac{d}{y}$$

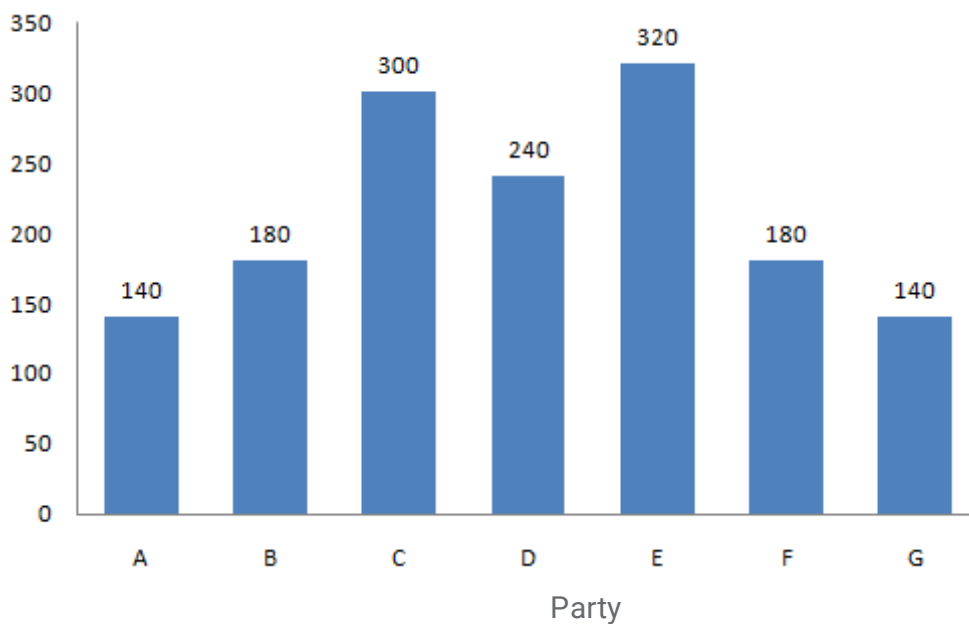
$$= 4.5 + 4.5 = 9 \text{ minutes}$$

$\Rightarrow$  Ans - (A)

**Instructions**

The bar graph shows results of a survey. 1500 people exiting voting booths were asked for which party they voted? Study the diagram and answer the following questions.

Number of voters



**Question 17**

Which party had the second highest number of voters?

A C

**B** F

**C** D

**D** E

**Answer: A**

**Explanation:**

Party **C** had the second highest number of voters = 300

=> Ans - (A)

**Question 18**

**What is the ratio of voters of party D to voters of party G?**

**A** 7 : 12

**B** 15 : 8

**C** 12 : 7

**D** 8 : 15

**Answer: C**

**Explanation:**

Voters of party D = 240

Voters of party G = 140

=> Required ratio =  $\frac{240}{140} = 12 : 7$

=> Ans - (C)

**Question 19**

**Number of voters of party A were lesser than that of party C by \_\_\_\_\_.**

**A** 35.75%

**B** 53.33%

**C** 26.67%

**D** 45.75%

**Answer: B**

**Explanation:**

Voters of party A = 140

Voters of party C = 300

$$\Rightarrow \text{Required \%} = \frac{(300-140)}{300} \times 100$$

$$= \frac{160}{3} = 53.33\%$$

$\Rightarrow$  Ans - (B)

### Question 20

If 30% of voters of party C had voted for party B, then party B's voters would have increased by \_\_\_\_\_.

A 33.3%

B 90%

C 50%

D 30%

**Answer: C**

#### Explanation:

Voters of party C = 300

$$\text{Number of voters who voted for B instead of C} = \frac{30}{100} \times 300 = 90$$

Voters of party B = 180

$$\Rightarrow \% \text{ increase in voters of B} = \frac{90}{180} \times 100 = 50\%$$

$\Rightarrow$  Ans - (C)

#### Instructions

For the following questions answer them individually

### Question 21

If the lengths of the two parallel sides of a trapezium are 7 cm and 9 cm and its area is 80 cm<sup>2</sup>. Find the distance between its parallel sides (in cm).

A 5

B 10

C 20

D 15

**Answer: B**

#### Explanation:

Let distance between parallel sides = height of trapezium =  $h$  cm

=> Sum of lengths of parallel sides =  $7 + 9 = 16$  cm

=> Area of trapezium =  $\frac{1}{2} \times (\text{sum of parallel sides}) \times \text{height}$

=>  $\frac{1}{2} \times 16 \times h = 80$

=>  $h = \frac{80}{8} = 10$  cm

=> Ans - (B)

### Question 22

The circumference of a circle is 88 cm. Find its radius (in cm).

A 28

B 15

C 14

D 30

Answer: C

### Explanation:

Let radius of circle =  $r$  cm

=> Circumference =  $2\pi r = 88$

=>  $2 \times \frac{22}{7} \times r = 88$

=>  $r = 88 \times \frac{7}{44}$

=>  $r = 2 \times 7 = 14$  cm

=> Ans - (C)

### Question 23

Find the volume (in cmc) of a cuboid of length, breadth and height of 10.5 cm, 8 cm and 9 cm respectively.

A 307

B 541

C 355

D 756

Answer: D

### Explanation:

Dimensions of cuboid :  $l = 10.5$ ,  $b = 8$  and  $h = 9$  cm

=> Volume of cuboid =  $lbh$

$$= 10.5 \times 8 \times 9 = 756 \text{ cm}^3$$

=> Ans - (D)

#### Question 24

What is the value of  $\sqrt{3} - \sec 60^\circ$  ?

A  $\sqrt{3} - 2$

B  $\frac{1-\sqrt{6}}{\sqrt{2}}$

C  $\frac{2\sqrt{3}-\sqrt{6}}{2\sqrt{2}}$

D  $\frac{1-3\sqrt{2}}{3}$

Answer: A

**Explanation:**

$$\text{Expression} = \sqrt{3} - \sec(60^\circ)$$

$$= \sqrt{3} - 2$$

=> Ans - (A)

#### Question 25

$\triangle DEF$  is right angled at E. If  $\cot D = 8/15$ , then what is the value of  $\cot F$  ?

A  $15/8$

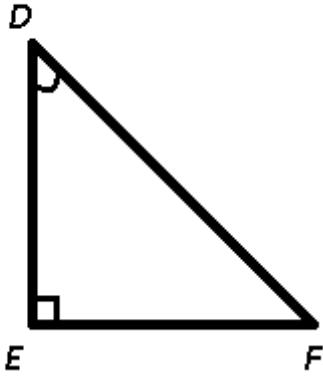
B  $15/17$

C  $8/17$

D  $17/15$

Answer: A

**Explanation:**



Given :  $\cot D = \frac{8}{15}$

Also,  $\cot D = \frac{DE}{EF} = \frac{8}{15}$

Let  $DE = 8$  cm and  $EF = 15$  cm

To find :  $\cot F = \frac{EF}{DE}$

$= \frac{15}{8}$

=> Ans - (A)

## Reasoning

### Instructions

For the following questions answer them individually

### Question 26

In the following question, select the related word pair from the given alternatives.

Cone : Figure :: ? : ?

- A Circle : Arc
- B Figure : Triangle
- C Sphere : Circumference
- D Cylinder : Figure

**Answer:** D

### Explanation:

Expression = Cone : Figure :: ? : ?

The first comes under the category of second, i.e. cone and cylinder are 3-D figures.

=> Ans - (D)

**Question 27**

In the following question, select the related number from the given alternatives.

64 : 10 :: 94 : ?

A 16

B 7

C 4

D 13

**Answer:** D

**Explanation:**

Expression = 64 : 10 :: 94 : ?

The second number in the pair is the sum of digits of first number.

Eg :-  $6 + 4 = 10$

Similarly,  $9 + 4 = 13$

=> Ans - (D)

**Question 28**

In the following question, select the related letter/letters from the given alternatives.

CGL : KOT :: JBR : ?

A SIY

B RIZ

C SJY

D RJZ

**Answer:** D

**Explanation:**

Expression = CGL : KOT :: JBR : ?

The pattern followed is :

C	G	L
(+8)	(+8)	(+8)
K	O	T



Similarly, for JBR : **RJZ**

J	B	R
(+8)	(+8)	(+8)
R	J	Z

=> Ans - (D)

### Question 29

In the following question, select the odd word from the given alternatives.

- A Mars
- B Venus
- C Planet
- D Mercury

**Answer: C**

### Explanation:

Mars, Venus and Mercury are planets of the solar system, hence **planet** is the odd one out.

=> Ans - (C)

### Question 30

In the following question, four number pairs are given. The number on left side of (-) is related to the number on the right side of (-) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

- A 7 - 343
- B 2 - 8
- C 5 - 125
- D 4 - 62

**Answer: D**

### Explanation:

The second number is the cube of the first number.

$$(7)^3 = 343$$

$$(2)^3 = 8$$

$$(5)^3 = 125$$

$$(4)^3 = 64 \neq 62$$

=> Ans - (D)

### Question 31

In the following question, select the odd letter/letters from the given alternatives.

A DGJ

B TVW

C HKN

D PSV

**Answer: B**

#### Explanation:

(A) : D (+3 letters) = G (+3 letters) = J

(B) : T (+2 letters) = V (+1 letter) = W

(C) : H (+3 letters) = K (+3 letters) = N

(D) : P (+3 letters) = S (+3 letters) = V

=> Ans - (B)

### Question 32

Arrange the given words in the sequence in which they occur in the dictionary.

1. Regular

2. Rehearse

3. Regard

4. Refugee

5. Refine

A 12453

B 54312

C 51243

D 32154

**Answer: B**

#### Explanation:

As per the order of dictionary :

= Refine -> Refugee -> Regard -> Regular -> Rehearse

≡ 54312

=> Ans - (B)

### Question 33

In the following question, select the missing number from the given series.

8, 16, ?, 64, 128

A 30

B 32

C 28

D 48

**Answer: B**

#### Explanation:

'2' is multiplied to all the numbers.

$$8 \times 2 = 16$$

$$16 \times 2 = \mathbf{32}$$

$$32 \times 2 = 64$$

$$64 \times 2 = 128$$

=> Ans - (B)

### Question 34

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

T, Q, N, K, ?

A H

B I

C G

D F

**Answer: A**

#### Explanation:

Series : T, Q, N, K, ?

The pattern followed is :

$$T (-3 \text{ letters}) = Q (-3 \text{ letters}) = N (-3 \text{ letters}) = K (-3 \text{ letters}) = \mathbf{H}$$

=> Ans - (A)

### Question 35

Present age of Anil and Rajesh are in the ratio of 11 : 6 respectively. 9 years ago, their ages were in the ratio of 7 : 3. If the Pankaj's present age is  $\frac{1}{4}$  of the Anil's present age, then what is the Pankaj's present age (in years)?

A 9

B 22

C 13

D 11

**Answer: D**

### Explanation:

Let present ages of Anil and Rajesh be  $11x$  and  $6x$  years respectively.

=> Pankaj's present age =  $\frac{11x}{4}$  years

According to ques,

$$\Rightarrow \frac{11x-9}{6x-9} = \frac{7}{3}$$

$$\Rightarrow 33x - 27 = 42x - 63$$

$$\Rightarrow 42x - 33x = 63 - 27$$

$$\Rightarrow 9x = 36$$

$$\Rightarrow x = \frac{36}{9} = 4$$

$$\therefore \text{Pankaj's present age} = \frac{11 \times 4}{4} = 11 \text{ years}$$

=> Ans - (D)

### Question 36

From the given alternatives, select the word which CANNOT be formed using the letters of the given word.  
**Numismatic**

A Must

B Since

C Matic

D Mat

**Answer: B**

**Explanation:**

The word NUMISMATIC does not contain any 'E', thus the term **Since** cannot be formed.

=> Ans - (B)

**Question 37**

In a certain code language, "FRONT" is written as "618151420" and "BORNE" is written as "21518145".

How is "MORNS" written in that code language?

A 1315181419

B 1314161718

C 81291114

D 141154321

**Answer: A**

**Explanation:**

The letters are numbered based on their position according to the English alphabetical order. A=1, B=2, C=3, D=4 and so on.

Eg :- FRONT = 6,18,15,14,20 = 618151420

BORNE = 2,15,18,14,5 = 21518145

Similarly, MORNS = 13,15,18,14,19 = **1315181419**

=> Ans - (A)

**Question 38**

In a certain code language, 'x' represents '+', '÷' represents 'x', '-' represents '÷' and '+' represents '-'. Find out the answer to the following question.

$25 \div 2 - 10 + 10 \times 6 = ?$

A 1

B 21

C 19

D 20

**Answer: A**

**Explanation:**

Expression :  $25 \div 2 - 10 + 10 \times 6 = ?$

$\equiv 25 \times 2 \div 10 - 10 + 6$

$= \frac{50}{10} - 4$

$$= 5 - 4 = 1$$

=> Ans - (A)

### Question 39

The following equation is incorrect. Which two signs should be interchanged to correct the equation?

$$8 + 2 - 40 \div 5 \times 16 = 44$$

A  $\div$  and +

B  $\div$  and  $\times$

C  $\times$  and -

D + and -

**Answer:** A

### Explanation:

Expression :  $8 + 2 - 40 \div 5 \times 16 = 44$

(A) :  $\div$  and +

$$\equiv 8 \div 2 - 40 + 5 \times 16 = 44$$

$$\text{L.H.S.} = \left(\frac{8}{2}\right) - 40 + (5 \times 16)$$

$$= 4 - 40 + 80 = 44 = \text{R.H.S.}$$

=> Ans - (A)

### Question 40

If  $18\Delta 4 = 11$ ,  $16\Delta 8 = 12$  and  $6\Delta 12 = 9$ , then find the value of  $18\Delta 14 = ?$

A 16

B 12

C 4

D 20

**Answer:** A

### Explanation:

Given :  $18\Delta 4 = 11$ ,  $16\Delta 8 = 12$  and  $6\Delta 12 = 9$

If we replace ' $\Delta$ ' with '+', and divide the sum by 2, we get the desired result.

Eg :-  $\frac{18+4}{2} = 11$

and  $\frac{16+8}{2} = 12$  and  $\frac{6+12}{2} = 9$

Similarly,  $\frac{18+14}{2} = 16$

=> Ans - (A)

#### Question 41

Which of the following terms follows the trend of the given list?

