

# SSC CHSL 17 March 2018 Morning Shift

## Quant

### Instructions

For the following questions answer them individually

### Question 1

In a company  $\frac{2}{3}$  of the workers are girls,  $\frac{1}{2}$  of the girls are married and  $\frac{1}{3}$  of the married girls live in hostel. If  $\frac{3}{4}$  of the boys are married and  $\frac{2}{3}$  of married boys live in hostel. Calculate the part of workers who don't live in hostel.

A  $\frac{11}{18}$

B  $\frac{15}{18}$

C  $\frac{17}{18}$

D  $\frac{13}{18}$

Answer: D

### Explanation:

Let total number of employees in the company =  $900x$

Total number of girls =  $\frac{2}{3} \times 900x = 600x$

Similarly, total number of boys =  $900x - 600x = 300x$

Married girls =  $\frac{1}{2} \times 600x = 300x$

Married girls who lived in hostel =  $\frac{1}{3} \times 300x = 100x$

=> Girls who did not live in hostel =  $600x - 100x = 500x$

Married boys =  $\frac{3}{4} \times 300x = 225x$

Married boys who lived in hostel =  $\frac{2}{3} \times 225x = 150x$

=> Boys who did not live in hostel =  $300x - 150x = 150x$

∴ Part of workers who don't live in hostel =  $\frac{(500x+150x)}{900x}$

$$= \frac{650}{900} = \frac{13}{18}$$

=> Ans - (D)

### Question 2

If a number 657423547X46 is divisible by 11, then find the value of X.

A 7

B 9

C 8

D 6

Answer: B

**Explanation:**

For a number 657423547X46 to be divisible by 11, the difference between the sum of numbers at even position and odd position should be either '0' or '11'.

Sum of digits at odd position (starting from right) =  $6 + X + 4 + 3 + 4 + 5 = (22 + X)$

Even positions =  $4 + 7 + 5 + 2 + 7 + 6 = 31$

$\Rightarrow 22 + X - 31 = 0$

$\Rightarrow X = 9$

$\Rightarrow$  Ans - (B)

**Question 3**

Determine the value of  $\frac{x+y}{x+2y}$  when  $\frac{2x+y}{x+4y} = 3$

A  $\frac{3}{5}$

B  $\frac{7}{10}$

C  $\frac{4}{5}$

D  $\frac{10}{9}$

Answer: D

**Explanation:**

Expression :  $\frac{2x+y}{x+4y} = 3$

$\Rightarrow 2x + y = 3x + 12y$

$\Rightarrow 3x - 2x = y - 12y$

$\Rightarrow x = -11y$

$\therefore \frac{x+y}{x+2y}$

$= \frac{-11y+y}{-11y+2y}$

$= \frac{-10y}{-9y} = \frac{10}{9}$

$\Rightarrow$  Ans - (D)

**Question 4**

For what value of  $y$ , if  $x^2 + \frac{1}{12}x + y^2$  is a perfect square ?

A  $\frac{1}{24}$

B  $\frac{1}{12}$

C  $\frac{1}{6}$

D  $\frac{1}{3}$

**Answer:** A

**Explanation:**

$$\text{Expression} = x^2 + \frac{1}{12}x + y^2$$

$$= x^2 + 2(x)\left(\frac{1}{24}\right) + y^2$$

Now to make it a perfect square,  $y^2$  is replaced by  $\left(\frac{1}{24}\right)^2$

$$= (x)^2 + 2(x)\left(\frac{1}{24}\right) + \left(\frac{1}{24}\right)^2$$

$$\Rightarrow y = \frac{1}{24}$$

$\Rightarrow$  Ans - (A)

### Question 5

Which of the following statement is CORRECT about the tangents?

A The tangents drawn at the end of diameter of a circle are parallel to each other.

B The line segment which joins the point of contact of two parallel tangents to the circle is the diameter of the circle.

C Tangents drawn from the external points subtends equal angle at the center.

D All option are correct.

**Answer:** D

**Explanation:**

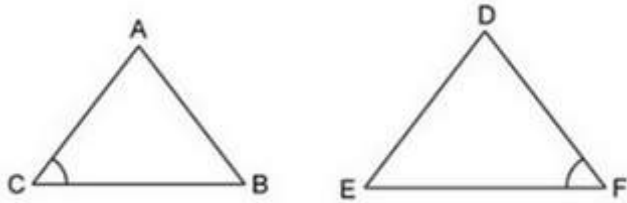
The tangents drawn at the end of diameter of a circle are parallel to each other. Similarly, the line segment which joins the point of contact of two parallel tangents to the circle is the diameter of the circle. Tangents drawn from the external points subtends equal angle at the center.

Thus, all are correct.

$\Rightarrow$  Ans - (D)

### Question 6

Which of the following option is CORRECT for SAS similarity criterion for the triangle ABC and DEF ?



- A  $\angle A = \angle D$  and  $\frac{AB}{DE} = \frac{AC}{DF}$
- B  $\angle B = \angle E$  and  $\frac{AB}{DE} = \frac{BC}{EF}$
- C  $\angle C = \angle F$  and  $\frac{AC}{DF} = \frac{BC}{EF}$
- D All option are correct

**Answer: D**

### Explanation:

For 2 triangles to follow SAS similarity rule, the angle between the two proportional sides must be equal.

Now, for  $\triangle ABC \sim \triangle DEF$ ,

If  $\angle A = \angle D$ , then  $\frac{AB}{DE} = \frac{AC}{DF}$

If  $\angle B = \angle E$ , then  $\frac{AB}{DE} = \frac{BC}{EF}$

If  $\angle C = \angle F$ , then  $\frac{AC}{DF} = \frac{BC}{EF}$

Thus, all option are correct.

=> Ans - (D)

### Question 7

If price of the table is increased by 25%, then a person can buy 25 tables less for Rs.25000. What is the original price (in Rs) of the table?

- A 225
- B 250
- C 200
- D 167

**Answer: C**

### Explanation:

Let price of a table = Rs.  $100x$

Number of tables bought for Rs. 25,000 =  $\frac{25000}{100x} = \frac{250}{x}$

$$\text{New price of table} = 100x + \left(\frac{25}{100} \times 100x\right) = \text{Rs. } 125x$$

$$\text{Number of tables bought for Rs. 25,000} = \frac{25000}{125x} = \frac{200}{x}$$

According to ques,

$$\Rightarrow \frac{200}{x} + 25 = \frac{250}{x}$$

$$\Rightarrow \frac{250}{x} - \frac{200}{x} = 25$$

$$\Rightarrow \frac{50}{x} = 25$$

$$\Rightarrow x = \frac{50}{25} = 2$$

$$\therefore \text{Original price} = 2 \times 100 = \text{Rs. } 200$$

$\Rightarrow$  Ans - (C)

### Question 8

A sum of Rs 125 is divided among u, v and w in such a way that u gets Rs 10 more than v and v gets Rs 5 more than w. What is the ratio of their shares?

A 9 : 10 : 12

B 7 : 8 : 10

C 7 : 10 : 13

D 3 : 4 : 5

**Answer: B**

### Explanation:

Let amount with w = Rs.  $k$

$$\Rightarrow \text{Share of v} = \text{Rs. } (k + 5)$$

Similarly, share of u = Rs.  $(k + 15)$

$$\text{Total amount} = k + (k + 5) + (k + 15) = 125$$

$$\Rightarrow 3k = 125 - 20 = 105$$

$$\Rightarrow k = \frac{105}{3} = 35$$

$$\therefore \text{Ratio of shares of u, v and w} = 35 : (35 + 5) : (35 + 15)$$

$$= 7 : 8 : 10$$

$\Rightarrow$  Ans - (B)

### Question 9

In an alloy, lead and tin are in the ratio of 2 : 3. In the second alloy, the ratio of same elements is 3 : 4. If equal quantities of these two alloy are mixed to form a new alloy, then what will be the ratio of these two elements in the new alloy?

- A 1 : 3
- B 29 : 41
- C 25 : 37
- D 31 : 43

**Answer:** B

#### **Explanation:**

Ratio of lead and tin in first alloy = 2 : 3

Ratio of lead and tin in second alloy = 3 : 4

Let quantity of both alloys taken = L.C.M. (5,7) = 35 units

$$\Rightarrow \text{Lead in first alloy} = \frac{2}{(2+3)} \times 35 = 14 \text{ units}$$

$$\text{Tin present in first alloy} = 35 - 14 = 21 \text{ units}$$

Similarly, lead in second alloy = 15 units and tin = 20 units

$$\therefore \text{Ratio of lead and tin in the new alloy} = \frac{(14+15)}{(21+20)}$$

$$= \frac{29}{41}$$

$\Rightarrow$  Ans - (B)

### Question 10

Average age of 6 boys is 14 years. Average age of 11 girls is 12 years. What is the average age (in years) of all boys and girls?

- A 12.7
- B 14.6
- C 19.3
- D 8.5

**Answer:** A

#### **Explanation:**

Average age of 6 boys = 14 years

$$\Rightarrow \text{Total age of 6 boys} = 6 \times 14 = 84 \text{ years}$$

Similarly, total age of 11 girls =  $11 \times 12 = 132$  years

$\therefore$  Average age (in years) of all boys and girls =  $\frac{(84+132)}{(6+11)}$

$$= \frac{216}{17} = 12.7$$

$\Rightarrow$  Ans - (A)

### Question 11

Simple interest on a sum for 10 years is equal to 5% of the principal. In how many years interest will be equal to the principal?

A 100

B 150

C 200

D 250

**Answer: C**

#### Explanation:

Let principal amount = Rs.  $100x$

$$\Rightarrow \text{Simple interest} = \frac{5}{100} \times 100x = \text{Rs. } 5x$$

Let rate of interest =  $r\%$  and time period = 10 years

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

$$\Rightarrow \frac{100x \times r \times 10}{100} = 5x$$

$$\Rightarrow 10r = 5$$

$$\Rightarrow r = \frac{5}{10} = 0.5\%$$

Let the interest will be equal to the principal in =  $t$  years at 0.5% rate

$$\Rightarrow \frac{100x \times 0.5 \times t}{100} = 100x$$

$$\Rightarrow t = \frac{100}{0.5} = 200 \text{ years}$$

$\Rightarrow$  Ans - (C)

### Question 12

The ratio of selling price to the cost price is 21 : 16. What is the profit percentage?

A 35.75

B 21.75

C 27.75

D 31.25

**Answer:** D

**Explanation:**

Ratio of selling price to the cost price = 21 : 16

Let Cost price =  $x = 16$  and selling price =  $y = 21$

$$\Rightarrow \text{Profit \%} = \frac{(y-x)}{x} \times 100$$

$$= \frac{(21-16)}{16} \times 100$$

$$= \frac{500}{16} = 31.25\%$$

$\Rightarrow$  Ans - (D)

**Question 13**

Dinesh purchases 10 dozens of apples at the rate of Rs 180 per dozen. He sold each one of them at the rate of Rs 19.5. What is the profit (in percentage) of Dinesh?

A 30

B 15

C 18

D 25

**Answer:** A

**Explanation:**

Cost of 1 dozen apples = Rs. 180

$\Rightarrow$  Cost of 10 dozen apples =  $180 \times 10 = \text{Rs. } 1800$

$\Rightarrow$  Cost of 1 apple =  $\frac{1800}{10 \times 12} = \text{Rs. } 15$

Selling price of 1 apple = Rs. 19.5

$$\Rightarrow \text{Profit \%} = \frac{(19.5-15)}{15} \times 100$$

$$= 1.5 \times 20 = 30\%$$

$\Rightarrow$  Ans - (A)

**Question 14**

If  $x = 4 + \sqrt{15}$ , then what is the value of  $[x^2 + (\frac{1}{x^2})]$  ?



A 62

B 64

C 34

D 36

**Answer: A**

**Explanation:**

Given :  $x = 4 + \sqrt{15}$  -----(i)

$$\Rightarrow \frac{1}{x} = \frac{1}{4 + \sqrt{15}}$$

$$\Rightarrow \frac{1}{x} = \frac{1}{4 + \sqrt{15}} \times \left( \frac{4 - \sqrt{15}}{4 - \sqrt{15}} \right)$$

$$\Rightarrow \frac{1}{x} = \frac{4 - \sqrt{15}}{(16 - 15)} = 4 - \sqrt{15} \text{ -----(ii)}$$

To find :  $\left[ x^2 + \left( \frac{1}{x^2} \right) \right]$

$$= \left( x + \frac{1}{x} \right)^2 - 2 \left( x \right) \left( \frac{1}{x} \right)$$

Substituting values from equations (i) and (ii), we get :

$$= [(4 + \sqrt{15}) + (4 - \sqrt{15})]^2 - 2$$

$$= (8)^2 - 2 = 64 - 2 = 62$$

$\Rightarrow$  Ans - (A)

**Question 15**

Some masons promised to do a work in 10 days but 8 of them were absent and remaining did the work in 18 days. What was the original number of masons?

A 10

B 21

C 15

D 18

**Answer: D**

**Explanation:**

Let original number of masons =  $x$

Using,  $M_1 D_1 = M_2 D_2$

$$\Rightarrow x \times 10 = (x - 8) \times 18$$

$$\Rightarrow 10x = 18x - 144$$

$$\Rightarrow 18x - 10x = 144$$

$$\Rightarrow x = \frac{144}{8} = 18$$

∴ Original number of masons = **18**

⇒ Ans - (D)

### Question 16

A boat goes 8 km upstream and 12 km downstream in 7 hours. It goes 9 km upstream and 18 km downstream in 9 hours. What is the speed (in km/h) of the boat in still water?