PRRQPQPQ, PQRRPQPQ, PQPRRQPQ, PQPQRRPQ, PQPQPRRQ, \_\_\_\_\_.

A RRPQPQPQ

B PRRQPQPQ

C PQPQPQRR

D PQRRPQPQ

**Answer: C**

#### Explanation:

Expression : PRRQPQPQ, PQRRPQPQ, PQPRRQPQ, PQPQRRPQ, PQPQPRRQ, \_\_\_\_\_.

The pattern followed is that in each term there are 3 combinations of 'PQ' and in each term, there are 2 consecutive R's starting from second position at the left end and shifting one place to the right.

Thus, in the missing term, the last two terms will be RR = **PQPQPQRR**

=> Ans - (C)

#### Question 42

Two airliners start from the same airport. A flies 20 km South. B flies 35 km East, then turns South and flies 45 km, then turns to its right and flies 35 km. Where is B with respect to A now?

A 65 km South

B 25 km North

C 25 km South

D 65 km North

**Answer: C**

**Question 43**

In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

**Statement I: Some perfumes are incenses**

**Statement II: All perfumes are oils**

**Conclusion I: Some incenses are oils**

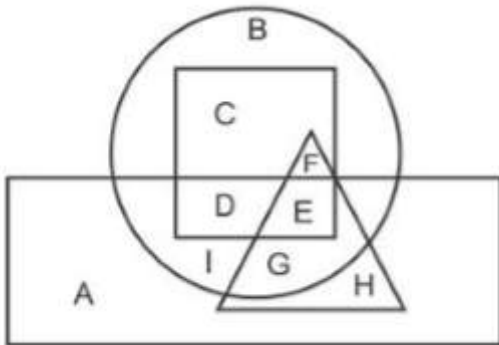
**Conclusion II: No oils are incenses**

- A Only conclusion I follows
- B Only conclusion II follows
- C Both conclusions I and II follow
- D Neither conclusion I nor conclusion II follows

**Answer: A**

**Question 44**

In the following figure, rectangle represents Mechanics, circle represents Artists, triangle represents Garners and square represents Golfers. Which set of letters represents Mechanics who are either Artists or Garners?



- A DEIGH
- B DEIG
- C EGH
- D IGH

**Answer: A**



### Question 45

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

CPK, FSN, IVQ, LYT, ?

A OBY

B PCX

C PCY

D OBW

**Answer: D**

#### **Explanation:**

Series : CPK, FSN, IVQ, LYT, ?

The pattern followed in each letter of the terms is :

1st letter : C (+3 letters) = F (+3 letters) = I (+3 letters) = L (+3 letters) = O

2nd letter : P (+3 letters) = S (+3 letters) = V (+3 letters) = Y (+3 letters) = B

3rd letter : K (+3 letters) = N (+3 letters) = Q (+3 letters) = T (+3 letters) = W

Thus, missing term = **OBW**

=> Ans - (D)

### Question 46

In the following question, select the missing number from the given series.

831, 842, 853, 864, 875, ?

A 896

B 876

C 886

D 880

**Answer: C**

#### **Explanation:**

'11' is added to all the numbers.

$$831 + 11 = 842$$

$$842 + 11 = 853$$

$$853 + 11 = 864$$

$$864 + 11 = 875$$

$$875 + 11 = 886$$

=> Ans - (C)

#### Question 47

In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

A (157, 162, 167)

B (138, 143, 148)

C (222, 227, 232)

D (167, 172, 187)

Answer: D

#### Explanation:

The numbers are of the form :  $(x, x + 5, x + 10)$

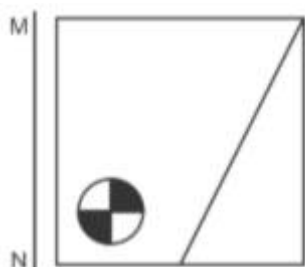
But in the last option, we have  $= 167 + 10 = 177 \neq 187$

Thus, (167, 172, 187) is the odd one out.

=> Ans - (D)

#### Question 48

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?



C



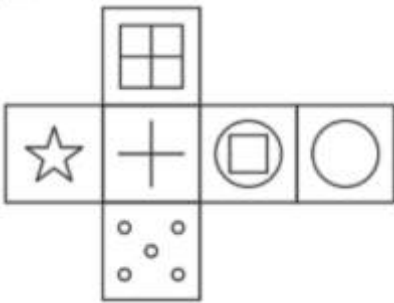
D



Answer: D

Question 49

Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?



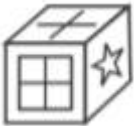
A



B



C



D



Answer: A

### Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example 'G' can be represented by 20, 43 etc and 'R' can be represented by 97, 78 etc. Similarly, you have to identify the set for the word 'MARX'.

Matrix - I					
	0	1	2	3	4
0	F	L	F	B	L
1	K	G	A	B	H
2	G	C	L	F	E
3	F	M	J	K	C
4	D	E	A	G	L

Matrix - II					
	5	6	7	8	9
5	X	V	N	X	Z
6	U	U	V	Q	U
7	P	V	Z	R	V
8	O	N	T	V	W
9	Q	X	R	N	X

- A 34,67,40,67
- B 13,57,33,68
- C 31,42,97,99
- D 43,95,13,66

Answer: C

#### Explanation:

(A) : 34,67,40,67 = CVDV

(B) : 13,57,33,68 = BNKQ

(C) : 31,42,97,99 = **MARX**

(D) : 43,95,13,66 = GQBU

=> Ans - (C)

## English

### Instructions

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

### Question 51

She kind (a)/ treated the (b)/ wounded street dog. (c)/ No error (d)

- A She kind

- B treated the
- C wounded street dog
- D No error

**Answer: A**

### Question 52

**A team of researchers from the University of Florence and Germany's University of Bonn found that plants (a)/ respond to anesthetics the same way that (b)/humans and animals does. (c)/ No error (d)**

- A A team of researchers from the University of Florence and Germany's University of Bonn found that plants
- B respond to anesthetics the same way that
- C humans and animals does
- D No error

**Answer: C**

### Instructions

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

### Question 53

**She \_\_\_\_\_ farewell to her parents.**

- A bid
- B call
- C told
- D shout

**Answer: A**

### Question 54

**Science helps us in \_\_\_\_\_ at the answer, but the main decision lies with ourselves.**

- A arriving

- B deriving
- C concluding
- D finishing

**Answer: A**

### **Instructions**

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

#### **Question 55**

##### **Obligatory**

- A Necessary
- B Optional
- C Voluntary
- D Liberalized

**Answer: A**

#### **Question 56**

##### **Conflagration**

- A Fire
- B Conversation
- C Harmony
- D Shooting

**Answer: A**

### **Instructions**

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

#### **Question 57**

##### **Nascent**

- A Developing
- B Germinal
- C Maturing
- D Withering

**Answer: D**

### **Question 58**

**Dainty**

- A Clumsy
- B Attractive
- C Light
- D Rare

**Answer: A**

### **Instructions**

For the following questions answer them individually

### **Question 59**

**Rearrange the parts of the sentence in correct order.**

**One of the major**

**P : crises facing the**

**Q : country is the**

**R : looming water shortage**

- A QRP
- B PQR
- C RPQ
- D RQP

**Answer: B**

### Question 60

A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.

The lecturer praised her.

- A Her was praised by the lecturer.
- B She felt praised by the lecturer.
- C She was praised by the lecturer.
- D She is praised by the lecturer.

**Answer: C**

### Question 61

A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.

Nidhi said to me, "What are you cooking?"

- A Nidhi enquired about my cooking.
- B Nidhi asked me what I was cooking.
- C Nidhi wondered if I was cooking.
- D Nidhi ask what I was cooking

**Answer: B**

### Question 62

In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

- A Onorary
- B Honoraery
- C Honorary
- D Honorarey

**Answer: C**

### Instructions



In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

The news has always \_\_\_\_\_ predicated on informing the consumer. It speaks of –apart from the day's most \_\_\_\_\_ upheavals – the best and the worst that \_\_\_\_\_ has managed to accomplish each day. This includes the medal-winners, the laureates, the record-breakers, the deal-makers \_\_\_\_\_the criminals, the villains, the corrupt. The news regales us \_\_\_\_\_ the highlights, a reel of the most provoking ones that made it into a window of a half-an-hour.

**Question 63**

**The news has always \_\_\_\_\_ predicated on informing**

- A be
- B to be
- C been
- D being

**Answer: C**

**Question 64**

**the day's most \_\_\_\_\_ upheavals**

- A significance
- B significantly
- C significant
- D significancy

**Answer: C**

**Question 65**

**the worst that \_\_\_\_\_ has managed to accomplish**

- A humanity
- B human
- C humane
- D humanly

**Answer: A**

**Question 66**

**the deal-makers \_\_\_\_\_ the criminals,**

- A** if
- B** but
- C** also
- D** and

**Answer: D**

**Question 67**

**The news regales us \_\_\_\_\_ the highlights**

- A** at
- B** from
- C** with
- D** for

**Answer: C**

**Instructions**

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

**Question 68**

**At the eleventh hour**

- A** At the last moment
- B** Very late at night.
- C** At a very odd time.
- D** Luckily have sufficient time to wrap up things.

**Answer: A**

**Question 69**

**The nitty-gritty**

- A The low level dirty job which is left to the lowermost subordinates.
- B Those with grit and determination will not be defeated.
- C Some people are born tough.
- D The most important aspects or practical details of a subject or situation.

**Answer: D**

**Instructions**

In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

**Question 70**

**Subject someone to hostility and ill-treatment, especially because of their race or political or religious beliefs**

- A Persecute
- B Approbation
- C Homage
- D Adoration

**Answer: A**

**Question 71**

**A remarkable concurrence of events or circumstances without apparent causal connection**

- A Jangle
- B Coincidence
- C Clamour
- D Clinker

**Answer: B**

**Instructions**

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

**Question 72**

**Gilbert de Lafayette's father and grandfather and great-grandfather (have all been) brave and noble men.**

- A has all been
- B has all being
- C have all being
- D no improvement

**Answer: D**

**Question 73**

**We took a path that would keep us away from (disturb) them as they basked in the sun and ate a slow meal.**

- A disturbing
- B disturbed
- C disturbs
- D no improvement

**Answer: A**

**Instructions**

For the following questions answer them individually

**Question 74**

**The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.**

**After dinner, my**

**A-the kitchen and offered to show**

**B-me what a dishwasher was**

**C-hostess followed me into**

- A BCA
- B BAC

C ACB

D CAB

**Answer: D**

#### Question 75

In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.

A gratifying

B gretifying

C gratifyeing

D gretifyeing

**Answer: A**

## General Awareness

#### Instructions

For the following questions answer them individually

#### Question 76

South Asian University (SAU), a joint SARC University of SAARC Nations, has been established in\_\_\_\_\_.

A New Delhi

B Male

C Colombo

D Dhaka

**Answer: A**

#### Question 77

In which of the following Five Year Plan was the growth rate target exceeded?

- A Eighth Five Year Plan
- B Ninth Five Year Plan
- C Tenth Five Year Plan
- D Eleventh Five Year Plan

**Answer: B**

**Question 78**

**Where did Lord Buddha deliver his first sermon?**

- A Lumbini
- B Bodh Gaya
- C Sarnath
- D Kushinagar

**Answer: C**

**Question 79**

**Who was elected the President of All India Workers and Peasants Party in Calcutta in 1928?**

- A M.N. Joglekar
- B Shripad Amrit Dange
- C Sahel Singh Josh
- D Mujaffar ahmed

**Answer: C**

**Question 80**

**Line of Capricorn does NOT go through which of the following countries?**

- A South Africa
- B Argentina
- C Chile

**D** Philippines

**Answer: D**

**Question 81**

**Which of the following is called the twin city of Kochi?**

**A** Ernakulam

**B** Alwaye

**C** Alleppey

**D** Kottayam

**Answer: A**

**Question 82**

**Rukmini Devi Arundale is related to which of the arts?**

**A** Classical singing

**B** Classical dance

**C** Folk song

**D** No option is correct.

**Answer: B**

**Question 83**

**In which of the following countries India celebrated a cultural festival named 'India by the Nile' in 2017?**

**A** Iran

**B** Brazil

**C** Egypt

**D** UAE

**Answer: C**

**Question 84**

**Who of the following was the winner of Grammy Awards 2017 'Rap Album of the Year'?**

- A Chance the Rapper
- B Crances in the Sky
- C Lake by the Ocean
- D Humble and Kind

**Answer: A**

**Question 85**

**How many countries are connected to the international border of Myanmar?**

- A 4
- B 5
- C 6
- D 7

**Answer: B**

**Question 86**

**IMAGE**

- A I - 2, II - 3, III - 4, IV - 1
- B I - 2, II - 3, III - 1, IV - 4
- C I - 3, II - 2, III - 1, IV - 4
- D I - 2, II - 1, III - 3, IV - 4

**Answer: A**

**Question 87**

**Which of the following statement(s) is/are CORRECT?**

- I. Bases are soapy to touch.
- II. Bases generate OH<sup>-</sup> ions.
- III. Metal oxides dissolve in water to form Acidic solution.



- A Only I and II
- B Only I and III
- C Only II and III
- D All I, II and III

**Answer: A**

**Question 88**

**Comptroller and Auditor General of India is appointed by \_\_\_\_\_.**

- A Prime Minister of India
- B Judge of Supreme Court
- C President of India
- D Chief Election Commissioner of India

**Answer: C**

**Question 89**

**In Indian Constitution, \_\_\_\_\_ contains provisions related to Anti-defection law.**

- A eighth schedule
- B ninth schedule
- C tenth schedule
- D eleventh schedule

**Answer: C**

**Question 90**

**Why do the desert plants take up the carbon dioxide for photosynthesis at night?**

- A To prevent water loss
- B To enhance carbon absorption
- C To release excess oxygen

**D** No option is correct.

**Answer: A**

**Question 91**

**In synapse the information is transmitted in the \_\_\_\_\_ form.**

**A** biological

**B** chemical

**C** electrical

**D** No option is correct.

**Answer: B**

**Question 92**

**'Mentor India' Campaign is an initiative to engage leaders who can guide and mentor students at 'Atal Tinkering Labs' across the country. Who launched 'Mentor India' Campaign?**

**A** NASSCOM

**B** ASSOCHAM

**C** NITI Aayog

**D** SEBI

**Answer: C**

**Question 93**

**Which country has launched world's largest human genome research project to document genetic makeup of one lakh people?**

**A** Japan

**B** South Africa

**C** China

**D** India

**Answer: C**

**Question 94**

In August 2017, New Development Bank (NDB) approved \$ 1.4 billion loan for development projects in India, Russia, and China. Where is NDB headquarter?