A 5

B 4

C 2

D 3

**Answer: D**

### Explanation:

Let speed of boat in still water =  $x$  km/hr and speed of current =  $y$  km/hr

According to ques,

$$\Rightarrow \frac{12}{x+y} + \frac{8}{x-y} = 7 \text{ -----(i)}$$

$$\text{and } \frac{18}{x+y} + \frac{9}{x-y} = 9 \text{ -----(ii)}$$

Applying the operation :  $3 \times (i) - 2 \times (ii)$

$$\Rightarrow \frac{24}{x-y} - \frac{18}{x-y} = 21 - 18$$

$$\Rightarrow \frac{6}{x-y} = 3$$

$$\Rightarrow x - y = \frac{6}{3} = 2 \text{ -----(iii)}$$

$$\text{Substituting it in equation (i), } \Rightarrow \frac{12}{x+y} + \frac{8}{2} = 7$$

$$\Rightarrow \frac{12}{x+y} = 7 - 4 = 3$$

$$\Rightarrow x + y = \frac{12}{3} = 4 \text{ -----(iv)}$$

Now, adding equations (iii) and (iv), we get :

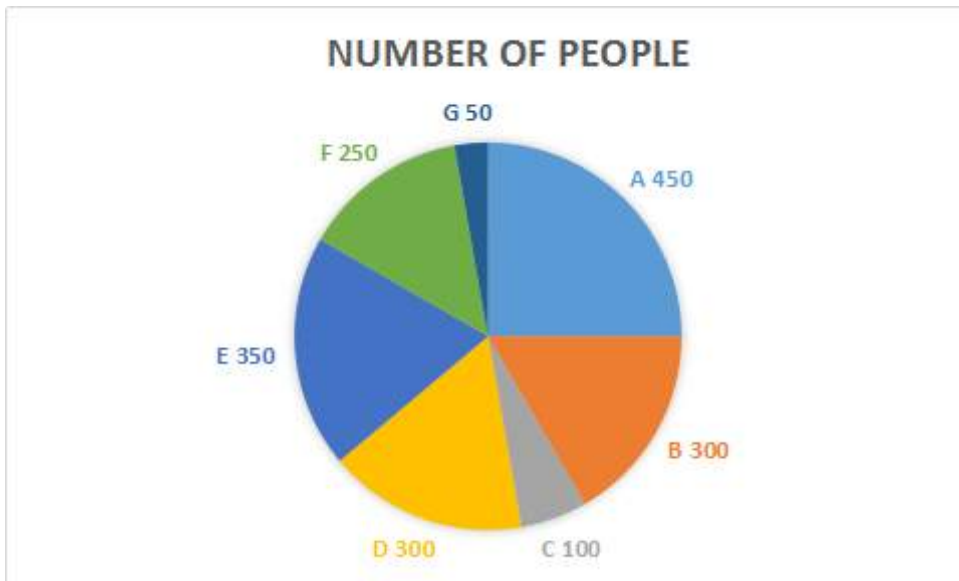
$$\Rightarrow 2x = 2 + 4 = 6$$

$$\Rightarrow x = \frac{6}{2} = 3$$

⇒ Ans - (D)

### Instructions

The pie chart shows the results of an online survey which asked people about their favourite movie. Study the diagram and answer the following questions.



**Question 17**

Which movie is the favourite of most people surveyed?

- A F
- B D
- C A
- D E

**Answer: C**

**Explanation:**

Movie **A** is the favourite of most people surveyed = 450

=> Ans - (C)

**Question 18**

What is the total numbers of people who have responded to the survey?

- A 1800
- B 2100
- C 2400
- D 2000

**Answer: A**

**Explanation:**

Total numbers of people who have responded to the survey

$$= 450 + 300 + 100 + 300 + 350 + 250 + 50$$

$$= 1800$$

=> Ans - (A)

### Question 19

The measure of the central angle of the sector representing number of people whose favourite movie is C is \_\_\_\_\_ degrees.

A 15

B 20

C 30

D 10

**Answer: B**

### Explanation:

Number of people whose favourite movie is C = 100

Total numbers of people who have responded to the survey

$$= 450 + 300 + 100 + 300 + 350 + 250 + 50 = 1800$$

$$\Rightarrow \text{Required central angle} = \frac{100}{1800} \times 360^\circ$$

$$= \frac{100}{5} = 20^\circ$$

=> Ans - (B)

### Question 20

Respondents who say their favourite movie is D and those who say their favourite movie is B constitute what percent of the total respondents?

A 30

B 33.33

C 40

D 25

**Answer: B**

### Explanation:

Number of people whose favourite movies are D and B = 300 + 300 = 600

Total numbers of people who have responded to the survey

$$= 450 + 300 + 100 + 300 + 350 + 250 + 50 = 1800$$

$$\Rightarrow \text{Required \%} = \frac{600}{1800} \times 100$$

$$= \frac{100}{3} = 33.33\%$$

$\Rightarrow$  Ans - (B)

### Instructions

For the following questions answer them individually

### Question 21

The perimeter and the length of one of the diagonals of a rhombus is 26 cm and 5 cm respectively. Find the length of its other diagonal (in cm).

A 6

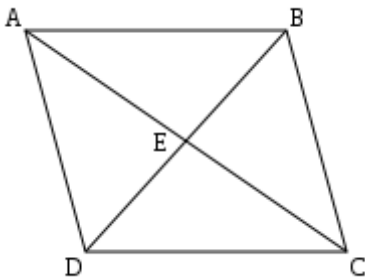
B 12

C 24

D 18

Answer: B

Explanation:



Given : ABCD is a rhombus and perimeter(ABCD) = 26 cm and BD = 5 cm

To find : AC = ?

Solution : Diagonals of a rhombus bisect each other at right angle.

$$\Rightarrow BE = \frac{5}{2} = 2.5 \text{ cm and side of rhombus} = AB = \frac{26}{4} = 6.5 \text{ cm}$$

Thus, in right  $\triangle AEB$ ,

$$\Rightarrow (AE)^2 = (AB)^2 - (BE)^2$$

$$\Rightarrow (AE)^2 = (6.5)^2 - (2.5)^2$$

$$\Rightarrow (AE)^2 = 42.25 - 6.25 = 36$$

$$\Rightarrow AE = \sqrt{36} = 6 \text{ cm}$$

$$\therefore AC = 2 \times 6 = 12 \text{ cm}$$

$\Rightarrow$  Ans - (B)

### Question 22

If the area of a semi-circle is  $1925\text{cm}^2$ , then find its radius (in cm).

A 70

B 31

C 62

D 35

**Answer: D**

#### Explanation:

Let radius of the semi-circle =  $r$  cm

$$\Rightarrow \text{Area} = \frac{1}{2} \times \pi r^2 = 1925$$

$$\Rightarrow \frac{1}{2} \times \frac{22}{7} \times r^2 = 1925$$

$$\Rightarrow r^2 = 1925 \times \frac{7}{11} = 1225$$

$$\Rightarrow r = \sqrt{1225} = 35 \text{ cm}$$

$\Rightarrow$  Ans - (D)

### Question 23

The total surface area of a cube is  $253.5\text{cm}^2$ . Find its side (in cm).

A 7.5

B 5.5

C 6.5

D 8.5

**Answer: C**

#### Explanation:

Let edge of cube =  $a$  cm

$$\text{Total surface area} = 6a^2 = 253.5$$

$$\Rightarrow a^2 = \frac{253.5}{6} = 42.25$$

$$\Rightarrow a = \sqrt{42.25} = 6.5 \text{ cm}$$

$\Rightarrow$  Ans - (C)

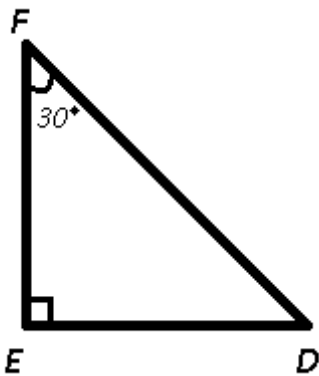
**Question 24**

$\triangle DEF$  is right angled at E. If  $m\angle F = 30^\circ$ , then find the value of  $(\sin D - \frac{1}{3})$ .

- A  $\frac{-1}{2\sqrt{3}}$   
 B  $\frac{(3\sqrt{3}-2)}{6}$   
 C  $\frac{(\sqrt{2}-\sqrt{3})}{\sqrt{6}}$   
 D  $\frac{(2\sqrt{2}-1)}{\sqrt{2}}$

**Answer: B**

**Explanation:**



$$\text{Sum of angles of } \triangle DEF = \angle D + \angle E + \angle F = 180^\circ$$

$$\Rightarrow \angle D + 90^\circ + 30^\circ = 180^\circ$$

$$\Rightarrow \angle D = 180^\circ - 120^\circ = 60^\circ$$

$$\text{To find : } (\sin D - \frac{1}{3})$$

$$= \sin(60^\circ) - \frac{1}{3}$$

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

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

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

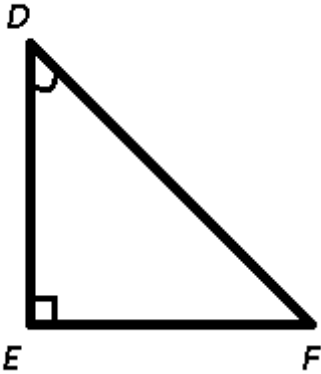
**Question 25**

$\triangle DEF$  is right angled at E. If  $\operatorname{cosec} D = \frac{25}{24}$ , then what is the value of  $\cos F$  ?

- A  $\frac{25}{7}$   
 B  $\frac{24}{7}$   
 C  $\frac{24}{25}$   
 D  $\frac{7}{24}$

Answer: C

Explanation:



Given :  $\operatorname{cosec} D = \frac{25}{24}$

Also,  $\operatorname{cosec} D = \frac{DF}{EF} = \frac{25}{24}$

Let  $DF = 25$  cm and  $EF = 24$  cm

To find :  $\cos F = \frac{EF}{DF}$

$= \frac{24}{25}$

=> Ans - (C)

## Reasoning

### Instructions

For the following questions answer them individually

### Question 26

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

Shout : Speak :: ? : ?

- A Petrol : Fuel
- B Rage : Anger
- C Drown : Water
- D Famous : People

Answer: B

Explanation:

Expression = Shout : Speak :: ? : ?



The first is more aggressive form of second, i.e. shout is a louder form of speaking, similarly rage is uncontrollable anger.

=> Ans - (B)

### Question 27

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

46 : 48 :: 61 : ?

A 67

B 71

C 65

D 63

Answer: D

#### Explanation:

Expression = 46 : 48 :: 61 : ?

The pattern followed is =  $n : n + 2$

Eg :-  $46 + 2 = 48$

Similarly,  $61 + 2 = 63$

=> Ans - (D)

### Question 28

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

VOT : SLQ :: HRX : ?

A EMS

B KOC

C EOU

D RVH

Answer: C

#### Explanation:

Expression = VOT : SLQ :: HRX : ?

The pattern followed is :

V	O	T
(-3)	(-3)	(-3)
S	L	Q

Similarly, for HRX : **EOU**

H	R	X
(-3)	(-3)	(-3)
E	O	U

=> Ans - (C)

### Question 29

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

- A Car - Road
- B Water - Ship
- C Track - Train
- D Sky - Aeroplane

**Answer:** A

### Explanation:

First is the medium of transportation of the transport given in second, hence **Car - Road** 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 12 - 24
- B 14 - 28
- C 44 - 88
- D 33 - 88

**Answer:** D

**Explanation:**

Second number is double the first number.

$$12 \times 2 = 24$$

$$14 \times 2 = 28$$

$$44 \times 2 = 88$$

$$33 \times 2 = 66 \neq 88$$

=> Ans - (D)

**Question 31**

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

A LFZ

B PJC

C SMG

D XRL

**Answer: B**

**Explanation:**

(A) : L (-6 letters) = F (-6 letters) = Z

(B) : P (-6 letters) = J (-7 letters) = C

(C) : S (-6 letters) = M (-6 letters) = G

(D) : X (-6 letters) = R (-6 letters) = L

=> Ans - (B)

**Question 32**

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

1. Lighten

2. Liftoff

3. Lemonade

4. Leisure

5. Ladies

A 32451

B 21345

C 13245

D 54321

**Answer: D**

**Explanation:**

As per the order of dictionary :

= Ladies -> Leisure -> Lemonade -> Liftoff -> Lighten

≡ 54321

=> Ans - (D)

**Question 33**

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

23, 24, 26, 27, 29, ?

A 31

B 30

C 33

D 32

**Answer: B**

**Explanation:**

'1' and '2' are alternatively added.

$$23 + 1 = 24$$

$$24 + 2 = 26$$

$$26 + 1 = 27$$

$$27 + 2 = 29$$

$$29 + 1 = \mathbf{30}$$

=> 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.

PCM, REO, TGQ, VIS, ?

A XKU

B WLV

C XLV

D WKU

**Answer:** A

**Explanation:**

Series : PCM, REO, TGQ, VIS, ?

The pattern followed in each letter of the terms is :

1st letter : P (+2 letters) = R (+2 letters) = T (+2 letters) = V (+2 letters) = X

2nd letter : C (+2 letters) = E (+2 letters) = G (+2 letters) = I (+2 letters) = K

3rd letter : M (+2 letters) = O (+2 letters) = Q (+2 letters) = S (+2 letters) = U

Thus, missing term = **XKU**

=> Ans - (A)

**Question 35**

The ratio of the present ages of Reena and her husband is 4 : 5. 8 years from now, ages of her husband and her son will be in the ratio 24 : 9. If the present age of Reena is 32 years, then what will be her son's present age (in years)?

A 12

B 15

C 10

D 8

**Answer:** C

**Explanation:**

Reena's present age = 32 years

Ratio of present ages of Reena and her husband = 4 : 5

=> Reena's husband's present age =  $\frac{5}{4} \times 32 = 40$  years

Her husband's age 8 years from now =  $40 + 8 = 48$  years

Ratio of her husband's age and her son's age 8 years from now = 24 : 9

=> Son's age 8 years from now =  $\frac{9}{24} \times 48 = 18$  years

∴ Son's present age =  $18 - 8 = 10$  years

=> Ans - (C)

### Question 36

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

#### Preparation

A Paper

B Ration

C Part

D People

Answer: D

#### Explanation:

The word PREPARATION does not contain any 'L', thus the term **People** cannot be formed.

=> Ans - (D)

### Question 37

In a certain code language, "PROP" is written as "67" and "RATE" is written as "46". How is "MOCK" written in that code language?

A 41

B 40

C 42

D 44

Answer: D

#### 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.

The numbers are then added and '2' is added at the end to get the final output.

$$\text{Eg :- PROP} = (16 + 18 + 15 + 16) + 2 = 65 + 2 = 67$$

$$\text{RATE} = (18 + 1 + 20 + 5) + 2 = 44 + 2 = 46$$

$$\text{Similarly, MOCK} = (13 + 15 + 3 + 11) + 2 = 42 + 2 = 44$$

=> Ans - (D)

### Question 38

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

$$35 - 12 + 10 \times 50 \div 14 = ?$$

A 31

B 6

C 27

D 15

**Answer: B**

**Explanation:**

Expression :  $35 - 12 + 10 \times 50 \div 14 = ?$

$$\equiv 35 \times 12 \div 10 - 50 + 14$$

$$= (7 \times 6) - 36$$

$$= 42 - 36 = 6$$

=> Ans - (B)

**Question 39**

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

$$16 \div 4 \times 8 - 10 + 14 = 12$$

A x and -

B  $\div$  and x

C  $\div$  and -

D - and +

**Answer: B**

**Explanation:**

Expression :  $16 \div 4 \times 8 - 10 + 14 = 12$

(A) : x and -

$$\text{L.H.S.} = 16 \div 4 - 8 \times 10 + 14$$

$$= 4 - 80 + 14 = -62 \neq \text{R.H.S.}$$

(B) :  $\div$  and x

$$\text{L.H.S.} = 16 \times 4 \div 8 - 10 + 14$$

$$= (2 \times 4) + 4 = 12 = \text{R.H.S.}$$

=> Ans - (B)

#### Question 40

If  $19!3 = 32$ ,  $13!4 = 18$  and  $12!2 = 20$ , then find the value of  $17!3 = ?$

- A 16
- B 28
- C 4
- D 8

**Answer:** B

#### Explanation:

Given :  $19!3 = 32$ ,  $13!4 = 18$  and  $12!2 = 20$

If we replace '!' with '-', and multiply the difference by 2, we get the desired result.

Eg :-  $(19 - 3) \times 2 = 31$

and  $(13 - 4) \times 2 = 18$  and  $(12 - 2) \times 2 = 20$

Similarly,  $(17 - 3) \times 2 = 28$

=> Ans - (B)

#### Question 41

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

$XZYXYXYXY$ ,  $XYZXYXYXY$ ,  $XYXZYXYXY$ ,  $XYXYZXYXY$ ,  $XYXYXZYXY$ , \_\_\_\_\_.

- A  $ZXYXYXYXY$
- B  $XZYXYXYXY$
- C  $XYZXYXYXY$
- D  $XYXYXZYXY$

**Answer:** D

#### Explanation:

Expression :  $XZYXYXYXY$ ,  $XYZXYXYXY$ ,  $XYXZYXYXY$ ,  $XYXYZXYXY$ ,  $XYXYXZYXY$ , \_\_\_\_\_.

The pattern followed is that in each term there are 4 combinations of 'XY' and in each term, the position of 'Z' is shifting one place to the right starting from second position.

Thus, in the missing term, the third last term will be 'Z' =  $XYXYXZYXY$

=> Ans - (D)



**Question 42**

Two navy ships start from the same port. Ship A travels 23 km West, then turns to its left and travels 19 km. Ship B travels 19 km West, then turns North and travels 5 km, then turns to its left and travels 4 km. Where is ship A with respect to ship B?

- A 14 km South
- B 24 km North
- C 24 km South
- D 14 km North

**Answer: B**

**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: All scissors are knives**

**Statement II: Some blades are scissors**

**Conclusion I: Some knives are blades**

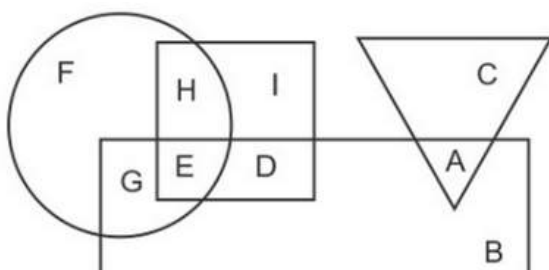
**Conclusion II: All blades are knives**

- 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 Cinematographers, circle represents Lyricists, triangle represents Trekkers and square represents Joggers. Which set of letters represents Trekkers who are not Joggers?



A ID

B AD

C CI

D AC

**Answer: D**

#### Question 45

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

**HOT, GMQ, FKN, EIK, ?**

A CHI

B CGH

C DGH

D DHI

**Answer: C**

#### **Explanation:**

Series : HOT, GMQ, FKN, EIK, ?

The pattern followed in each letter of the terms is :

1st letter : H (-1 letter) = G (-1 letter) = F (-1 letter) = E (-1 letter) = D

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

3rd letter : T (-3 letters) = Q (-3 letters) = N (-3 letters) = K (-3 letters) = H

Thus, missing term = **DGH**

=> Ans - (C)

#### Question 46

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

**93, 100, 107, 114, ?, 128**

A 120

**B** 121

**C** 123

**D** 122

**Answer: B**

**Explanation:**

'7' is added to all the numbers.

$$93 + 7 = 100$$

$$100 + 7 = 107$$

$$107 + 7 = 114$$

$$114 + 7 = \mathbf{121}$$

$$121 + 7 = 128$$

=> Ans - (B)

**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** (10, 20,30)

**B** (12, 22,32)

**C** (27, 37,47)

**D** (19, 29,49)

**Answer: D**

**Explanation:**

The numbers are of the form :  $(x, x + 10, x + 20)$

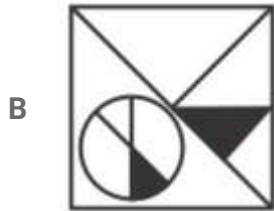
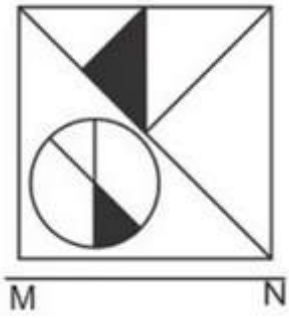
But in the last option, we have =  $19 + 20 = 39 \neq 49$

Thus, (19, 29,49) is the odd one out.

=> Ans - (D)

Question 48

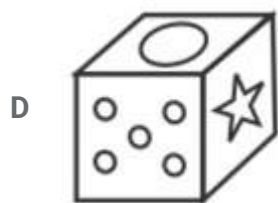
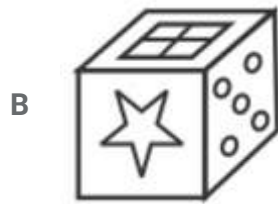
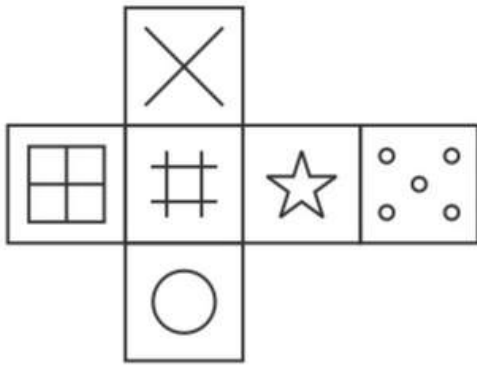
If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?



Answer: D

Question 49

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



Answer: D

### 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 D' can be represented by 31, 43 etc and Mr can be represented by 76, 57 etc. Similarly, you have to identify the set for the word 'SKIP'.

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

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

A 41,97,23,65

B 44,86,11,56

C 21,98,31,86

D 85,13,24,56

Answer: D

#### Explanation:

(A) : 41,97,23,65 = KXCO

(B) : 44,86,11,56 = JVHP

(C) : 21,98,31,86 = CZDV

(D) : 85,13,24,56 = **SKIP**

=> Ans - (D)

## English

### Instructions

For the following questions answer them individually

### Question 51

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'.

He cooked the (a) dinner and (b) than put the radio on. (c) No error (d)

A a

B b

C c

D d

**Answer: C**

### Question 52

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'.

Proteins are providers of energy in an emergency, (a) and are primarily used as building blocking (b) for growth and repair of many body tissues. (c) No error (d)

A a

B b

C c

D d

**Answer: B**

### Question 53

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.

Anita \_\_\_\_\_ her work by the time he came.

A had done

B has done

C is done

D would done

**Answer: A**

#### Question 54

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.

He won't pay the rent \_\_\_\_\_ how many times his landlord berates him.

- A seeing as
- B however
- C although
- D no matter

Answer: D

#### Question 55

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

**Hackneyed**

- A Tired
- B Fresh
- C Uncommon
- D New

Answer: A

#### Question 56

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

**Accede**

- A Admit
- B Submit
- C Grown



**D** Consent

**Answer:** D

**Question 57**

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

**Inundate**

**A** Engulf

**B** Immerse

**C** Overrun

**D** Underwhelm

**Answer:** D

**Question 58**

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

**Wholesome**

**A** Impure

**B** Healthy

**C** Pure

**D** Safe

**Answer:** A

**Question 59**

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

**The invention of the turbine by**

**P : the beginning of jet transport**

**Q : Ohain in Germany in 1939 signalled**

**R : Frank whittle in England and Hans von**

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

**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.**

**One can achieve reward by hard work.**

- A Reward could be achieved by hard work.
- B Reward is needed for hard work.
- C Reward is achieved by hard work.
- D Reward can be achieved by hard work.

**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.**

**She said, "Let us wait for the seat"**

- A She proposed that they should wait for the seat.
- B She proposed that they could wait for the seat.
- C She proposed to wait for the seat.
- D She proposed let us wait for seat.

**Answer: A**

### 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 Acquaintance
- B Acuainatance
- C Acquaintence
- D Akquaintance

**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.

The \_\_\_\_\_ conversation-starter cultivated by years of ostentatious \_\_\_\_\_ society is a simple 'how do you do?' followed by a polite shaking of hands and an optional comment on the weather. But aside \_\_\_\_\_ the mental trauma this ritual causes to those unfortunate souls who suffer from clammy hands, it also doesn't provide much incentive to go on. Fascinating as the weather can be from time \_\_\_\_\_ time, one can speak only so much about the \_\_\_\_\_ of the sun and express sympathy towards the depressions the Bay of Bengal faces.

### Question 63

The \_\_\_\_\_ conversation-starter cultivated

- A basic
- B base
- C basically
- D basics

**Answer:** A

### Question 64

years of ostentatious \_\_\_\_\_ society is a simple

- A humanity
- B humanly

**C** humanely

**D** human

**Answer: D**

**Question 65**

**But aside \_\_\_\_\_ the mental trauma**

**A** form

**B** from

**C** of

**D** for

**Answer: B**

**Question 66**

**from time \_\_\_\_\_ time, one**

**A** to

**B** at

**C** so

**D** is

**Answer: A**

**Question 67**

**much about the \_\_\_\_\_ of the sun**

**A** brightness

**B** bright

**C** brightly

**D** brighter

**Answer: A**

### Instructions

For the following questions answer them individually

#### Question 68

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

#### Back to the drawing board

- A A creative person will always find a solution to any problem.
- B An artist will express his feelings by drawing.
- C It is better to work on a fanciful idea bound to fail than have no ideas at all.
- D Used to indicate that an idea has been unsuccessful and that a new one must be devised.

**Answer: D**

#### Question 69

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

#### In cahoots with

- A A marriage made in heaven.
- B A group of criminals.
- C With lot of determination.
- D In an alliance or partnership with.

**Answer: D**

#### Question 70

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

#### Acutely distressing

- A Palatable
- B Harrowing

**C** Gratifying

**D** Suave

**Answer: B**

### Question 71

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

**Revel in and make the most of something pleasing**

**A** Abhor

**B** Bask

**C** Fret

**D** Edgy

**Answer: B**

### Question 72

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".

**This stove (had) a flat kerosene tank at the bottom.**

**A** have

**B** has

**C** has had

**D** no improvement

**Answer: D**

### Question 73

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".

**By then running water and electricity (had arrive), making the well and the lamp post redundant.**

**A** had arriving

- B** had arrived
- C** arriving
- D** no improvement

**Answer: B**

#### **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.

- A** lever enabled you
- A**-controlled the burner flame
- B**-to raise or lower the wicks
- C**-and this is how you

- A** BAC
- B** ACB
- C** BCA
- D** ABC

**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** megalomaniac
- B** megalomeniac
- C** megallomaniac
- D** megallomeniac

**Answer: A**

## **General Awareness**

### **Instructions**

For the following questions answer them individually

**Question 76**

**Generally unemployment in a developing country takes place because of \_\_\_\_\_.**

- A lack of complementary factors of production
- B seasonal factors
- C lack of effective demand
- D switch over from one job to another

**Answer: A**

**Question 77**

**The Ex-officio Secretary of NDC is \_\_\_\_\_.**

- A Vice-Chairman of Planning Commission
- B General Secretary of Lok Sabha
- C Secretary of Finance Ministry
- D Secretary of Planning Commission

**Answer: D**

**Question 78**

**Who of the following founded the Vikramashila University?**

- A Devapala I
- B Dharmapala
- C Gopala
- D Devapala II

**Answer: B**

**Question 79**

**Which Governor General of India used to write poetry with the name of "Owen Meredith"?**

- A Lord Dalhousie



- B Lord Ripon
- C Lord Lytton
- D Lord Canning

**Answer: C**

**Question 80**

**Which of the following pairs is NOT correctly matched?**

- A Etna : Italy
- B Fujiyama : Japan
- C Popa : Myanmar
- D Krakatau : Malaysia

**Answer: D**

**Question 81**

**The highest mountain peak of Chhotanagpur Plateau is \_\_\_\_\_.**

- A Dhoopgarh
- B Pachmarhi
- C Parasnath
- D Mahabaleshwar

**Answer: C**

**Question 82**

**Begum Akhtar is associated to which art form?**

- A Dance
- B Painting
- C Music
- D Folk Art

**Answer: C**

**Question 83**

**Which of the following countries has built the world's biggest air purifier, a 328 feet high tower, to combat air pollution?**

**A** Germany

**B** India

**C** Australia

**D** China

**Answer: D**

**Question 84**

**Who among the following writers won the 2017 Sahitya Academy Award for Hindi literature?**

**A** Niranjana Mishra

**B** Ramesh Kuntal Megh

**C** Uday Narayana Singh

**D** Shrikant Deshmukh

**Answer: B**

**Question 85**

**Which is the largest City of Nepal?**

**A** Hetauda

**B** Pokhara

**C** Biratnagar

**D** Kathmandu

**Answer: D**

**Question 86**

Elements having same atomic numbers but different mass number are called \_\_\_\_\_.

- A isotones
- B Isotopes
- C isotopes
- D isobar

**Answer: B**

**Question 87**

Washing soda is used \_\_\_\_\_.

- I. for removing permanent hardness of water
- II. for disinfecting drinking water
- III. as a cleaning agent for domestic purpose

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

**Answer: B**

**Question 88**

What are the minimum qualifications of a person to become a member of Lok Sabha?

- I. Must be a citizen of India.
- II. Must not be less than 25 years of age.
- III. Must hold an office of profit under Union Government.