- A Shanghai
- B Beijing
- C Moscow
- D Washington

**Answer: A**

**Question 95**

On 19 September 2017, Law Ministry approved Fugitive Economic Offenders Bill, 2017. The proposed bill will be applicable in cases where the value of offences is over \_\_\_\_\_.

- A Rs 100 crores
- B Rs 50 crores
- C Rs 25 crores
- D Rs 200 crores

**Answer: A**

**Question 96**

What is the resistance (in  $\Omega$ ) of an electrical component if a current of 0.5 A passes through it on application of 20 V of potential difference across it?

- A 10
- B 80
- C 20
- D 40

**Answer: D**

**Question 97**

In the equation of motion  $2as = v^2$ ,  $s$  represents \_\_\_\_\_.

- A speed
- B displacement
- C velocity
- D acceleration

**Answer: B**

#### **Question 98**

The instrument that measures the \_\_\_\_\_ is called an anemometer.

- A wind speed
- B pressure
- C humidity
- D rainfall

**Answer: A**

#### **Question 99**

Which of the statements given below are correct?

- A) Elina Svitolina won the Tennis 2017 Italian Open Women's Singles.
- B) Lewis Hamilton won the Formula One 2017 Italian Grand Prix.
- C) In 2017, James Harden played for the NBA team Milwaukee Bucks.

- A Both A and C
- B Both B and C
- C Both A and B
- D None of these

**Answer: C**

#### **Question 100**

In Microsoft Word, to alter the page set up, page set up is clicked under \_\_\_\_\_.

- A Formatting tool bar

**B** File menu

**C** Standard tool bar

**D** Menu bar

**Answer: B**

# SSC CHSL 13 March 2018 Afternoon Shift

## Quant

### Instructions

For the following questions answer them individually

### Question 1

What is the place value and face value of 9 in 68956 respectively?

A 9, 900

B 900, 9

C 9, 9

D 9000, 900

**Answer: B**

### Explanation:

Number : 68956

The place value of 9 =  $9 \times 100 = 900$

Face value = 9

=> Ans - (B)

### Question 2

Find the unit place digit in  $71 \times 72 \times 73 \times 74 \times 76 \times 77 \times 78 \times 79$ .

A 2

B 0

C 4

D 6

**Answer: D**

### Explanation:

Expression :  $71 \times 72 \times 73 \times 74 \times 76 \times 77 \times 78 \times 79$

Unit place is the product of unit digits.

$$= (1 \times 2 \times 3 \times 4) \times (6 \times 7) \times (8 \times 9)$$

$$= 24 \times 42 \times 72$$

$$\equiv 4 \times 2 \times 2 = 16$$

Thus, unit digit = 6

=> Ans - (D)

### Question 3

The value of  $1 + 2^2 + 2^3 + 2^4 + \dots + 2^9$  is \_\_\_\_\_.

A 255

B 511

C 1021

D 2047

Answer: C

### Explanation:

Expression :  $1 + 2^2 + 2^3 + 2^4 + \dots + 2^9$

$$= (2^0 + 2^1 + 2^2 + 2^3 + 2^4 + \dots + 2^9) - 2$$

The above series is a geometric progression with first term,  $a = 1$  and common ratio,  $r = 2$

Number of terms,  $n = 10$

$$\text{Sum of G.P.} = \frac{a(r^n - 1)}{r - 1}$$

$$= \left[ \frac{1(2^{10} - 1)}{2 - 1} \right] - 2$$

$$= 1024 - 1 - 2 = 1021$$

=> Ans - (C)

### Question 4

What will be the value of  $a^3 + b^3$ , if  $a^2 + b^2 = 32$  and  $a + b = 8$  ?

A 8

B 32

C 128

D 256

Answer: C

### Explanation:

$$\text{Given : } a^2 + b^2 = 32 \text{ -----(i)}$$

$$\text{and } a + b = 8 \text{ -----(ii)}$$

Squaring both sides,

$$\Rightarrow a^2 + b^2 + 2ab = 64$$

Substituting value from equation (i),  $\Rightarrow 32 + 2ab = 64$

$$\Rightarrow 2ab = 64 - 32 = 32$$

$$\Rightarrow ab = \frac{32}{2} = 16 \text{ -----(iii)}$$

$$\therefore a^3 + b^3$$

$$= (a + b)(a^2 + b^2 - ab)$$

Substituting values from equation (i), (ii) and (iii),

$$= (8)(32 - 16)$$

$$= 8 \times 16 = 128$$

$\Rightarrow$  Ans - (C)

### Question 5

The line bisecting all the three angles of a triangle meets at a common point. This point is known as \_\_\_\_\_.

- A circum-center
- B centroid
- C orthocenter
- D in-center

**Answer:** D

### Explanation:

The line bisecting all the three angles of a triangle meets at a common point and that point is known as *in-center*.

$\Rightarrow$  Ans - (D)

### Question 6

The point of the intersection of three medians is known as the \_\_\_\_\_.

- A circum-centre
- B in-center
- C centroid



D orthocenter

**Answer:** C

**Explanation:**

The point of the intersection of three medians in a triangle is known as the **centroid**.

=> Ans - (C)

**Question 7**

If  $P = 5X$  and  $Q = X$ , then P is how much percentage more than Q?

A 80

B 320

C 500

D 400

**Answer:** D

**Explanation:**

$P = 5X$  and  $Q = X$

=> Required % =  $\frac{(5X-X)}{X} \times 100$

=  $4 \times 100 = 400\%$

=> Ans - (D)

**Question 8**

The ratio of three numbers is 2 : 5 : 7. If their product is 1890, then what is the sum of the three numbers?

A 82

B 140

C 42

D 72

**Answer:** C

**Explanation:**

Let the numbers be  $2x$ ,  $5x$  and  $7x$

Product =  $(2x) \times (5x) \times (7x) = 1890$

$$\Rightarrow x^3 = \frac{1890}{70} = 27$$

$$\Rightarrow x = \sqrt[3]{27} = 3$$

$$\therefore \text{Sum of numbers} = 2x + 5x + 7x = 14x$$

$$= 14 \times 3 = 42$$

$\Rightarrow$  Ans - (C)

#### Question 9

P starts a business with Rs 14000. After 8 months Q joins P with Rs. 8000. After 3 years, what will be the ratio of the profit of P and Q?

A 12 : 5

B 9 : 4

C 14 : 9

D 15 : 8

**Answer: B**

#### Explanation:

P invested Rs. 14,000 for 36 months and Q invested Rs. 8,000 for 28 months

$$\Rightarrow \text{Ratio of profits of P:Q} = (14,000 \times 36) : (8,000 \times 28)$$

$$= (36) : (8 \times 2) = 9 : 4$$

$\Rightarrow$  Ans - (B)

#### Question 10

A person bought 100 cars for Rs 40000. If the average price of 60 cars is Rs 500, then what will be the average price (in Rs) of remaining cars?

A 200

B 250

C 300

D 350

**Answer: B**

#### Explanation:

Price of 100 cars = Rs. 40,000

Average price of 60 cars = Rs. 500

$$\Rightarrow \text{Total price of 60 cars} = 500 \times 60 = \text{Rs. } 30,000$$

$$\therefore \text{Average price of remaining } (100-60=40) \text{ cars} = \frac{(40,000-30,000)}{40}$$

$$= \frac{1000}{4} = \text{Rs. } 250$$

=> Ans - (B)

### Question 11

The simple interest on a sum for 5 years is Rs 16800. The rate of interest for the first 3 years is 8% per annum and for the next 2 years is 12% per annum. What is the value (in Rs) of sum?

A 30000

B 38000

C 32000

D 35000

**Answer:** D

### Explanation:

Let the sum = Rs.  $100x$

Rate of interest for first 3 years = 8% and for next 2 years = 12%

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

$$\Rightarrow \left( \frac{100x \times 8 \times 3}{100} \right) + \left( \frac{100x \times 12 \times 2}{100} \right) = 16800$$

$$\Rightarrow 24x + 24x = 16800$$

$$\Rightarrow x = \frac{16800}{48} = 350$$

$$\therefore \text{Sum} = 100 \times 350 = \text{Rs. } 35,000$$

=> Ans - (D)

### Question 12

Selling price of an article is Rs 1144. If loss percentage is 12%, then what is the cost price (in Rs) of article?

A 1300

B 1006

C 1242

D 1440

**Answer:** A

**Explanation:**

Selling price = Rs. 1144

Loss % = 12%

$$\Rightarrow \text{Cost price} = \frac{1144}{(100-12)} \times 100$$

$$= \frac{104}{8} \times 100 = \text{Rs. } 1300$$

$\Rightarrow$  Ans - (A)

**Question 13**

Marked price of a chair is Rs 800 and discount is 15%. What is additional discount (in percentage) should be offered to the customer to bring the price of chair to Rs 578?

A 15

B 10

C 16.5

D 17.5

**Answer: A**

**Explanation:**

Marked price of a chair is Rs 800 and discount = 15%

$$\Rightarrow \text{Selling price} = 800 - \left(\frac{15}{100} \times 800\right)$$

$$= 800 - 120 = \text{Rs. } 680$$

Actual selling price = Rs. 578

$$\Rightarrow \text{Additional Discount \%} = \frac{(680-578)}{680} \times 100$$

$$= \frac{102}{68} = 15\%$$

$\Rightarrow$  Ans - (A)

**Question 14**

Which of the following statements(S) is/are TRUE ?

I.  $\sqrt[3]{512} \times \sqrt{256} > \sqrt[3]{343} \times \sqrt{289}$

II.  $\sqrt{121} + \sqrt[3]{1331} > \sqrt[3]{125} \times \sqrt{25}$

A Only I

B Only II

C Neither I nor II

D Both I and II

**Answer: A**

**Explanation:**

$$I: \sqrt[3]{512} \times \sqrt{256} > \sqrt[3]{343} \times \sqrt{289}$$

$$\text{L.H.S.} = 8 \times 16 = 128$$

$$\text{R.H.S.} = 7 \times 17 = 119$$

Thus,  $128 > 119$ , which is correct.

$$II: \sqrt{121} + \sqrt[3]{1331} > \sqrt[3]{125} \times \sqrt{25}$$

$$\text{L.H.S.} = 11 + 11 = 22$$

$$\text{R.H.S.} = 5 \times 5 = 25$$

Thus,  $22 < 25$

$\therefore$  Only I is correct.

$\Rightarrow$  Ans - (A)

### Question 15

Two pipes can fill a cistern in 28 and 21 hours respectively and an another pipe can empty 30 gallons of water per hour. All the three pipes working together can fill the empty cistern in 84 hours. What is the capacity (in gallons) of the cistern?

A 350

B 450

C 420

D 480

**Answer: C**

**Explanation:**

Let total capacity of cistern (in gallons) =  $x$

$\Rightarrow$  Efficiency of both inlet pipes respectively =  $\left(\frac{x}{28} + \frac{x}{21}\right)$  gallons/hr

Similarly, efficiency of outlet pipe =  $-30$  gallons/hr

According to ques,

$$\Rightarrow \left(\frac{x}{28} + \frac{x}{21} - 30\right) \times 84 = x$$

$$\Rightarrow \frac{3x+4x-(30 \times 84)}{84} = \frac{x}{84}$$

$$\Rightarrow 7x - (30 \times 84) = x$$

$$\Rightarrow 7x - x = 6x = 30 \times 84$$

$$\Rightarrow x = \frac{30 \times 84}{6}$$

$$\Rightarrow x = 5 \times 84 = 420 \text{ gallons}$$

$\Rightarrow$  Ans - (C)

### Question 16

A train is moving at the speed of 36 km/hr. How many seconds it will take to cover a distance of 600 meters?

A 60

B 120

C 30

D 40

Answer: A

### Explanation:

Let time taken to cover 600 m =  $t$  seconds

$$\text{Speed} = 36 \text{ km/hr} = \left(36 \times \frac{5}{18}\right) = 10 \text{ m/s}$$

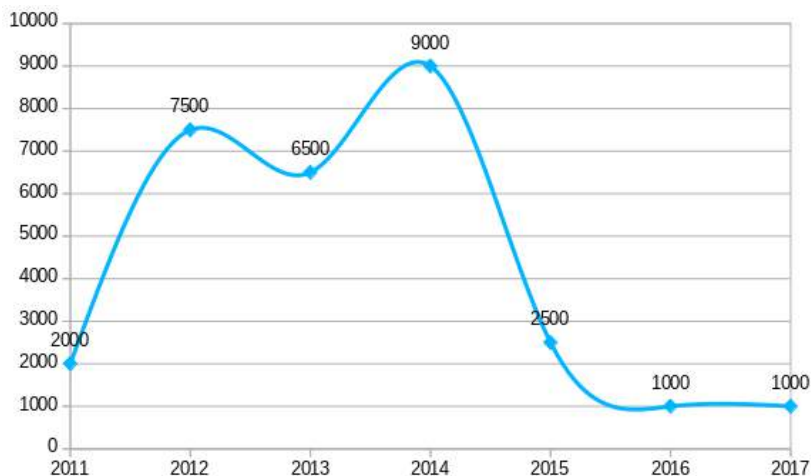
Using, time = distance/speed

$$\Rightarrow t = \frac{600}{10} = 60 \text{ seconds}$$

$\Rightarrow$  Ans - (A)

### Instructions

The line graph shows the number of students of a certain university who failed in the given year in their final exams. Study the diagram and answer the following questions.



### Question 17

In which year were failures greater than that of the previous year?

- A 2014
- B 2013
- C 2015
- D 2016

**Answer:** A

#### **Explanation:**

In 2012 and **2014**, the failures were greater than that of the previous year.

=> Ans - (A)

### Question 18

What was the difference in failures between the years 2011 and 2013?

- A 6000
- B 4500
- C 6500
- D 4000

**Answer:** B

#### **Explanation:**

Number of failures in 2013 = 6500

Number of failures in 2011 = 2000

=> Required difference =  $6500 - 2000 = 4500$

=> Ans - (B)

### Question 19

Failures in 2014 were greater than that in 2012 by \_\_\_\_\_.

- A 25%
- B 16.67%
- C 20%
- D 15%

**Answer: C**

**Explanation:**

Number of failures in 2014 = 9000

Number of failures in 2012 = 7500

$$\Rightarrow \text{Required \%} = \frac{(9000-7500)}{7500} \times 100$$

$$= \frac{1500}{75} = 20\%$$

$\Rightarrow$  Ans - (C)

**Question 20**

**What is the average number of failures in the last three years?**

**A** 1500

**B** 1250

**C** 1350

**D** 1400

**Answer: A**

**Explanation:**

Total number of failures in the last three years (2015, 2016 and 2017)

$$= 2500 + 1000 + 1000 = 4500$$

$$\text{Average number of failures} = \frac{4500}{3} = 1500$$

$\Rightarrow$  Ans - (A)

**Instructions**

For the following questions answer them individually

**Question 21**

**The area of a square is  $40.5\text{cm}^2$ . Find the length of its diagonal (in cm).**

**A** 9

**B** 4.5

**C** 18

**D** 13.5

**Answer: A**



**Explanation:**

Let side of square =  $s$  cm and its diagonal =  $d$  cm

$$\text{Area} = s^2 = 40.5$$

$$\text{Now, } d^2 = s^2 + s^2$$

$$\Rightarrow d^2 = 40.5 + 40.5 = 81$$

$$\Rightarrow d = \sqrt{81} = 9 \text{ cm}$$

$\Rightarrow$  Ans - (A)

**Question 22**

What is the measure of an exterior angle of a regular polygon of 10 sides?

A 30

B 24

C 36

D 20

Answer: C

**Explanation:**

Sum of exterior angles of any polygon =  $360^\circ$

$$\Rightarrow \text{Measure of each exterior angle of regular polygon with 10 sides} = \frac{360^\circ}{10} = 36^\circ$$

$\Rightarrow$  Ans - (C)

**Question 23**

The total surface area of a hemisphere is  $462\text{cm}^2$ . Find its diameter (in cm).

A 7

B 28

C 21

D 14

Answer: D

**Explanation:**

Let the radius of hemisphere =  $r$  cm

$$\Rightarrow \text{Total surface area} = 3\pi r^2 = 462$$

$$\Rightarrow 3 \times \frac{22}{7} \times r^2 = 462$$

$$\Rightarrow r^2 = 462 \times \frac{7}{66} = 49$$

$$\Rightarrow r = \sqrt{49} = 7$$

$$\therefore \text{Diameter} = 2 \times 7 = 14 \text{ cm}$$

$\Rightarrow$  Ans - (D)

#### Question 24

What is the value of  $(\sin 60^\circ - 2\sqrt{3})$ ?

A  $\frac{-1}{2\sqrt{3}}$

B  $\frac{-1}{2}$

C  $\frac{1}{\sqrt{3}}$

D  $\frac{-3\sqrt{3}}{2}$

Answer: D

#### Explanation:

Expression :  $(\sin 60^\circ - 2\sqrt{3})$

$$= \frac{\sqrt{3}}{2} - 2\sqrt{3}$$

$$= \frac{\sqrt{3} - 4\sqrt{3}}{2} = \frac{-3\sqrt{3}}{2}$$

$\Rightarrow$  Ans - (D)

#### Question 25

$\Delta PQR$  is right angled at Q. If  $\tan P = \frac{24}{7}$ , then what is the value of  $\cos R$ ?

A  $\frac{25}{7}$

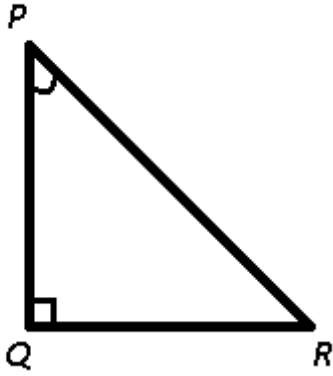
B  $\frac{24}{25}$

C  $\frac{24}{7}$

D  $\frac{7}{24}$

Answer: B

#### Explanation:



Given :  $\tan P = \frac{24}{7}$

Also,  $\tan P = \frac{QR}{PQ} = \frac{24}{7}$

Let  $QR = 24$  cm and  $PQ = 7$  cm

Thus, in  $\triangle PQR$ ,  $\Rightarrow (PR)^2 = (PQ)^2 + (QR)^2$

$\Rightarrow (PR)^2 = (7)^2 + (24)^2$

$\Rightarrow (PR)^2 = 49 + 576 = 625$

$\Rightarrow PR = \sqrt{625} = 25$  cm

To find :  $\cos R = \frac{QR}{PR}$

$= \frac{24}{25}$

$\Rightarrow$  Ans - (B)

## Reasoning

### Instructions

For the following questions answer them individually

### Question 26

In the following question, select the related word pair from the given alternatives.

Grapes : Fruit :: ? : ?

- A Stem : Potato
- B Ginger : Branch
- C Tomato : Red
- D Ladyfinger : Vegetable

Answer: D

Explanation:

Expression = Grapes : Fruit :: ? : ?

The first comes under the category of second, i.e. grapes are fruits, while ladyfinger is a vegetable.

=> Ans - (D)

### Question 27

In the following question, select the related number pair from the given alternatives.

42 : 55 :: ? : ?

A 35 : 48

B 64 : 80

C 52 : 69

D 36 : 54

**Answer:** A

### Explanation:

Expression = 42 : 55 :: ? : ?

The difference between the numbers =  $55 - 42 = 13$

Similarly, only the difference between  $48 - 35 = 13$

=> Ans - (A)

### Question 28

In the following question, select the related letter/letters from the given alternatives.

NPQ : SUV :: JLM : ?

A PQS

B ORS

C PQR

D OQR

**Answer:** D

### Explanation:

Expression = NPQ : SUV :: JLM : ?

The pattern followed is :

N	P	Q
(+5)	(+5)	(+5)
S	U	V

Similarly, for JLM : **OQR**

J	L	M
(+5)	(+5)	(+5)
O	Q	R

=> Ans - (D)

### Question 29

In the following question, select the odd word pair from the given alternatives.

- A Cricket - Pitch
- B Rink - Skating
- C Hockey - Ground
- D Wrestling - Arena

**Answer:** B

### Explanation:

In the above pairs, first is the sport and second is the enclosed area in which it is played, but order of **rink-skating** is different, hence it is the odd one out.

=> Ans - (B)

### Question 30

In the following question, four number pairs are given. The number on left side of (-) is related to the number on the right side of (-) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

- A 13 - 15
- B 17 - 19
- C 11 - 13
- D 15 - 19

**Answer:** D

### Explanation:

The difference between each of the pair of numbers is 2.

But in the last option =>  $19 - 15 = 4$

Thus, (15 - 19) is the odd one out.

=> Ans - (D)

### Question 31

In the following question, select the odd letter/letters from the given alternatives.

A KQW

B BGN

C MSY

D NTZ

**Answer: B**

### Explanation:

(A) : K (+6 letters) = Q (+6 letters) = W

(B) : B (+5 letters) = G (+7 letters) = N

(C) : M (+6 letters) = S (+6 letters) = Y

(D) : N (+6 letters) = T (+6 letters) = Z

=> Ans - (B)

### Question 32

From the given alternatives, according to dictionary, which word will come at FIRST position?

1. Glorious

2. Glider

3. Golden

4. Glisten

5. Grapes

A Glider

B Golden

C Grapes

D Glisten

**Answer: A**

### Explanation:

As per the order of dictionary :

= Glider -> Glisten -> Glorious -> Golden -> Grapes

Thus, the first word = **Glider**

=> Ans - (A)

### Question 33

In the following question, select the missing number from the given series.

21, 11, 32, 43, 75, ?

A 125

B 153

C 118

D 97

**Answer: C**

#### Explanation:

The given sequence is a type of Fibonacci series where the previous numbers are added to get the next number.

$$21 + 11 = 32$$

$$11 + 32 = 43$$

$$32 + 43 = 75$$

$$43 + 75 = \mathbf{118}$$

=> Ans - (C)

### Question 34

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

GX, HW, IV, ?, KT

A JU

B KU

C JV

D JS

**Answer: A**

**Explanation:**

Series : GX, HW, IV, ?, KT

The pattern followed in each letter of the terms is :

1st letter : G (+1 letter) = H (+1 letter) = I (+1 letter) = J (+1 letter) = K

2nd letter : X (-1 letter) = W (-1 letter) = V (-1 letter) = U (-1 letter) = T

Thus, missing term = **JU**

=> Ans - (A)

**Question 35**

**Rajan walks 24 metres towards east. Then turns right and walk another 24 metres. Then turn right and walks for 31 metres to reach shop A. He again turns to his right and walks for 24 metres. What is the straight line distance (in metres) between the starting point and shop A?**

A  $14\sqrt{2}$

B  $15\sqrt{2}$

C 25

D 26

**Answer: C**

**Question 36**

**From the given alternatives, select the word which CANNOT be formed using the letters of the given word.**

**Ancillary**

A Ail

B Navy

C Nill

D Any

**Answer: B**

**Explanation:**

The word ANCILLARY does not contain any 'V', thus the term **Navy** cannot be formed.

=> Ans - (B)



**Question 37**

In a certain code language, "POLIS" is written as "SROLV". How is "MRUGS" written in that code language?

A JLNQF

B PUXJV

C FNPRA

D VJQZT

**Answer: B**

**Explanation:**

"POLIS" is written as "SROLV"

The pattern followed is :

P	O	L	I	S
(+3)	(+3)	(+3)	(+3)	(+3)
S	R	O	L	V

Similarly, for MRUGS :

M	R	U	G	S
(+3)	(+3)	(+3)	(+3)	(+3)
P	U	X	J	V

=> Ans - (B)

**Question 38**

In a certain code language, '÷' represents '+', '-' represents 'x', '+' represents '÷' and 'x' represents '-'. Find out the answer to the following question.

$$20 \times 12 \div 3 - 40 + 12 = ?$$

A 25

B 32

C 18

D 7

**Answer: C**

**Explanation:**

Expression :  $20 \times 12 \div 3 - 40 + 12 = ?$

$$\equiv 20 - 12 + 3 \times 40 \div 12$$

$$= 8 + \frac{120}{12}$$

$$= 8 + 10 = 18$$

=> Ans - (C)

### Question 39

The following equation is incorrect. Which two signs should be interchanged to correct the equation?

$$14 \div 10 \times 20 - 40 + 34 = 1$$

A x and -

B  $\div$  and x

C  $\div$  and -

D - and +

**Answer: B**

### Explanation:

Expression :  $14 \div 10 \times 20 - 40 + 34 = 1$

(A) : x and -

$$\equiv 14 \div 10 - 20 \times 40 + 34 = 1$$

$$\text{L.H.S.} = 1.4 - 800 + 34 = -764.6 \neq \text{R.H.S.}$$

(B) :  $\div$  and x

$$\equiv 14 \times 10 \div 20 - 40 + 34 = 1$$

$$\text{L.H.S.} = 7 - 6 = 1 = \text{R.H.S.}$$

=> Ans - (B)

### Question 40

If  $30\%6 = -5$ ,  $10\%5 = -2$  and  $10\%2 = -5$ , then find the value of  $80\%8 = ?$

A 40

B 25

C -10

D 5

**Answer: C**

**Explanation:**

Given :  $30\%6 = -5$ ,  $10\%5 = -2$  and  $10\%2 = -5$

If we replace '%' with ' $\div$ ' and append a 'negative' sign, then we will get the desired result.

Eg :-  $-\frac{30}{6} = -5$

and  $-\frac{10}{5} = -2$

and  $-\frac{10}{2} = -5$

Similarly,  $-\frac{80}{8} = -10$

=> Ans - (C)

**Question 41**

Which of the following terms follows the trend of the given list?

aAAAAAA, AaAAAAA, AAaAAAA, AAAaAAA, AAAAaAA, \_\_\_\_\_.

A AAAAAAa

B aAAAAAA

C AaAAAAA

D AAAAAaA

**Answer:** D

**Explanation:**

Expression : aAAAAAA, AaAAAAA, AAaAAAA, AAAaAAA, AAAAaAA, \_\_\_\_\_.

The pattern followed is that in each term there are 7 A's and in each term, there is one small 'a' starting from left end and shifting one place to the right.

Thus, in the missing term, the second last 'a' will be small = **AAAAAaA**

=> Ans - (D)

**Question 42**

A helicopter flies 80 km North, then it turns West and flies 50 km, then it turns North and flies 120 km, then it turns to its right and flies 50 km. Where is it now with reference to its starting position?

A 40 km North

B 200 km South

C 40 km South

D 200 km North

Answer: D

### Question 43

In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: Some genies are ogres

Statement II: No magic are genies

Conclusion I: Some ogres are magic

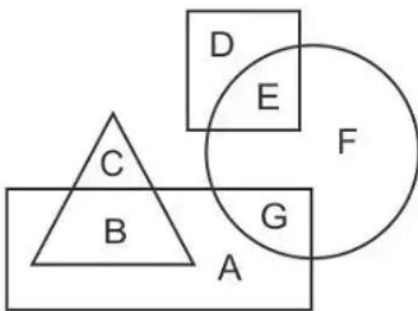
Conclusion II: All magic are ogres

- A Only conclusion I follows
- B Only conclusion II follows
- C Both conclusions I and II follow
- D Neither conclusion I nor conclusion II follows

Answer: D

### Question 44

In the following figure, rectangle represents Web designers, circle represents Athletes, triangle represents Sculptors and square represents Asians. Which set of letters represents Asians who are not Athletes ?



- A DEF
- B D
- C GF
- D DE

Answer: B

### Question 45

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

RMT, PKR, NIP, ?, JEL

A KNL

B LGN

C MHO

D KFM

Answer: B

#### Explanation:

Series : RMT, PKR, NIP, ?, JEL

The pattern followed in each letter of the terms is :

1st letter : R (-2 letters) = P (-2 letters) = N (-2 letters) = L (-2 letters) = J

2nd letter : M (-2 letters) = K (-2 letters) = I (-2 letters) = G (-2 letters) = E

3rd letter : T (-2 letters) = R (-2 letters) = P (-2 letters) = N (-2 letters) = L

Thus, missing term = **LGN**

=> Ans - (B)

### Question 46

In the following question, select the missing number from the given series.