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

**Answer: C**

**Question 89**

**The India Parliament should meet at least \_\_\_\_\_.**

- A Once a year
- B Twice a year
- C Thrice a year
- D Four times in a year

**Answer: B**

**Question 90**

**Which is the longest part of alimentary canal?**

- A Oesophagus
- B Small intestine
- C Large intestine
- D Buccal cavity

**Answer: B**

**Question 91**

**Organs having different structure and components but perform similar functions are called \_\_\_\_\_.**

- A Analogous organs
- B Homologous organs
- C Heterogeneous organs
- D Homogenous organs

**Answer: A**

**Question 92**

**In August 2017, Environment Ministry of India launched 'Gaj Yatra' to protect \_\_\_\_\_.**

- A Tigers

- B** Elephants
- C** Lions
- D** Rhino

**Answer: B**

**Question 93**

**Which country has made the world's largest amphibious aircraft named AG600?**

- A** United States of America
- B** Russia
- C** China
- D** Saudi Arabia

**Answer: C**

**Question 94**

**In August 2017, which of the following launched world's first future contracts in 'diamonds'?**

- A** Indian Commodity Exchange (ICEX)
- B** Multi Commodity Exchange (MCEX)
- C** National Association of Securities Dealers Automated Quotations (NASDAQ)
- D** None of these

**Answer: A**

**Question 95**

**On 3 January 2018, Lok Sabha passed Ancient Monuments and Archaeological Sites and Remains (Amendment) Bill, 2017. The Bill seeks to permit construction in 'Prohibited areas' for \_\_\_\_\_.**

- A** Private Purposes
- B** Public Purposes
- C** Both public and private Purposes
- D** None of these

**Answer: B**

**Question 96**

**What is the resistance (in  $\Omega$ ) of an electrical component if a current of 0.2 A passes through it on application of 8 V of potential difference across it?**

**A** 40

**B** 1.6

**C** 80

**D** 3.2

**Answer: A**

**Question 97**

**The value of acceleration due to gravity (g) \_\_\_\_\_.**

**A** is greater at the poles than at the equator

**B** is lesser at the poles than at the equator

**C** is greater at the North pole than at the South pole

**D** is greater at the South pole than at the North pole

**Answer: A**

**Question 98**

**Seismic waves are recorded by an instrument called the \_\_\_\_\_.**

**A** seismograph

**B** odograph

**C** isograph

**D** lithograph

**Answer: A**

**Question 99**

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

- A) In 2017, Dani Pedrosa raced in MotoGP for Yamaha.**
- B) Alexander Zverev won the Tennis 2017 Miami Open Men's Singles.**
- C) Viktor Axelsen won the Badminton 2017 BWF Super Series Finals Men's Singles.**

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

**Answer: B**

**Question 100**

**Computer networks constituting the internet are connected by telephones, underwater cables and**

\_\_\_\_\_

- A** e-mail
- B** e-books
- C** Public telephone booths
- D** Satellites

**Answer: D**

# SSC CHSL 17 March 2018 Afternoon Shift

## Quant

### Instructions

For the following questions answer them individually

### Question 1

Find the value of  $(216)^{\frac{2}{3}} + (36)^{-\frac{1}{2}}$

A  $\frac{216}{6}$

B  $\frac{218}{6}$

C  $\frac{215}{6}$

D  $\frac{217}{6}$

Answer: D

### Explanation:

$$\text{Expression} = (216)^{\frac{2}{3}} + (36)^{-\frac{1}{2}}$$

$$= (6^3)^{\frac{2}{3}} + (6^2)^{-\frac{1}{2}}$$

$$= 6^2 + 6^{-1}$$

$$= 36 + \frac{1}{6}$$

$$= \frac{(216+1)}{6} = \frac{217}{6}$$

=> Ans - (D)

### Question 2

Find the number of prime factor of 20790.

A 7

B 9

C 5

D 13

Answer: C

### Explanation:

$$\text{Prime factorisation of } 20790 = (2)^1 \times (3)^3 \times (5)^1 \times (7)^1 \times (11)^1$$

Thus, number of prime factors = 5



=> Ans - (C)

### Question 3

If  $p = \sqrt{72 - \sqrt{72 - \sqrt{72 - \sqrt{72 - \dots\infty}}}}$ , then find the value of  $2p^2 + 1$ .

A -129

B -163

C 129

D 163

Answer: C

### Explanation:

Expression :  $p = \sqrt{72 - \sqrt{72 - \sqrt{72 - \sqrt{72 - \dots\infty}}}}$

$$\Rightarrow p = \sqrt{72 - p}$$

Squaring both sides, we get :

$$\Rightarrow p^2 = 72 - p$$

$$\Rightarrow p^2 + p - 72 = 0$$

$$\Rightarrow p^2 + 9p - 8p - 72 = 0$$

$$\Rightarrow p(p + 9) - 8(p + 9) = 0$$

$$\Rightarrow (p + 9)(p - 8) = 0$$

$$\Rightarrow p = -9, 8$$

But  $p$  cannot be negative, thus  $p = 8$

To find :  $2p^2 + 1$

$$= 2(8)^2 + 1 = 128 + 1 = 129$$

=> Ans - (C)

### Question 4

If  $X + Y + Z = 6$  and  $XY + ZX + ZY = 10$ , then find the value of  $X^3 + Y^3 + Z^3 - 3XYZ$ .

A 16

B 26

C 36

D 46

Answer: C

**Explanation:**

Given :  $xy + yz + zx = 10$  -----(i)

Also,  $x + y + z = 6$  -----(ii)

Squaring both sides, we get :

$$\Rightarrow (x + y + z)^2 = (6)^2$$

$$\Rightarrow (x^2 + y^2 + z^2) + 2(xy + yz + zx) = 36$$

Substituting value from equation (i),

$$\Rightarrow x^2 + y^2 + z^2 + 2(10) = 36$$

$$\Rightarrow x^2 + y^2 + z^2 = 36 - 20 = 16$$
 -----(iii)

To find :  $x^3 + y^3 + z^3 - 3xyz$

$$= (x + y + z)[(x^2 + y^2 + z^2) - (xy + yz + zx)]$$

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

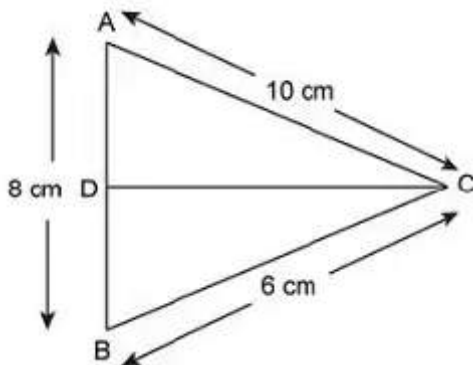
$$= (6)(16 - 10)$$

$$= 6 \times 6 = 36$$

$\Rightarrow$  Ans - (C)

**Question 5**

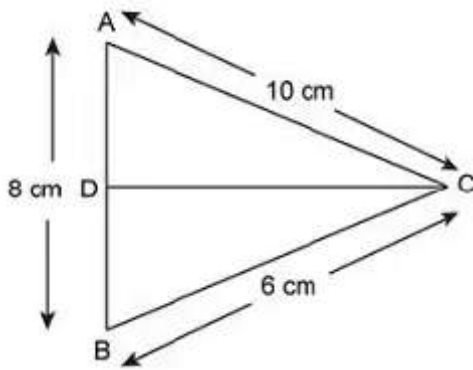
In a triangle ABC, a line is drawn from C which bisects AB at point D. Find the ratio of area of the triangles DBC and ABC.



- A 1:1
- B 2:1
- C 1:2
- D 1:3

Answer: C

Explanation:



Given : CD bisects AB,  $\Rightarrow AD = DB = \frac{8}{2} = 4$  cm

To find :  $\frac{ar(\triangle DBC)}{ar(\triangle ABC)} = ?$

Solution : Clearly  $\triangle ABC$  is a right angled triangle,  $\because (10)^2 = (8)^2 + (6)^2$

Thus, AC is the hypotenuse and  $\triangle ABC$  is right angled at B.

$\Rightarrow AB = 8$  cm is the height of triangle

$$\therefore \frac{ar(\triangle DBC)}{ar(\triangle ABC)} = \frac{\frac{1}{2} \times (DB) \times (BC)}{\frac{1}{2} \times (AB) \times (BC)}$$

$$= \frac{4 \times 6}{8 \times 6} = \frac{1}{2}$$

$\Rightarrow$  Ans - (C)

### Question 6

The area of a right angled triangle ABC, right angled at B, is 46 sq units. A median is drawn from A to BC which intersects at D. Find the area (in sq. units) of triangle ABD.

A 12

B 23

C 46

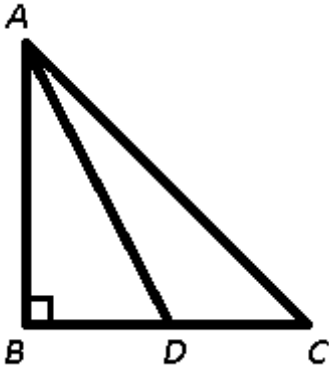
D 88

Answer: B

Explanation:

Note :- A median divides a triangle into two parts of equal areas.

Proof :



It is given that  $ar(\triangle ABC) = 46$  sq.units

Also, AD bisects BC, let  $BC = 2x$  units  $\Rightarrow BD = \frac{2x}{2} = x$  units

$$\therefore \frac{ar(\triangle ABD)}{ar(\triangle ABC)} = \frac{\frac{1}{2} \times (AB) \times (BD)}{\frac{1}{2} \times (AB) \times (BC)}$$

$$\Rightarrow \frac{\triangle}{46} = \frac{x}{2x}$$

$$\Rightarrow \triangle = \frac{46}{2} = 23 \text{ sq.units}$$

$\Rightarrow$  Ans - (B)

#### Question 7

X and Y give an exam. Difference of their marks is 45 and the difference of their marks is 15% of the maximum marks. What is the maximum marks for the exam?

A 180

B 450

C 150

D 300

Answer: D

#### Explanation:

Difference of marks of X and Y = 45

Also, Difference of their marks = 15% of the maximum marks

$$\Rightarrow \text{Max marks} = \frac{45}{15} \times 100 = 300$$

$\Rightarrow$  Ans - (D)

#### Question 8

If  $P : Q : R = 6 : 7 : 8$  and  $R : S = 3 : 5$ , then what is  $P : S$ ?

A 18 : 25

B 9 : 20

C 11 : 24

D 16 : 45

**Answer: B**

**Explanation:**

Given =  $P : Q : R = 6 : 7 : 8$  -----(i)

and  $R : S = 3 : 5$  -----(ii)

Multiplying equation (i) by 3 and equation (ii) by 8, we get :

=>  $P : Q : R = 18 : 21 : 24$  and  $R : S = 24 : 40$

Since, R is same in both, =>  $P : S = 18 : 40 = 9 : 20$

=> Ans - (B)

**Question 9**

**In what ratio must a mixture of 11% sugar strength be mixed with that of 25% sugar strength so as to get a new mixture of 13% sugar strength?**

A 5 : 1

B 6 : 1

C 7 : 2

D 10 : 3

**Answer: B**

**Explanation:**

Let  $x$  units of 11% sugar strength be mixed  $y$  units of of 25% sugar strength.

According to ques,

$$\Rightarrow 11x + 25y = 13(x + y)$$

$$\Rightarrow 11x + 25y = 13x + 13y$$

$$\Rightarrow 13x - 11x = 25y - 13y$$

$$\Rightarrow 2x = 12y$$

$$\Rightarrow \frac{x}{y} = \frac{12}{2} = \frac{6}{1}$$

∴ Required ratio = 6 : 1

=> Ans - (B)

**Question 10**

**What is the average of 90, 250, 240, 204, and 616?**

- A 280
- B 210
- C 230
- D 255

**Answer: A**

**Explanation:**

Sum of numbers =  $90 + 250 + 240 + 204 + 616 = 1400$

$$\Rightarrow \text{Average} = \frac{1400}{5} = 280$$

$\Rightarrow$  Ans - (A)

**Question 11**

A sum of money invested at simple interest becomes  $\frac{13}{10}$  of itself in 2 years and 6 months. What is the rate (in percentage) of interest per annum?

- A 10
- B 15
- C 12
- D 18

**Answer: C**

**Explanation:**

Let sum of money invested = Rs.  $100x$

$$\Rightarrow \text{Amount under simple interest} = \frac{13}{10} \times 100x = \text{Rs. } 130x$$

$$\text{Thus, simple interest} = 130x - 100x = \text{Rs. } 30x$$

Let rate of interest =  $r\%$  and time period = 2.5 years

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

$$\Rightarrow \frac{100x \times r \times 2.5}{100} = 30x$$

$$\Rightarrow 2.5r = 30$$

$$\Rightarrow r = \frac{30}{2.5} = 12\%$$

$\Rightarrow$  Ans - (C)

### Question 12

The ratio of the cost price and selling price of an article is 5 : 3. What is the loss percentage?

- A 40
- B 20
- C 66.66
- D 33.33

**Answer:** A

#### **Explanation:**

Ratio of cost price and selling price of an article = 5 : 3

Let Cost price =  $x = 5$  and selling price =  $y = 3$

$$\Rightarrow \text{Loss \%} = \frac{(x-y)}{x} \times 100$$

$$= \frac{(5-3)}{5} \times 100$$

$$= 2 \times 20 = 40\%$$

$\Rightarrow$  Ans - (A)

### Question 13

A shopkeeper offers the following 3 schemes. Which scheme has the maximum discount percentage?

I. Two successive discounts of 30% and 20%

II. Buy 4 get 7

III. Buy 4 get 3 free

- A Only I
- B Only III
- C Only II and III
- D All are equal.

**Answer:** A

#### **Explanation:**

Let marked price = Rs. 100

Scheme I : After 1st discount of 30%, effective price =  $100 - \left(\frac{30}{100} \times 100\right) = \text{Rs. } 70$

Similarly, after 2nd discount of 20%, effective price =  $70 - \left(\frac{20}{100} \times 70\right) = \text{Rs. } 56$

$$\Rightarrow \text{Discount offered} = \frac{(100-56)}{100} \times 100 = 44\%$$

---

Scheme II : Marked price of 7 = Rs. 700 and selling price of 4 = Rs. 400

$$\Rightarrow \text{Discount \%} = \frac{(700-400)}{700} \times 100 = 42.85\%$$

Scheme III : Marked price of 7 = Rs. 700 and selling price of 4 = Rs. 400

$$\Rightarrow \text{Discount \%} = \frac{(700-400)}{700} \times 100 = 42.85\%$$

$\therefore$  **Scheme I** has the highest discount percentage.

$\Rightarrow$  Ans - (A)

#### Question 14

If  $4^x = \sqrt[7]{1024}$ , then what is the value of X ?

A  $\frac{5}{7}$

B  $\frac{4}{7}$

C  $\frac{3}{7}$

D  $\frac{6}{7}$

**Answer:** A

#### Explanation:

Expression :  $4^x = \sqrt[7]{1024}$

$$\Rightarrow 4^x = \sqrt[7]{2^{10}}$$

$$\Rightarrow 4^x = \sqrt[7]{4^5}$$

$$\Rightarrow 4^x = 4^{\frac{5}{7}}$$

$$\Rightarrow x = \frac{5}{7}$$

$\Rightarrow$  Ans - (A)

#### Question 15

12 men or 30 boys can complete a work in 72 days. How many days will 48 men and 24 boys will take to complete the same work?