144, 139, 133, 128, ?, 117, 111

A 124

B 123

C 122

D 126

Answer: C

#### Explanation:

'5' and '6' are alternatively subtracted.

$$144 - 5 = 139$$

$$139 - 6 = 133$$

$$133 - 5 = 128$$

$$128 - 6 = 122$$

$$122 - 5 = 117$$

$$117 - 6 = 111$$

=> Ans - (C)

#### Question 47

In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

A (16, 48, 49)

B (23, 69, 70)

C (17, 51, 52)

D (34, 112, 113)

Answer: D

#### Explanation:

The numbers are of the form :  $(x, 3x, 3x + 1)$

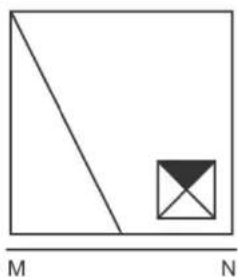
But in the last option, we have =  $34 \times 3 = 102 \neq 112$

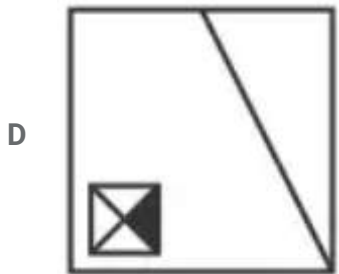
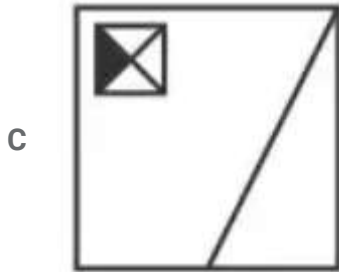
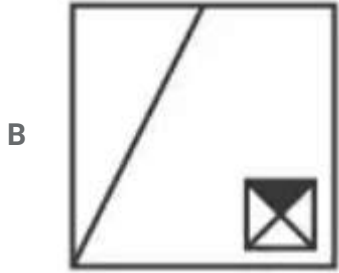
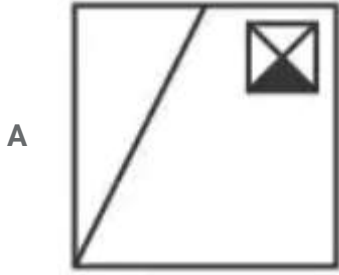
Thus, (34, 112, 113) is the odd one out.

=> Ans - (D)

#### Question 48

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

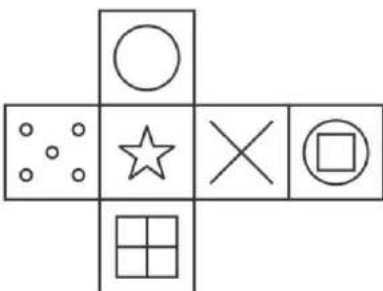




Answer: A

Question 49

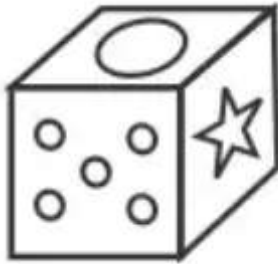
Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure.



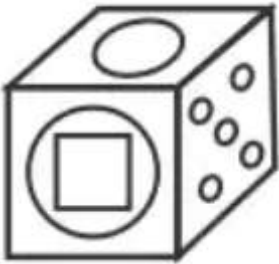
A



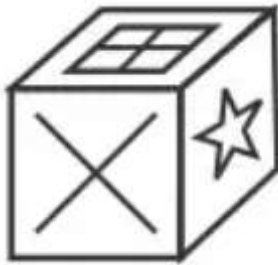
B



C



D



Answer: A



### Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example 'B' can be represented by 24, 31 etc and V can be represented by 86, 89 etc. Similarly, you have to identify the set for the word 'VAMP'.

Matrix - I					
	0	1	2	3	4
0	M	I	G	A	L
1	G	K	K	C	J
2	M	K	L	I	B
3	J	B	H	I	H
4	L	D	B	L	A

Matrix - II					
	5	6	7	8	9
5	S	S	W	Q	N
6	U	N	P	Q	U
7	U	R	Q	N	T
8	U	V	Y	X	V
9	Y	O	S	U	X

- A 31,78,23,59
- B 86,44,20,67
- C 13,87,10,67
- D 21,88,32,96

Answer: B

#### Explanation:

(A) : 31,78,23,59 = BNIN

(B) : 86,44,20,67 = **VAMP**

(C) : 13,87,10,67 = CYGP

(D) : 21,88,32,96 = KXHO

=> Ans - (B)

## English

### Instructions

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

### Question 51

His hard (a)/ punch lay (b)/ him on the road . (c)/ No error (d)

- A His hard

- B punch lay
- C him on the road
- D No error

**Answer: B**

#### Question 52

In 1961, a meteoroid was defined as "a solid object moving in (a)/ interplanetary space, of a size considerably smaller than (b)/ an asteroid and considerably larger than an atom". (c)/ No error (d)

- A In 1961, a meteoroid was defined as "a solid object moving in
- B interplanetary space, of a size considerably smaller than
- C an asteroid and considerably larger than an atom"
- D No error

**Answer: C**

#### Instructions

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

#### Question 53

He is a man of \_\_\_\_\_.

- A principal
- B efforts
- C principle
- D enthusiasm

**Answer: C**

#### Question 54

Without education we are \_\_\_\_\_ and our lives are useless without any Meaning attached to it.

- A someone
- B uncomplete

- C complete
- D incomplete

**Answer: D**

### **Instructions**

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

#### **Question 55**

##### **Abeyance**

- A Revival
- B Inactivity
- C Operation
- D Continuation

**Answer: B**

#### **Question 56**

##### **Excogitate**

- A Communication
- B Die
- C Invent
- D Ignore

**Answer: C**

### **Instructions**

For the following questions answer them individually

#### **Question 57**

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

##### **Altruism**

- A Charity

- B Kindness
- C Compassion
- D Spite

**Answer: D**

### **Instructions**

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

### **Question 58**

**Peer**

- A Equal
- B Look
- C Match
- D Inferior

**Answer: D**

### **Instructions**

For the following questions answer them individually

### **Question 59**

**Rearrange the parts of the sentence in correct order.**

**An inference is**

**P : the direct, logical one**

**Q : the likely or probable**

**R : conclusion rather than**

- A PRQ
- B QPR
- C RQP
- D QRP

**Answer: D**

### Question 60

A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.

**The assassin shot the President.**

- A The President shot by the assassin.
- B The President was shoot by the assassin.
- C The President got shot by the assassin.
- D The President was shot by the assassin.

**Answer: D**

### Question 61

A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/Direct Speech.

**He said to me, "I have often told you not to play in dark."**

- A He said to him that he shouldn't play in dark.
- B He reminded me that he had often told me not to play in dark.
- C He asked him to not play in dark.
- D He asked me that he had told me to not play in dark.

**Answer: B**

### Question 62

In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

- A Pharaoh
- B Faraoh
- C Pharoah
- D Pharoar

**Answer: A**

## Instructions

In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives. Without habit, personality could not exist; for we could never do a thing twice alike, and

\_\_\_\_\_ would be a new person each succeeding moment. The acts which give us our own peculiar \_\_\_\_\_ are our habitual acts—the little things that do themselves moment by moment without care or attention, and are the truest and best expression of our real selves.

Probably \_\_\_\_\_ one of us could be very sure which arm he puts \_\_\_\_\_ the sleeve, or which foot he puts into the shoe, first; and yet each of us \_\_\_\_\_ formed the habit long ago of doing these things in a certain way.

### Question 63

twice alike, and \_\_\_\_\_ would be a new person

- A hence
- B if
- C but
- D also

Answer: A

### Question 64

own peculiar \_\_\_\_\_ are our habitual acts

- A individual
- B individuals
- C individuality
- D individualist

Answer: C

### Question 65

Probably \_\_\_\_\_ one of us could

- A negative
- B never

C no

D nor

**Answer: C**

**Question 66**

which arm he puts \_\_\_\_\_ the sleeve

A into

B on

C upon

D to

**Answer: A**

**Question 67**

and yet each of us \_\_\_\_\_ formed the habit

A certain

B certainty

C certainly

D be certain

**Answer: C**

**Instructions**

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

**Question 68**

**To quit on someone**

A To fire someone from a job.

B To cheat with someone.

C To give up on a difficult person.

**D** To stop helping someone, especially when the support is needed.

**Answer: D**

**Question 69**

**Excuse my French**

**A** Used to apologize for swearing.

**B** Said when one cannot speak the language of the other person correctly.

**C** Used to make a flimsy excuse.

**D** Used when you give up easily.

**Answer: A**

**Instructions**

In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

**Question 70**

**Reduce or decrease in speed or intensity**

**A** Expedite

**B** Slacken

**C** Impel

**D** Spur

**Answer: B**

**Question 71**

**Comfort someone at a time of grief or disappointment**

**A** Arouse

**B** Pique

**C** Fluster

**D** Console



**Answer: D**

**Instructions**

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

**Question 72**

**Whether it (were balancing) the budget or the day-to-day menu, grandma was the expert.**

- A has balancing
- B was balanced
- C was balancing
- D no improvement

**Answer: C**

**Question 73**

**If all of us (had been) philosophical thinkers, we would not have been deceived by scheming politicians all these years.**

- A has been
- B have been
- C had being
- D no improvement

**Answer: D**

**Instructions**

For the following questions answer them individually

**Question 74**

**The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.**

- Although not all those who study**
- A-better thinkers and leaders**
- B-become philosophers, they become**
- C-logic or philosophy may**

- A CAB
- B BCA
- C CBA
- D BAC

**Answer: C**

#### **Question 75**

**In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.**

- A inundate
- B inundat
- C inunndate
- D inunndat

**Answer: A**

## **General Awareness**

#### **Instructions**

For the following questions answer them individually

#### **Question 76**

**Deindustrialisation means: \_\_\_\_\_.**

- A uprooting of people from agriculture and planting them in industries
- B movement of workforce from the industrial sector to the service sector
- C a deliberate effort to compel the existing industries to shut down
- D a deliberate effort to promote the new industries

**Answer: B**

**Question 77**

**Why are the Indian workers less skilled than the workers of western countries?**

- A Low level of wages
- B Inferior quality of capital provided to labourers
- C High level of illiteracy
- D Strong trade unions

**Answer: C**

**Question 78**

**Junagadh inscription is the first inscription of which of the following languages?**

- A Prakrit
- B Pali
- C Kharoshthi
- D Sanskrit

**Answer: D**

**Question 79**

**Who among the following is considered as a political guru of Mahatma Gandhi?**

- A Dadabhai Naoroji
- B Gopal Krishna Gokhale
- C Lala Lajpat Rai
- D Bal Gangadhar Tilak

**Answer: B**

**Question 80**

**What is the main cause of temperature rise in the interior of the Earth?**

- A Pressure

- B** Breakdown of radioactive substances
- C** Both the pressure and breakdown of radioactive substances
- D** No option is correct.

**Answer: C**

**Question 81**

**The two volcanic islands located in the Indian territory are:\_\_\_\_\_.**

- A** Kavaratti and New Moore
- B** Pamban and Barren
- C** Barren and Narcondam
- D** Great Andaman and Little Nicobar

**Answer: C**

**Question 82**

**Sadir is a name of which ancient dance style of India?**

- A** Kathak
- B** Odissi
- C** Bharatanatyam
- D** Mohiniattam

**Answer: C**

**Question 83**

**Which country has made world's first all-electric ship, which can travel up to 80 Km with 200 tons cargo after a two hour charge?**

- A** Japan
- B** South Korea
- C** China
- D** Australia

**Answer: C**

**Question 84**

**Who among the following has been awarded the 'German Green Talent Award 2017' ?**

- A** Sukhveer Rohilla
- B** Pushpa Negrani
- C** Shamik Chaudhary
- D** Rishi Dholakiya

**Answer: C**

**Question 85**

**Where is the commercial capital of Sri Lanka?**

- A** Trincomalee
- B** Colombo
- C** Galle
- D** Kandy

**Answer: B**

**Question 86**

**Generally atomic radius is measured in which unit?**

- A** Fermi
- B** Millimeter
- C** Angstrom
- D** Micrometer

**Answer: C**

**Question 87**

Which of the statement(s) about the reaction given below is/are INCORRECT ?

- I. Lead is getting reduced.
- II. Carbon is getting reduced.
- III. Lead oxide is getting reduced.

- A Only I and II
- B Only I and III
- C Only II and III
- D All I, II and III

**Answer: A**

**Question 88**

Who appoints Chairman of Union Public Service Commission in India?

- A Prime Minister of India
- B Home Minister of India
- C President of India
- D Chief Election Commissioner of India

**Answer: C**

**Question 89**

Part of XVII of India Constitution deals with \_\_\_\_\_.

- A elections
- B official language
- C Panchyat
- D fundamental rights

**Answer: B**

**Question 90**

**Breaking down of fats from large globules to smaller globules by Bile juice is similar to which of the following?**

- A** Emulsification of soaps
- B** Esterification of alcohol
- C** Fermentation of glucose
- D** Eutrophication of water

**Answer: A**

**Question 91**

**Robert Hooke discovered cells by observing them in a \_\_\_\_\_.**

- A** onion peel
- B** cork slice
- C** pond water
- D** No option is correct.

**Answer: B**

**Question 92**

**In September 2017, Government of India approved the revamped 'Khelo India Programme' at a cost of Rs 1756 crore for the period \_\_\_\_\_.**

- A** 2017-18 to 2019-20
- B** 2017-18 to 2018-19
- C** 2018-19 to 2019-20
- D** 2018-19 to 2020-21

**Answer: A**

**Question 93**

**Which organization will launch two missions named GOLD and ICON to explore the ionosphere?**

- A National Aeronautics and Space Administration (NASA)
- B Indian Space Research Organisation (ISRO)
- C China National Space Administration (CNSA)
- D European Space Agency (ESA)

**Answer: A**

#### Question 94

**In December 2017, as per the announcement made by the finance Ministry, nearly how much amount have banks lost on account of frauds in the fiscal 2016-17?**

- A Rs 50,000 crore
- B Rs 5000 crore
- C Rs 17,000 crore
- D Rs 1,000 crore

**Answer: C**

#### Question 95

**On 26 July 2017, the Parliament passed the Collection of Statistics (Amendment) Bill, 2017. This Bill extends jurisdiction of the act to which state?**

- A Manipur
- B Assam
- C Jammu and Kashmir
- D Nagaland

**Answer: C**

#### Question 96

**What is the effective resistance (in  $\Omega$ ) of two resistors  $12 \Omega$  and  $24 \Omega$  connected in parallel?**

- A 36



- B** 8
- C** 16
- D** 72

**Answer: B**

**Question 97**

**If the Distance-Time graph is a straight inclined line then it represents\_\_\_\_\_.**

- A** uniform speed
- B** non-uniform speed
- C** constant displacement
- D** non-uniform velocity

**Answer: A**

**Question 98**

**When warm air rises up and cold air from the surrounding areas rushes in to fill its place then this sets up \_\_\_\_\_ in air.**

- A** conduction
- B** convection
- C** radiation
- D** agitation

**Answer: B**

**Question 99**

**Which of the statements given below are correct?**

- A) In 2018 IPL auctions, Sunrisers Hyderabad retained Steve Smith.**
- B) Lewis Hamilton won the Formula One 2017 Japanese Grand Prix.**
- C) Ma Long won the 2017 San Marino and Rimini's Coast Motorcycle Grand Prix.**

- A** Only A
- B** Only B

**C** A and C

**D** A and B

**Answer: B**

**Question 100**

**In Microsoft Word, \_\_\_\_\_ view enables us to view our document as it would appear in a web browser such as the Internet Explorer.**

**A** Web Layout

**B** Normal Layout

**C** Reading Layout

**D** Print Layout

**Answer: A**

# SSC CHSL 13 March 2018 Evening Shift

## Quant

### Instructions

For the following questions answer them individually

### Question 1

Find the smallest 8 digit number which is exactly divisible by 121.

A 10000045

B 10000076

C 10000024

D 10000055

**Answer: A**

### Explanation:

Smallest 8 digit number = 10000000

If we divide above number by 121, remainder is =  $10000000 = 121 \times 82644 + 76$

=> Smallest 8 digit number which is exactly divisible by 121 =  $10000000 + (121 - 76) = 10000045$

=> Ans - (A)

### Question 2

A number is divided by 52, we get 27 as remainder. On dividing the same number by 13, What will be the remainder?

A 2

B 7

C 1

D None of these

**Answer: C**

### Explanation:

When a number is divided by 52, remainder obtained is 27,

=> Number is of the form =  $52k + 27$

When above number is divided by 13, =>  $\frac{(52k+27)}{13}$

$\therefore 52$  is a multiple of  $13$ ,  $\Rightarrow 27\%13 = 1$

$\Rightarrow$  Ans - (C)

### Question 3

Find the value of  $\frac{6\sqrt{2}}{5\sqrt{3}}(\sqrt{2} + \sqrt{18})$

A  $\frac{16\sqrt{3}}{5}$

B  $\frac{26\sqrt{3}}{5}$

C  $\frac{36\sqrt{3}}{5}$

D  $\frac{46\sqrt{3}}{5}$

Answer: A

### Explanation:

Expression :  $\frac{6\sqrt{2}}{5\sqrt{3}}(\sqrt{2} + \sqrt{18})$

$$= \frac{6\sqrt{2}}{5\sqrt{3}}(\sqrt{2} + 3\sqrt{2})$$

$$= \frac{6\sqrt{2}}{5\sqrt{3}}(4\sqrt{2})$$

$$= \frac{48}{5\sqrt{3}} = \frac{16 \times 3}{5\sqrt{3}}$$

$$= \frac{16\sqrt{3}}{5}$$

$\Rightarrow$  Ans - (A)

### Question 4

$$(4\sqrt{y^8}) = 225$$

A 10

B 12

C 15

D 18

Answer: C

### Question 5

If the in radius of the equilateral triangle is 8 cm then what is the value of circum radius (in cm) of the triangle?

- A 8
- B 16
- C 18
- D 20

**Answer: B**

**Explanation:**

In an equilateral triangle, the circumradius is twice the inradius.

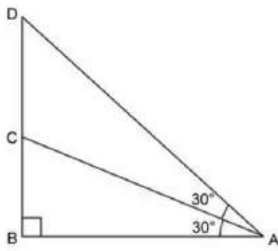
In radius = 8 cm

$$\Rightarrow \text{Circum radius} = 2 \times 8 = 16 \text{ cm}$$

$\Rightarrow$  Ans - (B)

**Question 6**

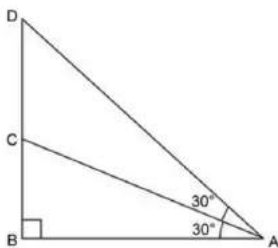
Choose the CORRECT option for the following figure



- A AB=BD
- B AC=CD
- C BC=AB
- D AD=AC

**Answer: B**

**Explanation:**



In the given figure,  $\triangle ABC$  is right angled triangle.

$$\Rightarrow \angle D = 90^\circ - 60^\circ = 30^\circ$$

Thus, in  $\triangle ACD$ , we have  $\angle CAD = \angle ADC = 30^\circ$

$\therefore AC = CD$  [Sides opposite to equal angles are equal.]

=> Ans - (B)

### Question 7

What is the value of 53% of 7400?

A 4312

B 3478

C 3922

D 4124

Answer: C

### Explanation:

Expression : 53% of 7400

$$= \frac{53}{100} \times 7400$$

$$= 53 \times 74 = 3922$$

=> Ans - (C)

### Question 8

Rs 9000 is divided among P, Q and R in the ratio of 5 : 6 : 7. What is the share (in Rs) of R?

A 2500

B 3500

C 3000

D 4000

Answer: B

### Explanation:

Total amount = Rs. 9000

Ratio of amount with P : Q : R = 5 : 6 : 7

$$\Rightarrow \text{Share of R} = \frac{7}{(5+6+7)} \times 9000$$

$$= 7 \times 500 = \text{Rs. } 3500$$

=> Ans - (B)

### Question 9

A mixture of 50 kg of cement and gravel contains 10% of gravel. How many kg of gravel must be added to make the gravel content 28% in the new mixture?

A 14.5

B 10.5

C 12.5

D 17.5

**Answer: C**

#### **Explanation:**

Quantity of gravel in 50 kg mixture =  $\frac{10}{100} \times 50 = 5$  kg

Let  $x$  kg of gravel must be added in the mixture,

$$\Rightarrow (x + 5) = \frac{28}{100} \times (x + 50)$$

$$\Rightarrow 100x + 500 = 28x + 1400$$

$$\Rightarrow 100x - 28x = 1400 - 500$$

$$\Rightarrow 72x = 900$$

$$\Rightarrow x = \frac{900}{72} = 12.5$$

$\therefore$  **12.5kg** of gravel must be added to make the gravel content 28% in the new mixture.

$\Rightarrow$  Ans - (C)

### Question 10

The average of 7 numbers is 30. If the average of first three numbers is 25 and that of last three numbers is 35, then what is the fourth number?

A 30

B 35

C 37.5

D 40

**Answer: A**

#### **Explanation:**

Average of 7 numbers = 30

$$\Rightarrow \text{Sum of the numbers} = 30 \times 7 = 210$$

$$\text{Now, sum of first 3 numbers} = 25 \times 3 = 75$$

Similarly, sum of last 3 numbers =  $35 \times 3 = 105$

=> Fourth number =  $210 - (75 + 105) = 210 - 180 = 30$

=> Ans - (A)

### Question 11

If the interest is compounded half-yearly, then what will be the compound interest (in Rs) on a sum of Rs 10000 for 1 year at the rate of 10% per annum?

A 1250

B 525

C 1000

D 1025

Answer: D

### Explanation:

Principal sum = Rs. 10,000

Rate of interest = 10% and time period = 1 year

Compound interest compounded half yearly =  $P[(1 + \frac{R}{200})^{2T} - 1]$

$$= 10,000[(1 + \frac{10}{200})^2 - 1]$$

$$= 10,000[(\frac{21}{20})^2 - 1]$$

$$= 10,000(\frac{441-400}{400})$$

$$= 10,000 \times \frac{41}{400}$$

$$= 25 \times 41 = Rs. 1025$$

=> Ans - (D)

### Question 12

Raj purchased two laptops, first for Rs 42500 and the second for Rs 36200. He sold first laptop at a profit of 12% and the second laptop at a loss of 12%. What is the overall profit or loss?

A Rs 756 profit

B Rs 756 loss

C Rs 1512 profit

D Rs1512loss



**Answer: A**

**Explanation:**

Cost price of 1st laptop = Rs. 42,500

Profit % on selling it = 12%

$$\Rightarrow \text{Selling price of 1st laptop} = 42,500 + \left(\frac{12}{100} \times 42,500\right) = \text{Rs. } 47,600$$

Cost price of 2nd laptop = Rs. 36,200

Loss % on selling it = 12%

$$\Rightarrow \text{Selling price of 2nd laptop} = 36,200 - \left(\frac{12}{100} \times 36,200\right) = \text{Rs. } 31,856$$

$$\therefore \text{Total cost price} = \text{Rs. } (42,500 + 36,200) = \text{Rs. } 78,700$$

$$\text{Total selling price} = \text{Rs. } (47,600 + 31,856) = \text{Rs. } 79,456$$

$$\Rightarrow \text{Profit} = \text{Rs. } (79,456 - 78,700) = \text{Rs. } 756$$

$\Rightarrow$  Ans - (A)

**Question 13**

**A discount of 45% on an article is equal to the discount of 65% on other article. What is the respective ratio of the marked price of both the articles?**

**A** 5 : 9

**B** 3 : 4

**C** 7 : 12

**D** 13 : 9

**Answer: D**

**Explanation:**

Let marked price of first article = Rs.  $x$  and second article = Rs.  $y$

According to ques,

$$\Rightarrow \frac{45}{100} \times x = \frac{65}{100} \times y$$

$$\Rightarrow 9x = 13y$$

$$\Rightarrow \frac{x}{y} = \frac{13}{9}$$

$\therefore$  Respective ratio of the marked price of both the articles = **13 : 9**

$\Rightarrow$  Ans - (D)

### Question 14

What is the value of  $\sqrt[3]{729} \times \sqrt{16} + \sqrt{676} + \sqrt{169}$ ?

- A 75
- B 64
- C 35
- D 60

**Answer:** A

#### **Explanation:**

Expression :  $\sqrt[3]{729} \times \sqrt{16} + \sqrt{676} + \sqrt{169}$

$$= (9 \times 4) + 26 + 13$$

$$= 36 + 39 = 75$$

=> Ans - (A)

### Question 15

P and O together can make a door in 12 days. They started the work together but after 8 days P left the work. The remaining work is completed by O alone in 7 more days. In how many days can P alone complete the entire work?

- A 21
- B 24
- C 28
- D 32

**Answer:** C

#### **Explanation:**

Let total work to be done = L.C.M. (12,7) = 84 units

Let efficiency of P and O be  $p$  and  $o$  respectively.

$$\Rightarrow 1 \text{ day work of P and O, } p + o = \frac{84}{12} = 7 \text{ units/day} \text{ -----(i)}$$

According to ques,

$$\Rightarrow (7 \times 8) + (o \times 7) = 84$$

$$\Rightarrow 7o = 84 - 56 = 28$$

$$\Rightarrow o = \frac{28}{7} = 4$$

Substituting value in equation (i),  $\Rightarrow p = 7 - 4 = 3$  units/day

∴ Time taken by P alone =  $\frac{84}{3} = 28$  days

=> Ans - (C)

### Question 16

From point P, at 6 : 30 pm, a train starts moving towards Q with the speed of 40 km/hr. Another train starts moving from point Q at 7:30 pm. towards point P at the speed of 60 km/hr. Both of them meet at 11:30 pm, at point R. What is the ratio of PR and QR?

A 3 : 4

B 5 : 6

C 4 : 5

D 5 : 4

**Answer: B**

### Explanation:

Speed of first train that moves from P to Q = 40 km/hr

Now, first train started at 6:30 p.m. and reached R at 11:30 pm, thus distance travelled by it =  $PR = 40 \times 5 = 200$  km

Speed of second train that moves from Q to P = 60 km/hr

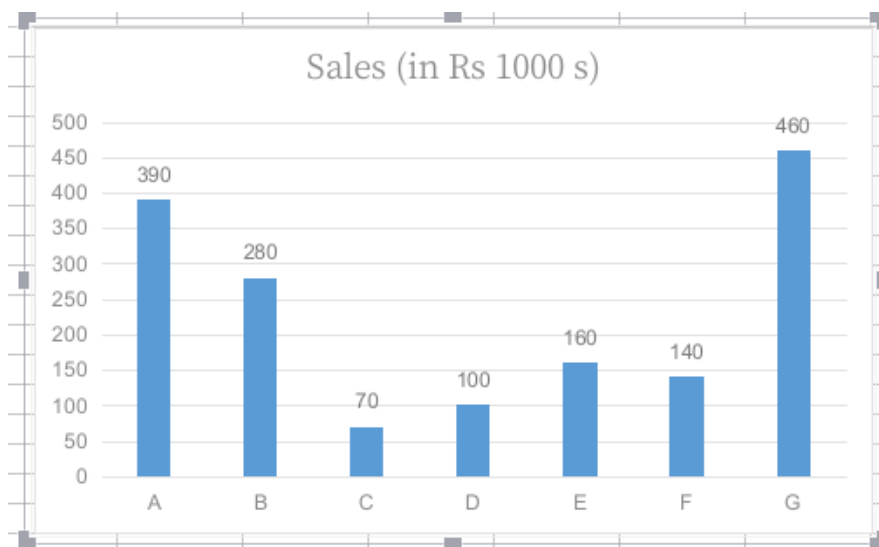
Now, distance travelled by it from 7:30 p.m. to 11:30 pm =  $QR = 60 \times 4 = 240$  km

=>  $\frac{PR}{QR} = \frac{200}{240} = 5 : 6$

=> Ans - (B)

### Instructions

The bar graph shows 1 month's sales figures of different brands of mobile phones of a certain electronics store in Rs 1000s. Study the diagram and answer the following questions.



**Question 17**

**Sales of which mobile phone brand were the second highest?**

**A** G

**B** A

**C** B

**D** E

**Answer: B**

**Explanation:**

Sales of mobile phone brand **A** were the second highest = Rs. 390,000

=> Ans - (B)

**Question 18**

**What is the ratio of sales of brand 'B' to that of brand 'C'?**

**A** 1:4

**B** 7:2

**C** 2:7

**D** 4:1

**Answer: D**

**Explanation:**

Sales of mobile brand B (in Rs. 000's) = 280

Sales of mobile brand C (in Rs. 000's) = 70

=> Required ratio =  $\frac{280}{70} = 4 : 1$

=> Ans - (D)

**Question 19**

**Sales of brand E was greater than that of brand D by**

**A** 0.375

**B** 0.6

**C** 0.575

D 0.3

Answer: B

**Explanation:**

Sales of mobile brand E (in Rs. 000's) = 160

Sales of mobile brand D (in Rs. 000's) = 100

=> Sales of brand E was greater than that of brand D by =  $\frac{(160-100)}{100} = 0.6$

=> Ans - (B)

**Question 20**

If the sales figures are exclusive of tax then at the rate of 10% tax how much is the tax to be paid (in Rs) on the sales of all the 7 brands of mobile phones?