A 20

B 18

C 15



D 25

Answer: C

**Explanation:**

Let time taken by 1 man to complete unit work =  $m$  and by 1 boy =  $b$

12 men complete the work in 72 days,  $\Rightarrow m = \frac{1}{12 \times 72}$

Similarly,  $b = \frac{1}{30 \times 72}$

Now, time taken by 48 men and 24 boys to complete unit work =  $48m + 24b$

$$= (48 \times \frac{1}{12 \times 72}) + (24 \times \frac{1}{30 \times 72})$$

$$= \frac{1}{18} + \frac{1}{90}$$

$$= \frac{5+1}{90} = \frac{1}{15}$$

$\therefore$  No. of days taken to finish the work = 15

$\Rightarrow$  Ans - (C)

**Question 16**

A train starts moving from a place P at 10:00 a.m. and arrives at another place Q at 5:30 p.m. on the same day. If the speed of the train is 50 km/hr, then what will be the distance (in km) covered by the train?

A 424

B 390

C 375

D 225

Answer: C

**Explanation:**

Speed of train = 50 km/hr

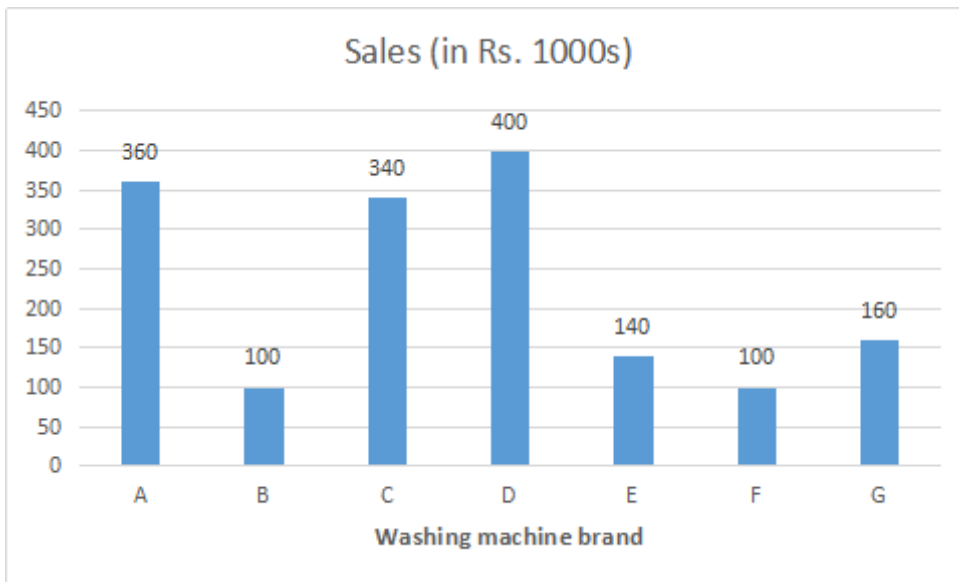
Time taken from 10:00 a.m. to 5:30 p.m. = 7.5 hours

$\Rightarrow$  Distance covered =  $50 \times 7.5 = 375$  km

$\Rightarrow$  Ans - (C)

**Instructions**

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



**Question 17**

Sales of which washing machine brand were the second highest?

- A G
- B D
- C C
- D A

**Answer:** D

**Explanation:**

Sales of washing machine brand A were the second highest = Rs. 360,000

=> Ans - (D)

**Question 18**

What is the ratio of sales of brand G to that of brand A?

- A 9 : 4
- B 1 : 2
- C 2 : 1
- D 4 : 9

**Answer:** D

**Explanation:**

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

Sales of brand A (in Rs. 000's) = 360

$$\Rightarrow \text{Required ratio} = \frac{160}{360} = 4 : 9$$

$\Rightarrow$  Ans - (D)

### Question 19

Sales of brand D was greater than that of brand B by \_\_\_\_\_.

A 300%

B 75%

C 100%

D 200%

**Answer: A**

### Explanation:

Sales of brand D (in Rs. 000's) = 400

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

$$\Rightarrow \text{Required \%} = \frac{(400-100)}{100} \times 100 = 300\%$$

$\Rightarrow$  Ans - (A)

### Question 20

If the sales figures are exclusive of tax then at the rate of 18% tax how much is the tax to be paid (in Rs) on the sales of all the 7 brands of washing machines?

A 28,800

B 2,70,000

C 2,88,000

D 27,000

**Answer: C**

### Explanation:

Sales of all 7 brands (in Rs. 000's)

$$= 360 + 100 + 340 + 400 + 140 + 100 + 160 = 1600$$

Tax = 18%

$$\Rightarrow \text{Total tax to be paid} = \frac{18}{100} \times 16,00,000$$

$$= 18 \times 16,000 = \text{Rs. } 2,88,000$$

=> Ans - (C)

### Instructions

For the following questions answer them individually

### Question 21

The area of a square is  $42.25\text{cm}^2$ . Find its perimeter (in cm).

A 52

B 26

C 28

D 56

Answer: B

### Explanation:

Let side of square =  $s$  cm

$$\Rightarrow \text{Area} = s^2 = 42.25$$

$$\Rightarrow s = \sqrt{42.25} = 6.5 \text{ cm}$$

$$\therefore \text{Perimeter of square} = 4s = 4 \times 6.5 = 26 \text{ cm}$$

=> Ans - (B)

### Question 22

If the perimeter of a semicircle is 72 cm, then find its area ( $\text{incm}^2$ ).

A 308

B 616

C 160

D 320

Answer: A

### Explanation:

Let radius of semi circle =  $r$  cm

$$\Rightarrow \text{Perimeter of semi circle} = \pi r + 2r = 72$$

$$\Rightarrow r\left(\frac{22}{7} + 2\right) = 72$$

$$\Rightarrow r\left(\frac{22+14}{7}\right) = 72$$

$$\Rightarrow r = 72 \times \frac{7}{36} = 14 \text{ cm}$$

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

$$= \frac{1}{2} \times \frac{22}{7} \times (14)^2$$

$$= 22 \times 14 = 308 \text{ cm}^2$$

=> Ans - (A)

### Question 23

The volume of a cube is  $274.625 \text{ cm}^3$ . Find its side (in cm).

- A 7.5
- B 6.5
- C 5.5
- D 3.5

Answer: B

#### Explanation:

Let side of cube =  $a$  cm

$$\text{Volume of cube} = a^3 = 274.625$$

$$\Rightarrow a = \sqrt[3]{6.5 \times 42.25}$$

$$\Rightarrow a = 6.5 \text{ cm}$$

=> Ans - (B)

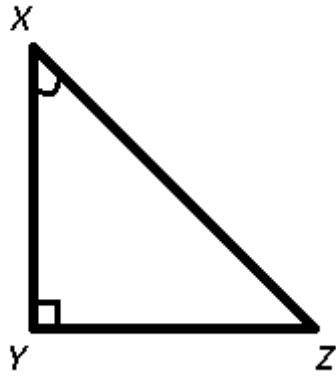
### Question 24

$\Delta XYZ$  is right angled at Y. If  $m\angle X = 45^\circ$ , then find the value of  $(\operatorname{cosec} Z + \frac{\sqrt{3}}{2})$ .

- A  $\frac{(2\sqrt{2} + \sqrt{3})}{2}$
- B  $\frac{5}{6}$
- C  $\frac{(1 + 2\sqrt{3})}{2}$
- D  $\frac{(\sqrt{2} + 1)}{\sqrt{2}}$

Answer: A

#### Explanation:



Sum of angles of  $\triangle XYZ = \angle X + \angle Y + \angle Z = 180^\circ$

$$\Rightarrow 45^\circ + 90^\circ + \angle Z = 180^\circ$$

$$\Rightarrow \angle X = 180^\circ - 135^\circ = 45^\circ$$

To find:  $(\operatorname{cosec} Z + \frac{\sqrt{3}}{2})$

$$= \operatorname{cosec}(45^\circ) + \frac{\sqrt{3}}{2}$$

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

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

$\Rightarrow$  Ans - (A)

#### Question 25

$\triangle XYZ$  is right angled at Y. If  $\sin X = \frac{4}{5}$ , then what is the value of  $\cos Z$  ?

A  $\frac{3}{4}$

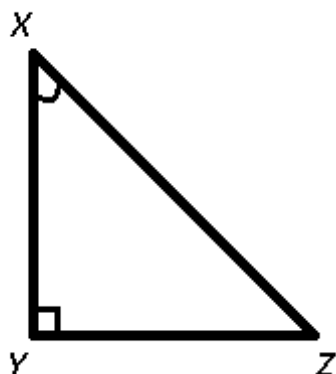
B  $\frac{5}{3}$

C  $\frac{4}{5}$

D  $\frac{4}{3}$

Answer: C

Explanation:



Given :  $\sin X = \frac{4}{5}$

$$\text{Also, } \sin X = \frac{YZ}{XZ} = \frac{4}{5}$$

Let  $YZ = 4$  cm and  $XZ = 5$  cm

$$\text{To find : } \cos Z = \frac{YZ}{XZ}$$

$$= \frac{4}{5}$$

=> Ans - (C)

## Reasoning

### Instructions

For the following questions answer them individually

### Question 26

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

Ship : Water :: ? : ?

A Track : Train

B Truck : Road

C Land : Lion

D Road : Cycle

**Answer:** B

### Explanation:

Expression = Ship : Water :: ? : ?

The first is the mode of transmission and the second is the medium it runs on, i.e. ship sails on water, similarly truck runs on roads.

=> Ans - (B)

### Question 27

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

45 : 60 :: ? : ?

A 25 : 30

B 65 : 90

C 35 : 45

D 55 : 70

**Answer:** D

**Explanation:**

Expression = 45 : 60 :: ? : ?

The difference between the numbers =  $60 - 45 = 15$

Similarly, only the difference between  $70 - 55 = 15$

=> Ans - (D)

**Question 28**

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

**MCG : NDH :: ? : ?**

A IOT : JPU

B JMP : LOR

C RTP : SUR

D FPL : GQN

**Answer:** A

**Explanation:**

Expression = MCG : NDH :: ? : ?

The pattern followed is :

M	C	G
(+1)	(+1)	(+1)
N	D	H

Similar pattern is observed only in = **IOT : JPU**

I	O	T
(+1)	(+1)	(+1)
J	P	U

=> Ans - (A)

**Question 29**

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

A Rain



- B Steam
- C Ice
- D Evaporation

**Answer: D**

### 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

- A 29 - 34
- B 32 - 37
- C 34 - 39
- D 24 - 28

**Answer: D**

### Explanation:

The difference between each of the pair of numbers is 5.

But in the last option  $\Rightarrow 28 - 24 = 4$

Thus, (24 - 28) is the odd one out.

$\Rightarrow$  Ans - (D)

### Question 31

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

- A BDF
- B LNP
- C TVX
- D JLP

**Answer: D**

### Explanation:

(A) : B (+2 letters) = D (+2 letters) = F

(B) : L (+2 letters) = N (+2 letters) = P

(C) : T (+2 letters) = V (+2 letters) = X

(D) : J (+2 letters) = L (+4 letters) = P

=> Ans - (D)

### Question 32

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

1. Wan
2. Want
3. Walker
4. Wag
5. Wake

A 41523

B 45312

C 51243

D 34521

**Answer:** B

### Explanation:

As per the order of dictionary :

= Wag -> Wake -> Walker -> Wan -> Want

≡ 45312

=> Ans - (B)

### Question 33

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

9, 16, 13, 12, 17, 8, ?, ?

A 21, 4

B 4, 21

C 9, 12

D 12, 18

**Answer:** A

**Explanation:**

Series : 9, 16, 13, 12, 17, 8, ?, ?

The pattern followed is that in the alternate series '4' is added and subtracted respectively.

Odd Series :  $9 (+4) = 13 (+4) = 17 (+4) = 21$

Even series :  $16 (-4) = 12 (-4) = 8 (-4) = 4$

Thus, missing numbers = **21, 4**

=> Ans - (A)

**Question 34**

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

**FL, IO, LR, ?, RX**

**A** OP

**B** OU

**C** PS

**D** QT

**Answer: B**

**Explanation:**

Series : FL, IO, LR, ?, RX

The pattern followed in each letter of the terms is :

1st letter :  $F (+3 \text{ letters}) = I (+3 \text{ letters}) = L (+3 \text{ letters}) = O (+3 \text{ letters}) = R$

2nd letter :  $L (+3 \text{ letters}) = O (+3 \text{ letters}) = R (+3 \text{ letters}) = U (+3 \text{ letters}) = X$

Thus, missing term = **OU**

=> Ans - (B)

**Question 35**

**Present age of Vikas and Raman are in the ratio of 6 : 5 respectively. If the present age of Rohan is 98 years and the present age of Vikas is  $\frac{3}{7}$  of the the present age of Rohan, then after how many years the ages of Vikas and Raman would be in the ratio of 7 : 6?**

**A** 6

**B** 7

**C** 5

D 8

Answer: B

**Explanation:**

Rohan's present age = 98 years

=> Vikas's present age =  $\frac{3}{7} \times 98 = 42$  years

Ratio of present age of Vikas and Raman = 6 : 5

=> Raman's present age =  $\frac{5}{6} \times 42 = 35$  years

Let after  $x$  years, the ages of Vikas and Raman would be in the ratio = 7 : 6

=>  $\frac{42+x}{35+x} = \frac{7}{6}$

=>  $252 + 6x = 245 + 7x$

=>  $7x - 6x = 252 - 245$

=>  $x = 7$

∴ After 7 years, the ages of Vikas and Raman would be in the ratio of 7 : 6

=> Ans - (B)

**Question 36**

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

**Headstrong**

A Gang

B Head

C Sead

D Strong

Answer: A

**Explanation:**

The word HEADSTRONG contains only one 'G', thus the term **Gang** cannot be formed.

=> Ans - (A)

**Question 37**

In a certain code language, "LATIN" is written as "ODWLQ". How is "ROUTE" written in that code language?