A 160000

B 1600000

C 150000

D 1500000

Answer: A

**Explanation:**

Total sales of all the brands (in Rs. 000's)

= 390 + 280 + 70 + 100 + 160 + 140 + 460 = 1600

Tax % = 10%

=> Tax to be paid (in Rs) on the sales of all the 7 brands of mobile phones =  $\frac{10}{100} \times 16,00,000 = 160,000$

=> Ans - (A)

**Instructions**

For the following questions answer them individually

**Question 21**

If the length of one side and the diagonal of a rectangle are 5 cm and 13 cm respectively, then find its perimeter (in cm).

A 68

B 34

C 25

D 50

Answer: B

**Explanation:**

Let the length of rectangle =  $l$  cm and breadth,  $b = 5$  cm

$$\Rightarrow \text{Diagonal, } d^2 = l^2 + b^2$$

$$\Rightarrow l^2 = (13)^2 - (5)^2$$

$$\Rightarrow l^2 = 169 - 25 = 144$$

$$\Rightarrow l = \sqrt{144} = 12 \text{ cm}$$

$$\therefore \text{Perimeter} = 2 \times (5 + 12) = 2 \times 17 = 34 \text{ cm}$$

$\Rightarrow$  Ans - (B)

**Question 22**

If the perimeter of a semicircle is 108 cm, then find its area (in cm<sup>2</sup>).

A 1386

B 512

C 693

D 1024

Answer: C

**Explanation:**

Let radius of semi circle =  $r$  cm

$$\Rightarrow \text{Perimeter of semi circle} = \pi r + 2r = 108$$

$$\Rightarrow r\left(\frac{22}{7} + 2\right) = 108$$

$$\Rightarrow r\left(\frac{22+14}{7}\right) = 108$$

$$\Rightarrow r = 108 \times \frac{7}{36} = 21 \text{ cm}$$

$$\therefore \text{Area of semi-circle} = \frac{1}{2}\pi r^2$$

$$= \frac{1}{2} \times \frac{22}{7} \times (21)^2$$

$$= 11 \times 21 \times 3 = 693 \text{ cm}^2$$

$\Rightarrow$  Ans - (C)

**Question 23**

The surface area of a sphere is 2464 cm<sup>2</sup>. Find its diameter (in cm).

A 14

B 56

C 28

D 42

**Answer: C**

**Explanation:**

Let radius of sphere =  $r$  cm

$\Rightarrow$  Surface area of sphere =  $4\pi r^2$

$\Rightarrow 4 \times \frac{22}{7} \times (r)^2 = 2464$

$\Rightarrow r^2 = 2464 \times \frac{7}{88}$

$\Rightarrow r^2 = 28 \times 7$

$\Rightarrow r = \sqrt{7^2 \times 4} = 14$

$\therefore$  Diameter of sphere =  $2 \times 14 = 28$  cm

$\Rightarrow$  Ans - (C)

**Question 24**

**What is the value of  $(\cot 60^\circ + 1/\sqrt{3})$ ?**

A  $2\sqrt{3}$

B  $\frac{\sqrt{3}}{2}$

C  $\frac{2}{\sqrt{3}}$

D  $\sqrt{3}$

**Answer: C**

**Explanation:**

Expression :  $(\cot 60^\circ + 1/\sqrt{3})$

$= \frac{1}{\sqrt{3}} + \frac{1}{\sqrt{3}}$

$= \frac{2}{\sqrt{3}}$

$\Rightarrow$  Ans - (C)

**Question 25**

$\triangle PQR$  is right angled at Q. If  $\sec P = 13/5$ , then what is the value of  $\sin R$  ?

A  $5/13$

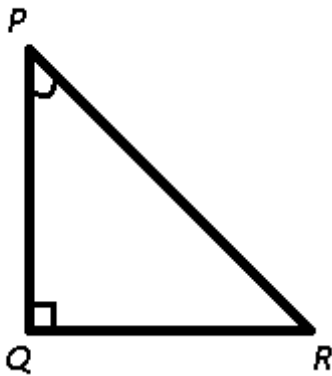
B  $5/12$

C  $13/5$

D  $13/12$

Answer: A

Explanation:



Given :  $\sec P = \frac{13}{5}$

Also,  $\sec P = \frac{PR}{PQ} = \frac{13}{5}$

Let  $PR = 13$  cm and  $PQ = 5$  cm

To find :  $\sin R = \frac{PQ}{PR}$

$= \frac{5}{13}$

=> Ans - (A)

## Reasoning

### Instructions

For the following questions answer them individually

### Question 26

In the following question, select the related word pair from the given alternatives.

### Gold : Jewellery

A Pulp : Prism

B Jute : Furniture



C Wall : Brick

D Seed : Book

**Answer: B**

**Explanation:**

Expression = Gold : Jewellery

The second is made using first, i.e. Jewellery is made of Gold, similarly Furniture is made of jute.

=> Ans - (B)

**Question 27**

**In the following question, select the related number from the given alternatives.**

**94 : 36 :: 47**

A 32

B 28

C 11

D 21

**Answer: B**

**Explanation:**

Expression = 94 : 36 :: 47

The second number in the pair is the product of digits of first number.

Eg :-  $9 \times 4 = 36$

Similarly,  $4 \times 7 = 28$

=> Ans - (B)

**Question 28**

**In the following question, select the related letter pair from the given alternatives.**

**MLF:OOJ::?: ?**

A RIG : TLK

B AFE : BIV

C KTM : LUN

D FRY : DQX

Answer: A

**Explanation:**

Expression = MLF:OOJ::?: ?

The pattern followed is :

M	L	F
(+2)	(+3)	(+4)
O	O	J

Similar pattern is observed only in :

R	I	G
(+2)	(+3)	(+4)
T	L	K

=> Ans - (A)

**Question 29**

In the following question, select the odd word from the given alternatives.

A Cricket

B Ludo

C Chess

D Carrom

Answer: A

**Explanation:**

Ludo, chess and carrom are all indoor games, hence **cricket** being the only outdoor sport is the odd one out.

=> Ans - (A)

**Question 30**

In the following question, four number pairs are given. The number on left side of (-) is related to the number of the right side of (-) with some Logic/Rule/ Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

A 71: 73

B 61: 63

C 77: 79

**D** 63: 67

**Answer:** D

**Explanation:**

The difference between each of the pair of numbers is 2.

But in the last option  $\Rightarrow 67 - 63 = 4$

Thus, (63 - 67) is the odd one out.

$\Rightarrow$  Ans - (D)

**Question 31**

**In the following question, select the odd letter/letters from the given alternatives.**

**A** HM

**B** KR

**C** SX

**D** GL

**Answer:** B

**Explanation:**

(A) : H (+5 letters) = M

(B) : K (+7 letters) = R

(C) : S (+5 letters) = X

(D) : G (+5 letters) = L

$\Rightarrow$  Ans - (B)

**Question 32**

**Arrange the given words in the sequence in which they occur in the dictionary.**

**1. Incomplete**

**2. Incorrect**

**3. Include**

**4. Increment**

**5. Income**

**A** 51243

**B** 12453

**C** 34125

**D** 35124

**Answer: D**

**Explanation:**

As per the order of dictionary :

= Include -> Income -> Incomplete -> Incorrect -> Increment

≡ 35124

=> Ans - (D)

**Question 33**

In the following question, select the missing number from the given series.

11, 22, 44, 88, 176,

A 350

B 362

C 352

D 282

**Answer: C**

**Explanation:**

Each number is multiplied by 2.

$$11 \times 2 = 22$$

$$22 \times 2 = 44$$

$$44 \times 2 = 88$$

$$88 \times 2 = 176$$

$$176 \times 2 = \mathbf{352}$$

=> Ans - (C)

**Question 34**

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

C, G, L, R,

A W

B X

C Y

D Z

**Answer: C**

**Explanation:**

Series : C, G, L, R,

The pattern followed is :

C (+4 letters) = G (+5 letters) = L (+6 letters) = R (+7 letters) = Y

=> Ans - (C)

**Question 35**

Weight of Arun is  $\frac{4}{7}$  of the weight of Bablu. Weight of Bablu is  $\frac{1}{2}$  of the weight of Ram. Weight of Ram is 4 times of the weight of Deep. Weight of Deep is  $\frac{1}{9}$  of the weight of Ankit. Whose weight is more than the weight of Deep but less than the weight of Bablu?

A Ankit

B Arun

C Ram

D Deep

**Answer: B**

**Explanation:**

Let weight of Ankit =  $9x$  kg

=> Deep's weight =  $\frac{1}{9} \times 9x = x$  kg

=> Ram's weight =  $4 \times x = 4x$  kg

=> Weight of Bablu =  $\frac{4x}{2} = 2x$  kg

=> Arun's weight =  $\frac{4}{7} \times 2x = 1.14x$  kg

$\therefore$  Ankit > Ram > Bablu > Arun > Deep

Thus, **Arun's** weight is more than the weight of Deep but less than the weight of Bablu.

=> Ans - (B)

**Question 36**

From the given alternatives, select the word which CANNOT be formed using the letters of the given word.

Heating

- A Fate
- B Ate
- C Gate
- D Gain

**Answer:** A

**Explanation:**

The word HEATING does not contain any 'F', thus the term **Fate** cannot be formed.

=> Ans - (A)

**Question 37**

In a certain code language, "LINK" is written as "1291411" and "FUEL" is written as "621512". How is "TORN" written in that code language?

- A 15181319
- B 20161314
- C 20151814
- D 2018149

**Answer:** C

**Explanation:**

The letters are numbered based on their position according to the English alphabetical order. A=1 , B=2 , C=3 , D=4 and so on.

Eg :- LINK = 12,9,14,11 -> 1291411

FUEL = 6,21,5,12 -> 621512

Similarly, TORN = 20,15,18,14 -> **20151814**

=> Ans - (C)

**Question 38**

In a certain code language, 'x' represents '+', '+' represents 'x', '-' represents '÷' and '÷' represents '-'. Find out the answer to the following question.

**5+20-4÷10x8=?**

- A 12
- B 23

C 6

D 34

**Answer: B**

**Explanation:**

Expression :  $5+20-4\div 10\times 8=?$

$$\equiv 5 \times 20 \div 4 - 10 + 8$$

$$= (5 \times 5) - 2$$

$$= 25 - 2 = 23$$

=> Ans - (B)

**Question 39**

The following equation is incorrect. Which two signs should be interchanged to correct the equation?

$$12\div 4-15\times 10+2=8$$

A + and x

B - and +

C + and  $\div$

D  $\div$  and x

**Answer: A**

**Explanation:**

Expression :  $12\div 4-15\times 10+2=8$

(A) : + and x

$$\equiv 12 \div 4 - 15 + 10 \times 2 = 8$$

$$\text{L.H.S.} = \left(\frac{12}{4}\right) - 15 + (10 \times 2)$$

$$= 3 - 15 + 20 = 8 = \text{R.H.S.}$$

=> Ans - (A)

**Question 40**

If  $4\triangle 2 = 60$ ,  $7\triangle 9 = 160$  and  $8\triangle 3 = 110$ , then find the value of  $3\triangle 2 = ?$

A 50

B 90

C 70

D 60

**Answer: A**

**Explanation:**

The pattern followed is :  $a\Delta b = 10 \times (a + b)$

Eg :-  $4\Delta 2 = 10 \times (4 + 2) = 60$

and  $7\Delta 9 = 10 \times (7 + 9) = 160$

Similarly,  $3\Delta 2 = 10 \times (3 + 2) = 50$

=> Ans - (A)

**Question 41**

**Which of the following terms follows the trend of the given list?**

XYYYYYY, XXYYYYY, XXXYYYY, XXXXYYY, XXXXXYY, \_\_\_\_\_

A XXXXXXX

B XYYYYYY

C XXYYYYY

D XXXXXXY

**Answer: D**

**Explanation:**

Expression : XYYYYYY, XXYYYYY, XXXYYYY, XXXXYYY, XXXXXYY, \_\_\_\_\_

The pattern followed is that each term is a combination 'XY' (7 letters), and the number of X's starting from left are increasing and also number of Y's starting from right end are decreasing one at a time.

Thus, in the missing term, the second last term will also be 'X' = **XXXXXXY**

=> Ans - (D)

**Question 42**

**Two labourers L and M start at the same point. L walks 10 m South, then turns left and walks 25 m. In the meanwhile M walks 20 m West, then turns to his right and walks 15 m , then turns East and walks 45 m. Where is M with respect to L?**

A 5 m North



- B 25 m South
- C 5 m South
- D 25 m North

Answer: D

**Question 43**

In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

**Statement I: Some purses are pockets**

**Statement II: All purses are wallets**

**Conclusion I: All pockets are wallets**

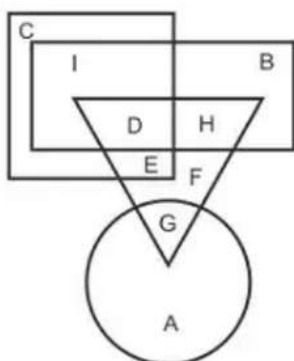
**Conclusion II: No wallets are pockets**

- A Only conclusion I follows
- B Only conclusion II follows
- C Both Conclusions I and II follow
- D Neither conclusion I nor conclusion II follows

Answer: D

**Question 44**

In the following figure, rectangle represents Opticians, circle represents Curators, triangle represents Campers and square represents Europeans. Which set of letters represents Opticians who are either Europeans or Campers?



- A IDH
- B DEF
- C CID

D IBD

Answer: A

#### Question 45

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

ZIP, XGN, VEL, TCJ,

A RZG

B SAH

C SZG

D RAH

Answer: D

#### Explanation:

Series : ZIP, XGN, VEL, TCJ,

The pattern followed in each letter of the terms is :

1st letter : Z (-2 letters) = X (-2 letters) = V (-2 letters) = T (-2 letters) = R

2nd letter : I (-2 letters) = G (-2 letters) = E (-2 letters) = C (-2 letters) = A

3rd letter : P (-2 letters) = N (-2 letters) = L (-2 letters) = J (-2 letters) = H

Thus, missing term = **RAH**

=> Ans - (D)

#### Question 46

In the following question, select the missing number from the given series.

41, 54, 67, ?, 93

A 80

B 82

C 74

D 90

Answer: A

**Explanation:**

'13' is added to the numbers.

$$41 + 13 = 54$$

$$54 + 13 = 67$$

$$67 + 13 = \mathbf{80}$$

$$80 + 13 = 93$$

=> Ans - (A)

**Question 47**

In the following question, four groups of three numbers are given. In each group the second and third number are related to the first number by a Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

A (17, 21, 25)

B (12, 16, 20)

C (19, 23, 27)

D (22, 26, 32)

**Answer:** D

**Explanation:**

The numbers are of the form :  $(x, x + 4, x + 8)$

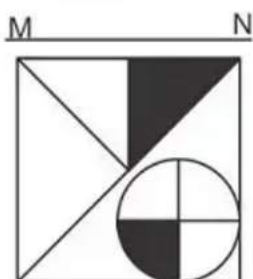
But in the last option, we have =  $22 + 8 = 30 \neq 32$

Thus, (22, 26, 32) is the odd one out.

=> Ans - (D)

**Question 48**

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?  
**IMAGE**

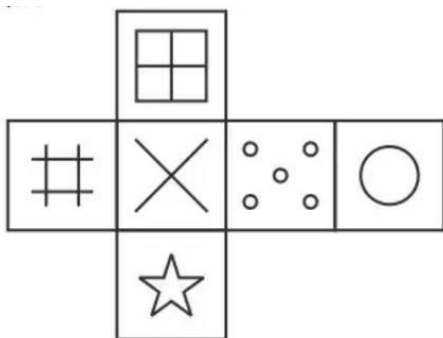




Answer: B

Question 49

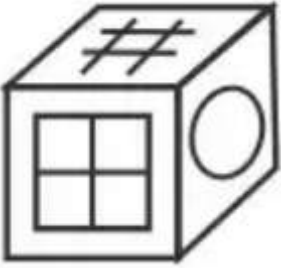
Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?



A



B



C



D



Answer: B

### Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example 'G' can be represented by 10, 24 etc and 'T' can be represented by 76, 86 etc. Similarly, you have to identify the set for the word 'ENVY'.

Matrix I आव्यूह - I					
	0	1	2	3	4
0	A	K	J	F	J
1	G	J	M	L	J
2	F	K	A	I	G
3	H	J	E	B	H
4	K	H	M	H	E

Matrix II आव्यूह - II					
	5	6	7	8	9
5	V	S	N	V	N
6	P	R	Q	O	Q
7	R	T	Z	U	W
8	U	T	U	T	R
9	Z	Q	Y	N	N

A 20,79,42,96

B 32,57,55,97

C 40,89,30,78

D 11,65,10,69

Answer: B

#### Explanation:

(A) : 20,79,42,96 = FWMQ

(B) : 32,57,55,97 = ENVY

(C) : 40,89,30,78 = KRHU

(D) : 11,65,10,69 = JPGQ

=> Ans - (B)

## English

### Instructions

In the following question, part of the sentence may have an error. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

### Question 51

If I had cared, (a)/ I will buy (b)/ it again. (c)/ No error (d)

- A If I had cared
- B I will buy
- C it again
- D No error

**Answer: B**

### Question 52

**The Large Hadron Collider is the world's largest and most (a)/ powerful particle collider, the most complex experimental (b)/ facility, and the largest single machine in a world (c)'. No error (d)**

- A The Large Hadron Collider is the world's largest and most
- B powerful particle collider, the most complex experimental
- C facility, and the largest single machine in a world
- D No error

**Answer: C**

### Instructions

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

### Question 53

**I have never solved \_\_\_\_\_equation before.**

- A so complicated
- B as complicated
- C such a complicated
- D no complicated

**Answer: C**

### Question 54

**If you want to secure health you must learn to work without\_\_\_\_\_.**

- A ciliation
- B laziness
- C abolition
- D bisection

**Answer: B**

### **Instructions**

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

### **Question 55**

#### **Virtuoso**

- A Amateur
- B Rookie
- C Ace
- D Unskilled

**Answer: C**

### **Question 56**

#### **Nascent**

- A Nasal
- B Mature
- C Budding
- D Permanent

**Answer: C**

### **Instructions**

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.



**Question 57**

**Voluble**

- A Reserved
- B Talkative
- C Fluent
- D Gabby

**Answer: A**

**Question 58**

**Dank**

- A Dry
- B Close
- C Sticky
- D Moist

**Answer: A**

**Instructions**

For the following questions answer them individually

**Question 59**

**Rearrange the parts of the sentence in correct order. In developing**

**P : and poor schooling opportunities,**

**Q : countries, dues to high poverty**

**R : child labour is still prevalent**

- A PRQ
- B QPR
- C RQP
- D QRP

**Answer: B**

**Question 60**

**A sentence has been given in Active/Passive Voice. Out of the four given alternatives, select the one which best expresses the same sentence in Passive/Active Voice.**

**He refused them donation.**

- A They was refused donation.
- B They refused donation by him.
- C They were refused donation by him.
- D They were refused donation.

**Answer: C**

**Question 61**

**A sentence has been given in Direct/Indirect Speech. Out of the four given alternatives, select the one which best expresses the same sentence in Indirect/ Direct Speech.**

**The king said, "Alas! Our enemies are too strong."**

- A The king said that their enemies were too strong.
- B The king exclaimed sadly that their enemies were too strong.
- C The king was sad because the enemies were too strong.
- D The enemies were too strong for the king.

**Answer: B**

**Question 62**

**In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.**

- A Minoscole
- B Minuscole
- C Minuscule
- D Minucole

**Answer: C**

**Instructions**

In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

All this suggests the intimate relations which exist between history, politics, and sociology. The \_\_\_\_\_ thing, however, is not the identities but the distinctions. For, however much the \_\_\_\_\_ disciplines may, in practice, overlap, it is necessary \_\_\_\_\_ the sake of clear thinking to have their limits defined. As far \_\_\_\_\_ sociology and history are concerned the differences may be summed up in a word. \_\_\_\_\_ history and sociology are concerned with the life of man as man.

**Question 63**

**sociology. The \_\_\_\_\_thing, however,**

- A important
- B importance
- C importances
- D importantly

**Answer: A**

**Question 64**

**however much the \_\_\_\_\_disciplines may,**

- A vary
- B variety
- C various
- D variant

**Answer: C**

**Question 65**

**it is necessary\_\_\_\_\_ the sake of clear thinking**

- A for
- B of

C to

D from

**Answer: A**

**Question 66**

As far \_\_\_\_\_ sociology and history are concerned

A as

B like

C same

D such

**Answer: A**

**Question 67**

up in a word. \_\_\_\_\_ history and

A Two

B Both

C Twice

D Pair

**Answer: B**

**Instructions**

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

**Question 68**

**Chicken out**

A Quickly move from one position to another in a game of chess or war.

B Be a lover of non vegetarian delicacies.

C Be easily confused over small issues.

**D** To decide not to do something because you are too frightened.

**Answer: D**

**Question 69**

**A bad hair day**

**A** A day which has a bad start will eventually become better.

**B** A day on which everything seems to go wrong.

**C** Don't worry over hair loss or else you will lose more.

**D** A day when you forget to comb your hair.

**Answer: B**

**Instructions**

In the following question, out of the four alternatives, select the alternative which is the best substitute of the words/sentence.

**Question 70**

**Public disgrace arising from shameful conduct**

**A** Opprobrium

**B** Kudos

**C** Plaudit

**D** Ovation

**Answer: A**

**Question 71**

**The action of driving or pushing forwards**

**A** Propulsion

**B** Astern

**C** Abaft

**D** Propitiate

**Answer: A**

**Instructions**

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

**Question 72**

**In fact, (be) among so many happy people can automatically cheer you up.**

- A to be
- B been
- C being
- D no improvement

**Answer: C**

**Question 73**

**We, all of us, (are compromise) the moment we're living in.**

- A compromise
- B compromising
- C is compromised
- D no improvement

**Answer: A**

**Instructions**

For the following questions answer them individually

**Question 74**

**The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.**

**She nodded her**

**A-head, and unapologetically shrugged**

**B-her shoulders while pointing to the**

**C-fine receipt she had just handed to me**

- A CBA

**B** CAB

**C** BCA

**D** ABC

**Answer: D**

#### **Question 75**

**In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.**

**A** benefecial

**B** baneficial

**C** banefecial

**D** beneficial

**Answer: D**

## **General Awareness**

#### **Instructions**

For the following questions answer them individually

#### **Question 76**

**Debenture holders of a company are its**

**A** Shareholders

**B** Creditors

**C** Debtors

**D** Directors

**Answer: B**

#### **Question 77**

**Currency notes and coins of one rupee and lower denominations are issued by the\_\_\_\_\_**

- A State Bank of India
- B Government of India
- C Reserve Bank of India
- D Ministry of Finance

**Answer: D**

**Question 78**

**Which of the following places is not a Middle Stone Age?**

- A Langhnaz
- B Ganeshwar
- C Bagor
- D Adamgarh

**Answer: B**

**Question 79**

**The title of Persian translation of the Mahabharata is:\_\_\_\_\_**

- A Anwar-e-Suhaili
- B Razmanama
- C Hasht Bahisht
- D Ayar Danish

**Answer: B**

**Question 80**

**Who is the planet moving in the opposite direction than other planets in Solar System?**

- A Neptune
- B Pluto
- C Uranus



**D** Saturn

**Answer: C**

**Question 81**

**As per the structure and origin, the Highlands of Meghalaya is part of which of the following?**

**A** Himalaya range

**B** Purvanchal Hill

**C** Arakan Yoma Mountain

**D** Peninsular plateau

**Answer: D**

**Question 82**

**What was Lord Mahavira's name prior to acquiring the Knowledge?**

**A** Vardhman

**B** Anshuman

**C** Sudhakar

**D** Somdutt

**Answer: A**

**Question 83**

**Under the Indus water Treaty, India has not been given the exclusive right over which of the following rivers?**

**A** Ravi

**B** Satluj

**C** Jhelum

**D** Beas

**Answer: C**

**Question 84**

**Who was awarded the 2018 Padma Bhushan Award in the field of Art-Music?**

- A Anuradha Paudwal
- B R. Sathyanarayan
- C Sharda Sinha
- D Ibrahim Sultan

**Answer: C**

**Question 85**

**How many background colours there are in Bhutan's national flag?**

- A 1
- B 2
- C 3
- D 4

**Answer: B**

**Question 86**

**Match the following items of column (A) to items of column (B).**

Column A	Column B
1 Polyester	Fabrics do not wrinkle easily
2 Teflon	Used for making parachutes
3 Rayon	Prepared by using wood pulp
4 Nylon	For non-stick coating on cook

- A I-2,II-3,III-1,IV-4
- B I-3,II-1,III-4,IV-2
- C I-2,II-4,III-1,IV-3

**D** I-1,II-4,III-3,IV-2

**Answer: D**

**Question 87**

**Which of the following fuel has maximum calorific value?**

**A** Petrol

**B** Coal

**C** Wood

**D** Cow dung

**Answer: A**

**Question 88**

**Election Commission is not concerned with which of the following elections?**

**A** Election of President of India

**B** Elections of Parliament

**C** Elections of State Legislature

**D** Elections of Panchayats

**Answer: D**

**Question 89**

**The Attorney General of India is appointed by whom?**

**A** Prime Minister of India

**B** Law Minister of India

**C** Chief Justice of India

**D** President of India

**Answer: D**

**Question 90**

**Which plant tissue is also known as growing tissue?**

- A Only permanent tissue
- B Only Meristematic tissue
- C Both Permanent and meristematic tissue
- D Neither Permanent nor meristematic tissue

**Answer: B**

**Question 91**

**Match the following.**

	<b>Scientist</b>	<b>Contribution</b>
I	Charles Robert	1 Origin of life on earth
II	Gregor johann	2 Theory of evolution
III	J.B.S Haldane	3 Law of inheritance

- A I-2,II-3,III-1
- B I-1,II-3,III-2
- C I-3,II-1,III-2
- D I-3,II-2,III-1

**Answer: A**

**Question 92**

**Who launched 'National Biopharma mission' named 'i3' in June, 2017?**

- A Piyush Goyal
- B Rajnath Singh
- C Dr. Harsh Vardhan

**D** Arun Jaitley

**Answer: C**

**Question 93**

**California based private spaceflight company Space X has launched which secret mission for United States government?**

**A** Sprint

**B** Zuma

**C** Cygnus

**D** Dream Chaser

**Answer: B**

**Question 94**

**In December 2017, SEBI tightened rating agency norms. The net worth requirement for rating agencies has now been increased from Rs 5 crore to\_\_\_\_\_**

**A** Rs 10 crore

**B** Rs 15 crore

**C** Rs 20 crore

**D** Rs 25 crore

**Answer: D**

**Question 95**

**In April 2017, Agriculture Ministry Unveiled Model APMC Act. The new Act proposes to put a Cap on Mandi taxes at what rate (in percent) for food grain?**

**A** 5

**B** 1

**C** 2.5

**D** 8

**Answer: B**

**Question 96**

Calculate the pressure (in Pa) if a thrust of 600 N is applied to an area of  $24m^2$ .

- A 144
- B 50
- C 25
- D 72

**Answer: C**

**Question 97**

The ratio of change in velocity of a body to the total time taken by it is its\_\_\_\_\_

- A acceleration
- B displacement
- C force
- D momentum

**Answer: A**

**Question 98**

The greater the difference in \_\_\_\_\_, the faster the air moves.

- A humidity
- B pressure
- C altitude
- D latitude

**Answer: B**

**Question 99**

**Which of the statements given below are correct?**

- A) Viktor Axelsen won the Men's Singles Badminton 2017 BWF World Championships.**
- 8) Max Verstappen won the Formula One 2017 United States Grand Prix.**
- C) In 2018 IPL auctions, Sunrisers Hyderabad retained David Warner.**

- A** B and C
- B** A and C
- C** A and B
- D** A, B and C

**Answer: B**

**Question 100**

**In Microsoft Word, under paragraph formatting is used to align paragraph on right, left and center.**

- A** Font style
- B** Indentation
- C** Alignment
- D** Spacing

**Answer: C**