A HWXRU

B URXWH

C HTZAH

D VRVLH

Answer: B

**Explanation:**

"LATIN" is written as "ODWLQ"

The pattern followed is :

L	A	T	I	N
(+3)	(+3)	(+3)	(+3)	(+3)
O	D	W	L	Q

Similarly, for ROUTE :

R	O	U	T	E
(+3)	(+3)	(+3)	(+3)	(+3)
U	R	X	W	H

=> Ans - (B)

**Question 38**

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

$$13 + 8 \times 2 \div 25 - 10 = ?$$

A 46

B 10

C 49

D 19

Answer: B

**Explanation:**

Expression :  $13 + 8 \times 2 \div 25 - 10 = ?$

$$\equiv 13 - 8 + 2 \times 25 \div 10$$

$$= 5 + \frac{50}{10}$$

$$= 5 + 5 = 10$$

=> Ans - (B)

### Question 39

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

$$26 - 2 \times 30 \div 6 + 16 = 20$$

A  $\div$  and  $\times$

B  $-$  and  $+$

C  $\times$  and  $-$

D  $\div$  and  $-$

**Answer:** B

#### Explanation:

Expression :  $26 - 2 \times 30 \div 6 + 16 = 20$

(A) :  $\div$  and  $\times$

$$\begin{aligned} \text{L.H.S.} &= 26 - 2 \div 30 \times 6 + 16 \\ &= 26 - \frac{12}{30} + 16 = 41.6 \neq \text{R.H.S.} \end{aligned}$$

(B) :  $-$  and  $+$

$$\begin{aligned} \text{L.H.S.} &= 26 + 2 \times 30 \div 6 - 16 \\ &= 26 + \frac{60}{6} - 16 = 20 = \text{R.H.S.} \end{aligned}$$

=> Ans - (B)

### Question 40

If  $3!5 = 30$ ,  $6!1 = 12$  and  $5!8 = 80$ , then find the value of  $2!2 = ?$

A 28

B 12

C 8

D 32

**Answer:** C

#### Explanation:

Given :  $3!5 = 30$ ,  $6!1 = 12$  and  $5!8 = 80$

If we replace '!' with ' $\times$ ' and also multiply the final result with '2', then we will get the desired result.

$$\text{Eg :- } 2(3 \times 5) = 30$$

$$\text{and } 2(6 \times 1) = 12 \text{ and } 2(5 \times 8) = 80$$

Similarly,  $2(2 \times 2) = 8$

=> Ans - (C)

#### Question 41

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

XXXXXXY, XXXXXYY, XXXXYYY, XXXYYYY, XYYYYYY, \_\_\_\_\_.

A XXXXXXX

B XXXXXXY

C XYYYYYY

D XXXXXYY

**Answer: C**

#### Explanation:

Expression : XXXXXXY, XXXXXYY, XXXXYYY, XXXYYYY, XYYYYYY, \_\_\_\_\_.

The pattern followed is that each term is a combination 'XY' (7 letters), and the number of X's starting from left are decreasing and also number of Y's starting from right end are increasing one at a time.

Thus, in the missing term, the second term will also be 'Y' = **XYYYYYY**

=> Ans - (C)

#### Question 42

A school bus travels 5 km West, then turns South and travels 7 km, then turns East and travels 5 km, then turns to its left and travels 2 km. Where is it now with respect to the starting position?

A 5 km South

B 9 km South

C 5 km North

D 9 km North

**Answer: A**

### 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: All cards are labels**

**Statement II: No posters are labels**

**Conclusion I: No cards are posters**

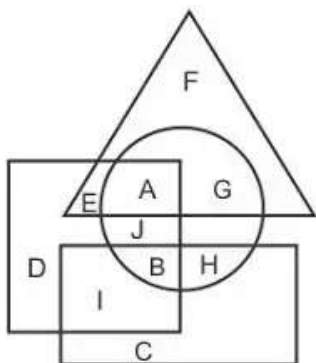
**Conclusion II: Some posters are cards**

- 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 Web designers, circle represents Bloggers, triangle represents Photographers and square represents Cricketers. Which set of letters represents Web designers who are Cricketers?



- A BH
- B IB
- C AG
- D EA

**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.

HRA, GQZ, FPY, EOX, ?

A DNW

B EMX

C EOY

D CMV

Answer: A

#### Explanation:

Series : HRA, GQZ, FPY, EOX, ?

The pattern followed in each letter of the terms is :

1st letter : H (-1 letter) = G (-1 letter) = F (-1 letter) = E (-1 letter) = D

2nd letter : R (-1 letter) = Q (-1 letter) = P (-1 letter) = O (-1 letter) = N

3rd letter : A (-1 letter) = Z (-1 letter) = Y (-1 letter) = X (-1 letter) = W

Thus, missing term = **DNW**

=> Ans - (A)

### Question 46

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

2, 5, 9, 14, 20, ?

A 26

B 27

C 30

D 31

Answer: B

#### Explanation:

Consecutive integers are added.

$$2 + 3 = 5$$

$$5 + 4 = 9$$

$$9 + 5 = 14$$

$$14 + 6 = 20$$

$$20 + 7 = 27$$

=> Ans - (B)

### 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 (3, 12, 14)

B (4, 16, 13)

C (6, 24, 19)

D (5, 20, 16)

Answer: A

### Explanation:

The numbers are of the form :  $(x, 4x, 3x + 1)$

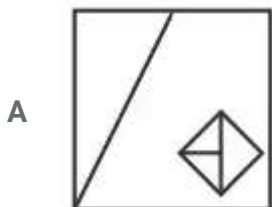
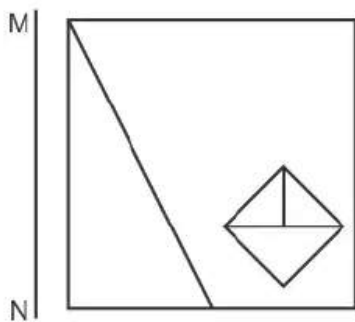
But in the first option, we have =  $3 \times 3 + 1 = 10 \neq 14$

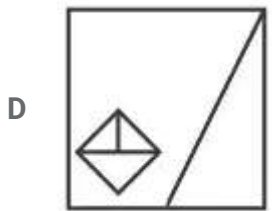
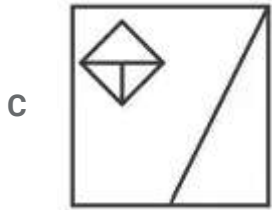
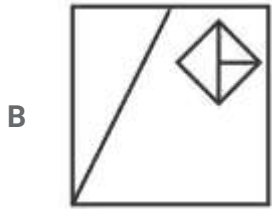
Thus, (3, 12, 14) is the odd one out.

=> Ans - (A)

### 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?

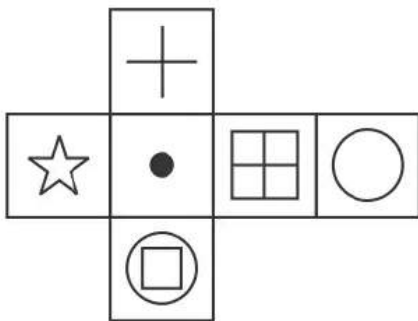


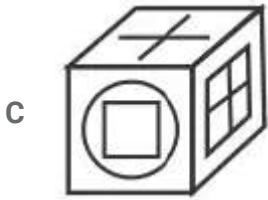


Answer: D

Question 49

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





Answer: C

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 S 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 41, 32 etc and 'Z' can be represented by 57, 98 etc. Similarly, you have to identify the set for the word 'FARM'.

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

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

A 23,69,13,87

B 21,33,89,24

C 20,97,12,65

D 14,79,32,65

Answer: B

Explanation:

(A) : 23,69,13,87 = GVCP

(B) : 21,33,89,24 = **FARM**

(C) : 20,97,12,65 = HXGY

(D) : 14,79,32,65 = MXBM

=> Ans - (B)

# English

## Instructions

For the following questions answer them individually

### Question 51

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'.

I was (a) a pilot (b) here a month ago. (c) No error (d)

A a

B b

C c

D d

Answer: D

### Question 52

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'.

The scientific need for simple, stable and internationally (a) accepted systems for naming objects of the natural world has been (b)generated many formal nomenclatural systems. (c) No error (d)

A a

B b

C c

D d

Answer: B

### Question 53

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.

He was not ready \_\_\_\_\_ the promotion.

- A for
- B in
- C of
- D because

Answer: A

### Question 54

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.

One can understand the importance of faith by \_\_\_\_\_ a world without faith.

- A discovering
- B identifying
- C imagining
- D interpreting

Answer: C

### Question 55

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

**Terse**

- A Brief
- B Prolix
- C Lengthy

**D** Wordy

**Answer:** A

**Question 56**

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

**Poignant**

**A** Emotional

**B** Soothing

**C** Cold

**D** Luxurious

**Answer:** A

**Question 57**

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

**Usurp**

**A** Annex

**B** Displace

**C** Grab

**D** Surrender

**Answer:** D

**Question 58**

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

**Clammy**

**A** Sweaty

**B** Wet

**C** Misty

**D** Dry

**Answer: D**

**Question 59**

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

**During the restoration,**

**P : ancient institutions were to**

**Q : changing but traditional society**

**R : be the corner stones of a**

**A** QPR

**B** PRQ

**C** RQP

**D** PQR

**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.**

**She saw you and her.**

**A** You and she was seen by her.

**B** You and she were seen by her.

**C** You and she seen by her.

**D** You and she see by her.

**Answer: A**

**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.**

**“Run away, children,” said their uncle.**



- A The uncle asked them to run away.
- B The uncle wanted them to run away.
- C Their uncle told the children to run away.
- D Their uncle say run away, children.

**Answer: C**

### 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 Milennium
- B Milenium
- C Millennium
- D Millenium

**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.

Teachers worldwide are stuck in a constant balancing \_\_\_\_\_ between individual liberty and occupational obligations. The Indian teacher is \_\_\_\_\_ stuck in tremendous technological, political and sociocultural changes, which are having \_\_\_\_\_ impact on performance and lifestyle. It goes without saying that teachers in India need to redefine and adjust their \_\_\_\_\_ to develop transformational and humane skills by helping bridge the deep-rooted \_\_\_\_\_ distance between the teacher and the taught.

### Question 63

**constant balancing \_\_\_\_\_ between individual liberty**

- A act
- B acts
- C acting
- D actor

**Answer: A**

**Question 64**

Indian teacher is \_\_\_\_\_ stuck in tremendous technological,

- A also
- B too
- C all
- D very

**Answer: A**

**Question 65**

which are having \_\_\_\_\_ impact on performance

- A a
- B the
- C an
- D one

**Answer: C**

**Question 66**

and adjust their \_\_\_\_\_ to develop transformational

- A think
- B thoughtful
- C thought
- D thinking

**Answer: D**

**Question 67**

the deep-rooted \_\_\_\_\_ distance between the

- A psychology
- B psychological
- C psychologically
- D psychologise

**Answer: B**

### **Instructions**

For the following questions answer them individually

### **Question 68**

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

#### **Choose a soft option**

- A Choose a comfortable place to spend the night.
- B Target the weaker players to win the match.
- C Do the thing that is easiest or least likely to cause trouble in a particular situation.
- D Always choose comfort over hardship.

**Answer: C**

### **Question 69**

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

#### **Achilles' heel**

- A A weakness which turns out to be a strength.
- B A weakness or vulnerable point.
- C A strength which eventually becomes your weakness.
- D The point where you have converted your weakness into your strength.

**Answer: B**

### Question 70

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

**Concern for one's own area or region at the expense of national or supranational unity**

- A Eschew
- B Immolation
- C Cede
- D Provincialism

**Answer: D**

### Question 71

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

**A small piece of burning or glowing coal or wood in a dying fire**

- A Lumber
- B Copse
- C Grove
- D Ember

**Answer: D**

### Question 72

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".

**By now that garden (had been reduced) to an insignificant muddy patch.**

- A has to reduced
- B have been reduced
- C had been reducing
- D no improvement

**Answer: D**

### Question 73

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".

We could not afford (to paying) the entire sum.

- A paid
- B pays
- C to pay
- D no improvement

Answer: C

### 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.

On inquiry at the  
A-that there were several through  
B-railway station we were informed  
C-trains to Dehradun every day

- A BAC
- B ACB
- C ABC
- D CBA

Answer: A

### Question 75

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

- A orientasion
- B oriantasion
- C orientation

D orientation

Answer: D

## General Awareness

### Instructions

For the following questions answer them individually

### Question 76

A growing country is one with \_\_\_\_\_ there.

- A rising GNP at constant prices
- B rising GNP at current prices
- C constant GNP at constant prices
- D No option is correct.

Answer: A

### Question 77

The per capita income in India was ` 20 in 1867-68, was ascertained for the first time by\_\_\_\_\_.

- A MG Ranade
- B Sir W Hunter
- C RC Dutt
- D Dadabhai Naoroji

Answer: D

### Question 78

Which of the following rulers was not related to Sangam State Chear?

- A Nedeon
- B Udayin Jarral

**C** Nedunjaral

**D** Nedum

**Answer: A**

**Question 79**

**Which of the following state was not included in the empire of Akbar?**

**A** Kabul

**B** Awadh

**C** Lahore

**D** Bijapur

**Answer: D**

**Question 80**

**In which month does the Earth's Perihelion position occur?**

**A** June

**B** January

**C** September

**D** March

**Answer: A**

**Question 81**

**The McMahon Line, which sets the boundary between India and China, is drawn to the northern boundary of which of the following states?**

**A** Jammu and Kashmir

**B** Uttar Pradesh

**C** Himachal Pradesh

**D** Arunachal Pradesh

**Answer: D**

**Question 82**

**Who was the Guru of the music maestro Tansen?**

- A Bisaldev
- B Haridas
- C Saint Gyaneshwar
- D Ramanuj

**Answer: B**

**Question 83**

**At which place a joint military exercise named 'SAMPRITI' was held in November 2017 between Bangladesh and India?**

- A Mizoram
- B Madhya Pradesh
- C West Bengal
- D No option is correct.

**Answer: A**

**Question 84**

**Who among the following has been awarded the Arjuna award 2017 for his contribution to hockey?**

- A S.V. Sunil
- B P.A. Rafel
- C Sardar Singh
- D Vikram Negi

**Answer: A**

**Question 85**

**Myanmar is the \_\_\_\_\_ largest country in Southeast Asia.**



- A second
- B third
- C fourth
- D fifth

**Answer: A**

#### **Question 86**

**Which among the following statements are TRUE regarding synthetic fibre?**

- I. They melt after catching fire.**
- II. They are more durable.**
- III. They are prepared by a number of processes using petrochemicals.**

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

**Answer: D**

#### **Question 87**

**Which of the following products can be obtained from coal processing?**

- A Coke
- B Coal tar
- C Coal gas
- D All options are correct.

**Answer: D**

#### **Question 88**

**Under which Article of Indian Constitution a citizen can move to the Supreme Court of India if his Fundamental Rights are breached?**

- A Article 21
- B Article 1
- C Article 32
- D Article 226

**Answer: C**

**Question 89**

**For how much duration members of municipalities are elected?**

- A Two years
- B Three years
- C Five years
- D Six years

**Answer: C**

**Question 90**

**Which is NOT an example of organism that takes in whole food material and breaks it down inside its body?**

- A Mushrooms
- B Fish
- C Snake
- D Lizards

**Answer: A**

**Question 91**

**How many versions of each trait will be there in each child as per the rules for the inheritance of traits?**

- A One
- B Two
- C Three

**D** Four

**Answer: B**

**Question 92**

In July 2017, the Government of India has increased the investment limit per fiscal year of 'Sovereign Gold Bonds Scheme' to \_\_\_\_\_ for individuals.

**A** 5 kg

**B** 4 kg

**C** 6 kg

**D** 10 kg

**Answer: B**

**Question 93**

The first flight of SARAS PT1N, the new upgraded version of indigenous developed transport aircraft SARAS, took off from \_\_\_\_\_.

**A** Hyderabad

**B** New Delhi

**C** Bengaluru

**D** Chennai

**Answer: C**

**Question 94**

In April 2017, the announcement was made to change the Base year for GDP Calculation. The new Base year will be \_\_\_\_\_.

**A** 2011-12

**B** 2015-16

**C** 2017-18

**D** 2016-17

**Answer: C**

**Question 95**

On 10 April 2017, Lok Sabha passed Constitution (123rd Amendment) Bill, 2017. The Bill seeks to insert a new article 342-A which empowers whom to notify the list of socials educationally backward classes of that state/union territory?

- A Prime Minister
- B President
- C Vice President
- D Finance Minister

**Answer: B**

**Question 96**

A body of mass 3 kg accelerates from 10 m/s to 20 m/s in 5 seconds due to the application of a force on it. Calculate the magnitude of this force (in N).

- A 6
- B 18
- C 12
- D 36

**Answer: A**

**Question 97**

The shortest distance measured from the initial to the final position of an object is known as the \_\_\_\_

- A motion
- B direction
- C velocity
- D displacement

**Answer: D**

**Question 98**

The weather reports are prepared by the \_\_\_\_\_ Department of the Government.

- A Ecological
- B Meteorological
- C Economical
- D Topological

**Answer: B**

**Question 99**

Which of the statements given below are correct ?

- A) In 2017, Stephen Curry played for the NBA team Milwaukee Bucks.
- B) Sebastian Vettel won the Formula One 2017 Singapore Grand Prix.
- C) Roger Federer won the Tennis 2017 Miami Open Men's Singles.

- A Only C
- B B and C
- C A and C
- D A, B and C

**Answer: A**

**Question 100**

In Microsoft Word, File, edit, view etc. are provided in \_\_\_\_\_.

- A Standard tool bar
- B Menu bar
- C Formatting toolbar
- D Status bar

**Answer: B**

# SSC CHSL 17 March 2018 Evening Shift

## Quant

### Instructions

For the following questions answer them individually

### Question 1

Find the value of  $[7(64^{\frac{1}{3}} + 27^{\frac{1}{3}})^3]^{\frac{1}{4}}$

A 7

B 6

C 49

D 343

Answer: A

### Explanation:

Expression :  $[7(64^{\frac{1}{3}} + 27^{\frac{1}{3}})^3]^{\frac{1}{4}}$

$$= [7(4^{3 \times \frac{1}{3}} + 3^{3 \times \frac{1}{3}})^3]^{\frac{1}{4}}$$

$$= [7(4 + 3)^3]^{\frac{1}{4}}$$

$$= [7^{3+1}]^{\frac{1}{4}}$$

$$= 7^{4 \times \frac{1}{4}} = 7$$

=> Ans - (A)

### Question 2

Which of the following number is largest among all ?

0.7,  $0.\overline{7}$ ,  $0.0\overline{7}0.\overline{07}$

A  $0.\overline{07}$

B  $0.0\overline{7}$

C 0.7

D  $0.\overline{7}$

Answer: D

### Explanation:

Terms : 0.7,  $0.\overline{7}$ ,  $0.0\overline{7}0.\overline{07}$

We know that  $0.n > 0.0n$ , where  $n$  is any one digit number.

Also,  $0.77 > 0.70$ ,  $\Rightarrow 0.\overline{7} > 0.7$

$\therefore 0.\overline{7}$  is the largest.

$\Rightarrow$  Ans - (D)

### Question 3

If  $a_n = \frac{1}{n+1} + 1$ , then find the value of  $a_1 + a_3 + a_5$

A  $\frac{17}{12}$

B  $\frac{27}{12}$

C  $\frac{37}{12}$

D  $\frac{47}{12}$

**Answer: D**

### Explanation:

Given :  $a_n = \frac{1}{n+1} + 1$

To find :  $a_1 + a_3 + a_5$

$$= \left(\frac{1}{1+1} + 1\right) + \left(\frac{1}{3+1} + 1\right) + \left(\frac{1}{5+1} + 1\right)$$

$$= \left(\frac{1}{2} + 1\right) + \left(\frac{1}{4} + 1\right) + \left(\frac{1}{6} + 1\right)$$

$$= \frac{(6+3+2)}{12} + 3$$

$$= \frac{11}{12} + 3$$

$$= \frac{(11+36)}{12} = \frac{47}{12}$$

$\Rightarrow$  Ans - (D)

### Question 4

If  $p \& q = p^2 + 4pq - q^2$  then find the value of  $(3\&6) + (4\&5)$ .

A 98

B 106

C 116

D 126

**Answer: C**

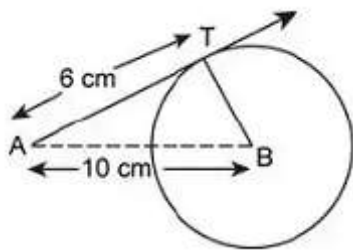
### Explanation:

Given :  $p \& q = p^2 + 4pq - q^2$

To find :  $(3 \times 6) + (4 \times 5)$   
 $= (3^2 + 4 \times 3 \times 6 - 6^2) + (4^2 + 4 \times 4 \times 5 - 5^2)$   
 $= (9 + 72 - 36) + (16 + 80 - 25)$   
 $= 45 + 71 = 116$   
 $\Rightarrow$  Ans - (C)

### Question 5

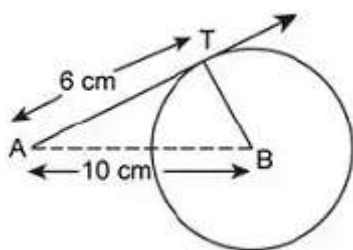
For the circle shown below, find the length (in cm) of the largest cord of the circle.



- A 8
- B 12
- C 16
- D 18

Answer: C

Explanation:



Given : AT is tangent on the circle. AT = 6 cm and AB = 10 cm

To find : Largest chord = Diameter = ?

Solution : In right  $\triangle$  ABT

$$\Rightarrow (BT)^2 = (AB)^2 - (AT)^2$$

$$\Rightarrow (BT)^2 = (10)^2 - (6)^2$$

$$\Rightarrow (BT)^2 = 100 - 36 = 64$$

$$\Rightarrow BT = \sqrt{64} = 8 \text{ cm}$$



$$\therefore \text{Diameter} = 2 \times 8 = 16 \text{ cm}$$

=> Ans - (C)

### Question 6

The base and height of a right angled triangle is 12 cm and 5 cm respectively. Find the circum-radius (in cm) of the triangle.

A 5

B 6

C 6.5

D 7

**Answer: C**

### Explanation:

Length of base and height of triangle = 12 and 5 cm

=> Let length of hypotenuse =  $x$  cm

$$\Rightarrow (x)^2 = (12)^2 + (5)^2$$

$$\Rightarrow (x)^2 = 144 + 25 = 169$$

$$\Rightarrow x = \sqrt{169} = 13 \text{ cm}$$

Also, the circumcentre of a right angled triangle lies on its hypotenuse, thus circumradius =  $\frac{1}{2} \times$  (hypotenuse)

$$= \frac{1}{2} \times 13 = 6.5 \text{ cm}$$

=> Ans - (C)

### Question 7

If the price of sugar is decreased by 18%, then a person can buy 16.2 kg sugar more for Rs 4500. What will be the new price (in Rs) of sugar per kg?

A 40

B 60

C 45

D 50

**Answer: D**

### Explanation:

Let price of sugar = Rs.  $100x$  per kg

$$\text{Sugar bought for Rs. 4500} = \frac{4500}{100x} = \frac{45}{x} \text{ kg}$$

$$\text{New price of sugar} = 100x - \left(\frac{18}{100} \times 100x\right) = Rs. 82x$$

$$\text{Sugar bought for Rs. 4500} = \frac{4500}{82x} \text{ kg}$$

According to ques,

$$\Rightarrow \frac{45}{x} + 16.2 = \frac{4500}{82x}$$

$$\Rightarrow \frac{4500}{82x} - \frac{4500}{100x} = 16.2$$

$$\Rightarrow 4500\left(\frac{1}{82x} - \frac{1}{100x}\right) = 16.2$$

$$\Rightarrow \frac{100x - 82x}{100x \times 82x} = \frac{16.2}{4500}$$

$$\Rightarrow \frac{18}{82x} = \frac{162}{450}$$

$$\Rightarrow x = \frac{18}{82} \times \frac{450}{162}$$

$$\Rightarrow x = \frac{50}{82}$$

$$\therefore \text{New price} = 82 \times \frac{50}{82} = Rs. 50$$

$\Rightarrow$  Ans - (D)

### Question 8

The income of P, Q and R are in the ratio of 5 : 4 : 3 respectively and their expenses are in the ratio of 6 : 5 : 4 respectively. If P saves Rs 4000 out of an income of Rs 10000, then what will be the saving (in Rs) of Q?

A 3000

B 4500

C 2000

D 2500

**Answer:** A

### Explanation:

Income of P = Rs. 10,000 and savings of P = Rs. 4,000

$\Rightarrow$  Expenditure of P = 10000 - 4000 = Rs. 6,000

Ratio of income of P, Q and R = 5 : 4 : 3

$\Rightarrow$  Income of Q =  $\frac{4}{5} \times 10,000 = Rs. 8,000$

Similarly, expenditure of Q =  $\frac{5}{6} \times 6,000 = Rs. 5,000$

$\therefore$  Savings of Q = 8000 - 5000 = Rs. 3,000

$\Rightarrow$  Ans - (A)

### Question 9

X and Y are two alloys which are prepared by mixing zinc and aluminium in the ratio of 1 : 4 and 11 : 8 respectively. If equal quantities of alloys are melted to form a third alloy Z then what is the ratio of zinc and aluminium in alloy Z ?

A 32 : 47

B 37 : 58

C 37 : 95

D 74 : 95

**Answer: B**

#### **Explanation:**

Ratio of zinc and aluminium in alloy X = 1 : 4

Ratio of zinc and aluminium in alloy Y = 11 : 8

Let quantity of both alloys taken = L.C.M. (5,9) = 95 units

=> Zinc in alloy X =  $\frac{1}{(1+4)} \times 95 = 19$  units

Aluminium present in alloy X =  $95 - 19 = 76$  units

Similarly, zinc in alloy Y = 55 units and aluminium = 40 units

∴ Ratio of zinc and aluminium in alloy Z =  $\frac{(19+55)}{(76+40)}$

=  $\frac{74}{116} = \frac{37}{58}$

=> Ans - (B)

### Question 10

What will be the average of all the prime numbers before 19?

A 8.28

B 11.5

C 5.34

D 9.63

**Answer: A**

#### **Explanation:**

Sum of all the prime numbers before 19

=  $2 + 3 + 5 + 7 + 11 + 13 + 17 = 58$

=> Average =  $\frac{58}{7} = 8.28$

=> Ans - (A)

### Question 11

The simple interest on a sum of money is  $\frac{16}{25}$  of the principal. The number of years is equal to the rate of interest per annum. What is the rate (in percentage) of interest per annum?

A 4

B 16

C 8

D 12

**Answer: C**

#### Explanation:

Let sum of money invested = Rs.  $100x$

$$\Rightarrow \text{Simple interest} = \frac{16}{25} \times 100x = \text{Rs. } 64x$$

Let rate of interest = time period =  $x$

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

$$\Rightarrow \frac{100x \times x \times x}{100} = 64x$$

$$\Rightarrow x^2 = 64$$

$$\Rightarrow x = \sqrt{64} = 8\%$$

=> Ans - (C)

### Question 12

If Rajan purchase 21 pens for Rs.20 and sell all the pens at the rate of 20 pens for Rs.21, then what will be the profit percentage?

A 12.5

B 13.33

C 10.25

D 16.66

**Answer: C**

#### Explanation:

Cost price of 21 pens = Rs. 20

=> Cost price of 420 pens = Rs. 400

Similarly, Selling price of 420 pens = Rs. 441

$$\therefore \text{Profit \%} = \frac{(441-400)}{400} \times 100$$

$$= \frac{41}{4} = 10.25\%$$

=> Ans - (C)

### Question 13

**A book is sold at three successive discounts of 20%, 20% and 10%. What is the net discount (in percentage)?**

A 42.4

B 48.6

C 44.2

D 40.4

**Answer: A**

### Explanation:

Let marked price = Rs. 100

$$\text{After 1st discount of 20\%, price} = 100 - \left(\frac{20}{100} \times 100\right)$$

$$= 100 - 20 = 80$$

$$\text{After 2nd discount of 20\% (on changed price), selling price} = 80 - \left(\frac{20}{100} \times 80\right)$$

$$= 80 - 16 = \text{Rs. } 64$$

$$\text{After 3rd discount of 10\%, net selling price} = 64 - \left(\frac{10}{100} \times 64\right)$$

$$= 64 - 6.4 = \text{Rs. } 57.6$$

$$\therefore \text{Net discount} = \frac{(100-57.6)}{100} \times 100 = 42.4\%$$

=> Ans - (A)

### Question 14

**What is the value of  $\sqrt[3]{512} + \sqrt{169} + \sqrt[3]{216} + \sqrt{225}$  ?**

A 48

B 32

C 42

D 36

Answer: C

**Explanation:**

$$\text{Expression : } \sqrt[3]{512} + \sqrt{169} + \sqrt[3]{216} + \sqrt{225}$$

$$= \sqrt[3]{8 \times 8 \times 8} + 13 + \sqrt[3]{6 \times 6 \times 6} + 15$$

$$= 8 + 13 + 6 + 15 = 42$$

=> Ans - (C)

**Question 15**

Rashika can do a work in 5 days. Rashmi can do the same work in 7 days. Both of them finish the work together and they get Rs.240 for the work. What is the share (in Rs) of Rashika?

A 120

B 100

C 140

D 160

Answer: C

**Explanation:**

Time taken by Rashika = 5 days and by Rashmi = 7 days

$$\text{Efficiency} \propto \frac{1}{\text{time}}$$

=> Ratio of efficiency of Rashika and Rashmi = 7 : 5

$$\therefore \text{Share of Rashika} = \frac{7}{(7+5)} \times 240$$

$$= 7 \times 20 = \text{Rs. } 140$$

=> Ans - (C)

**Question 16**

$\frac{1}{3}$  part of a certain journey is covered with the speed of 25 km/hr,  $\frac{1}{2}$  part of the journey is covered with the speed of 45 km/hr and the remaining part covered with the speed of 37.5 km/hr. What is the average speed (in km/hr) for the whole journey?

A 37.08

B 34.61

C 43

D 56

Answer: B

**Explanation:**

Let total distance covered in the journey be =  $6x$  km

Distance covered with the speed of 25 km/hr =  $\frac{1}{3} \times 6x = 2x$  km

Distance covered with the speed of 45 km/hr =  $\frac{1}{2} \times 6x = 3x$  km

Thus, remaining distance covered with speed of 37.5 km/hr =  $6x - (2x + 3x) = x$  km

Now, total time taken throughout the journey =  $(\frac{2x}{25}) + (\frac{3x}{45}) + (\frac{x}{37.5})$

$$= (\frac{6x}{75}) + (\frac{5x}{75}) + (\frac{2x}{75}) = \frac{13x}{75} \text{ hr}$$

∴ Average speed = total distance / total time

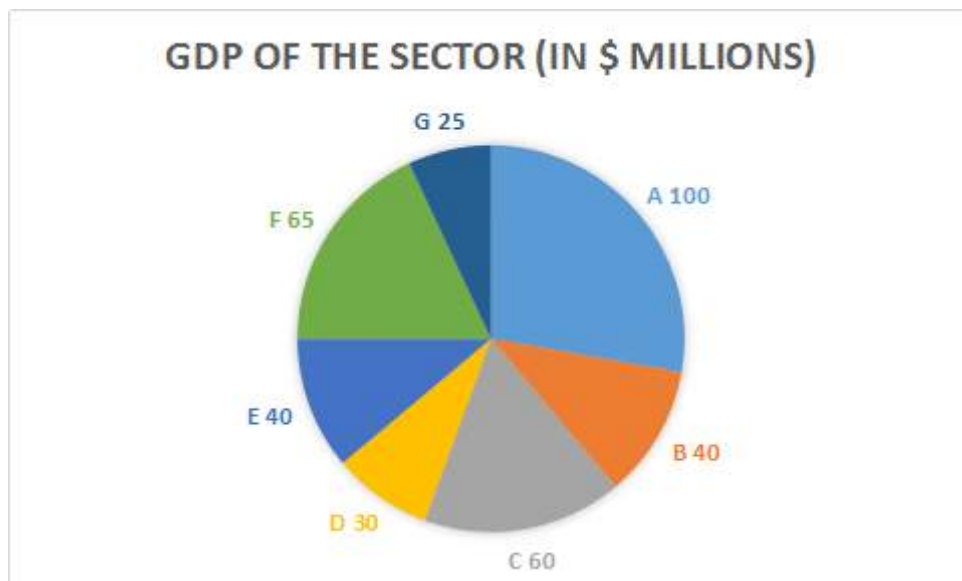
$$= 6x \div \frac{13x}{75}$$

$$= 6x \times \frac{75}{13x} = 34.61 \text{ km/hr}$$

=> Ans - (B)

**Instructions**

The pie chart shows the contribution of all the sectors towards the GDP of the economy of a certain country. Study the diagram and answer the following questions.



**Question 17**

Which sector has made the second highest contribution?

- A A
- B C
- C D
- D F

**Answer: D**

**Explanation:**

Clearly, sector F has made the second highest contribution = \$65 million

=> Ans - (D)

**Question 18**

**What is the total GDP of the country (in \$ millions) ?**

**A** 400

**B** 450

**C** 360

**D** 300

**Answer: C**

**Explanation:**

Total GDP of the country (in \$ millions)

$$= 100 + 40 + 60 + 30 + 40 + 65 + 25$$

$$= 360$$

=> Ans - (C)

**Question 19**

**The measure of the central angle of the sector representing D is \_\_\_\_\_ degrees.**

**A** 30

**B** 36

**C** 45

**D** 60

**Answer: A**

**Explanation:**

Total GDP of the country (in \$ millions)

$$= 100 + 40 + 60 + 30 + 40 + 65 + 25 = 360$$

GDP of sector D (in \$ millions) = 30

$$\Rightarrow \text{Measure of the central angle of the sector representing D} = \frac{30}{360} \times 360^\circ = 30^\circ$$

=> Ans - (A)



### Question 20

If in the following year sectors A, B and C grew by 9% and the remaining sectors grew by 3%, how much did the overall economy grow by?

A 6.33%

B 5.55%

C 5%

D 7%

**Answer: A**

#### Explanation:

Total GDP of the country (in \$ millions)

$$= 100 + 40 + 60 + 30 + 40 + 65 + 25 = 360$$

GDP of sectors A, B and C (in \$ millions) =  $100 + 40 + 60 = 200$

$$\Rightarrow \text{GDP after 9\% growth} = 200 + \left(\frac{9}{100} \times 200\right) = 218$$

Similarly, GDP of sectors D, E, F and G (in \$ millions) =  $30 + 40 + 65 + 25 = 160$

$$\Rightarrow \text{GDP after 3\% growth} = 160 + \left(\frac{3}{100} \times 160\right) = 164.8$$

Overall GDP (in \$ millions) after the growth =  $218 + 164.8 = 382.8$

$$\therefore \% \text{ increase} = \frac{(382.8 - 360)}{360} \times 100$$

$$= \frac{228}{36} = 6.33\%$$

$\Rightarrow$  Ans - (A)

#### Instructions

For the following questions answer them individually

### Question 21

The area of a square is  $30.25\text{cm}^2$ . Find its perimeter (in cm).

A 44

B 23

C 22

D 46

**Answer: C**

**Explanation:**

Let side of square =  $s$  cm

$$\Rightarrow \text{Area} = s^2 = 30.25$$

$$\Rightarrow s = \sqrt{30.25} = 5.5 \text{ cm}$$

$$\therefore \text{Perimeter} = 4 \times 5.5 = 22 \text{ cm}$$

$\Rightarrow$  Ans - (C)

**Question 22**

The circumference of a circle is 110 cm. Find its radius (in cm).

A 35

B 19.5

C 17.5

D 39

**Answer: C**

**Explanation:**

Let radius of circle =  $r$  cm

$$\Rightarrow \text{Circumference} = 2\pi r = 110$$

$$\Rightarrow 2 \times \frac{22}{7} \times r = 110$$

$$\Rightarrow r = 110 \times \frac{7}{44}$$

$$\Rightarrow r = 2.5 \times 7 = 17.5 \text{ cm}$$

$\Rightarrow$  Ans - (C)

**Question 23**

Find the total surface area ( $\text{in cm}^2$ ) of a right circular cylinder of diameter 28 cm and height 12 cm.

A 2200

B 2080

C 1920

D 2288

**Answer: D**

**Explanation:**

Height of cylinder,  $h = 12$  cm and radius,  $r = \frac{28}{2} = 14$  cm

Total surface area of cylinder =  $2\pi r(r + h)$

$$= 2 \times \frac{22}{7} \times 14 \times (14 + 12)$$

$$= 88 \times 26 = 2288 \text{ cm}^2$$

=> Ans - (D)

#### Question 24

What is the value of  $(\cos 30^\circ + \frac{1}{2})$  ?

A  $\frac{(\sqrt{3}+1)}{\sqrt{3}}$

B  $\frac{(\sqrt{2}+1)}{\sqrt{2}}$

C  $\frac{(\sqrt{3}+1)}{2}$

D  $\frac{(2\sqrt{3}+1)}{\sqrt{3}}$

Answer: C

**Explanation:**

Expression :  $(\cos 30^\circ + \frac{1}{2})$

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

$$= \frac{(\sqrt{3}+1)}{2}$$

=> Ans - (C)

#### Question 25

$\triangle DEF$  is right angled at E. If  $\operatorname{cosec} D = \frac{5}{4}$ , then what is the value of  $\operatorname{cosec} F$  ?

A  $\frac{5}{3}$

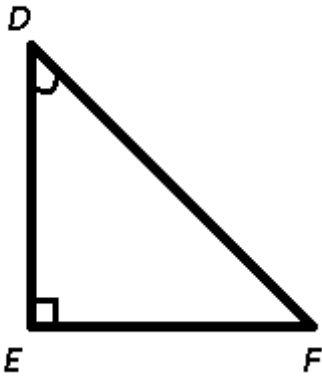
B  $\frac{3}{4}$

C  $\frac{4}{5}$

D  $\frac{4}{3}$

Answer: A

**Explanation:**



Given :  $\operatorname{cosec} D = \frac{5}{4}$

Also,  $\operatorname{cosec} D = \frac{DF}{EF} = \frac{5}{4}$

Let  $DF = 5$  cm and  $EF = 4$  cm

Thus, in  $\triangle DEF$ ,  $\Rightarrow (DE)^2 = (DF)^2 - (EF)^2$

$\Rightarrow (DE)^2 = (5)^2 - (4)^2$

$\Rightarrow (DE)^2 = 25 - 16 = 9$

$\Rightarrow DE = \sqrt{9} = 3$  cm

To find :  $\operatorname{cosec} F = \frac{DF}{DE}$

$= \frac{5}{3}$

$\Rightarrow$  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.

**Police : Criminals :: ? : ?**

- A Sister : Female
- B Teacher : Teach
- C Doctor : Patient
- D Law : Lawyer

**Answer: C**

**Explanation:**

Expression = Police : Criminals :: ? : ?

The first handles second, i.e. police incriminate criminals, while doctors treat patients.

=> Ans - (C)

**Question 27**

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

16 : 21 :: ? : ?

A 14 : 19

B 15 : 23

C 18 : 22

D 21 : 29

**Answer:** A

**Explanation:**

Expression = 16 : 21 :: ? : ?

The difference between the numbers =  $21 - 16 = 5$

Similarly, only the difference between  $19 - 14 = 5$

=> Ans - (A)

**Question 28**

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

ROK : SNL :: PAT : ?

A NYR

B RCV

C QZU

D OZS

**Answer:** C

**Explanation:**

Expression = ROK : SNL :: PAT : ?

The pattern followed is :

R	O	K
(+1)	(-1)	(+1)
S	N	L

Similarly, for PAT : **QZU**

P	A	T
(+1)	(-1)	(+1)
Q	Z	U

=> Ans - (C)

### Question 29

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

- A Cow - Animal
- B Peacock - Bird
- C Planet - Venus
- D Chair - Furniture

**Answer:** C

### Explanation:

In the given pairs, first is one of the type of second, hence **Planet - Venus** (because order is reverse) 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 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 11 - 100
- B 13 - 144
- C 19 - 324
- D 17 - 246

**Answer:** D

**Explanation:**

If we subtract one from the first number and take its square, we get :

$$(11 - 1)^2 = 100$$

$$(13 - 1)^2 = 144$$

$$(19 - 1)^2 = 324$$

$$(17 - 1)^2 = 256 \neq 246$$

=> Ans - (D)

**Question 31**

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

A XYZ

B LMN

C CDF

D RST

**Answer: C**

**Explanation:**

(A) : X (+1 letter) = Y (+1 letter) = Z

(B) : L (+1 letter) = M (+1 letter) = N

(C) : C (+1 letter) = D (+2 letters) = F

(D) : R (+1 letter) = S (+1 letter) = T

=> Ans - (C)

**Question 32**

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

1. Camera

2. Candy

3. Candle

4. Camel

5. Cactus

A Candy

B Cactus

C Camera

D Candle

**Answer: D**

**Explanation:**

As per the order of dictionary :

= Cactus -> Camel -> Camera -> Candle -> Candy

Thus, fourth word = **Candle**

=> Ans - (D)

**Question 33**

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

**15, 7.5, 7.5, ?, 22.5, 56.25**

**A** 10.25

**B** 11.25

**C** 11

**D** 12.5

**Answer: B**

**Explanation:**

The pattern followed is :

$$15 \times 0.5 = 7.5$$

$$7.5 \times 1 = 7.5$$

$$7.5 \times 1.5 = \mathbf{11.25}$$

$$11.25 \times 2 = 22.5$$

$$22.5 \times 2.5 = 56.25$$

=> 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.**

**V, T, Q, M, ?**

**A** K

**B** J



C I

D H

**Answer:** D

**Explanation:**

Series : V, T, Q, M, ?

The pattern followed is :

V (-2 letters) = T (-3 letters) = Q (-4 letters) = M (-5 letters) = H

=> Ans - (D)

**Question 35**

**Present ages of Rahul and his brother are in the ratio of 5 : 3. After 4 years ratio of ages of Rahul's brother and his sister will be 5 : 6. If the present age of his sister is 26 years, then what will be the age (in years) of Rahul 3 years from now?**

A 38

B 35

C 40

D 31

**Answer:** A

**Explanation:**

Rahul's sister's age 4 years from now =  $26 + 4 = 30$  years

Ratio of Rahul's brother and his sister after 4 years = 5 : 6

=> Rahul's brother's age 4 years from now =  $\frac{5}{6} \times 30 = 25$  years

=> Rahul's brother's present age =  $25 - 4 = 21$  years

Ratio of Rahul and his brother's present age = 5 : 3

=> Rahul's present age =  $\frac{5}{3} \times 21 = 35$  years

∴ Rahul's age 3 years from now =  $35 + 3 = 38$  years

=> Ans - (A)

**Question 36**

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

**Responsibility**

- A Ability
- B Pen
- C Nose
- D Possible

**Answer:** A

**Explanation:**

The word RESPONSIBILITY does not contain any 'A', thus the term **Ability** cannot be formed.

=> Ans - (A)

**Question 37**

In a certain code language, "Mayank is happy" is written as "ku tap pi", "happy are make" is written as "tap le fu" and "make is happy" is written as "fu pitap". What is the code for "happy" in that code language?

- A tap
- B fu
- C pi
- D ku

**Answer:** A

**Explanation:**

"Mayank is happy" is written as "ku tap pi"

"happy are make" is written as "tap le fu"

The common word in the above statements is 'happy' and the only common code is = 'tap'

Thus, the code for 'happy' = '**tap**'

=> Ans - (A)

**Question 38**

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

$$8 \div 2 - 25 + 10 \times 3 = ?$$

- A 38
- B 36
- C 10

D 30

Answer: C

**Explanation:**

Expression :  $8 \div 2 - 25 + 10 \times 3 = ?$

$$\equiv 8 + 2 \times 25 \div 10 - 3$$

$$= 8 + \frac{50}{10} - 3$$

$$= 5 + 5 = 10$$

=> Ans - (C)

**Question 39**

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

$$12 + 8 - 25 \div 10 \times 18 = 14$$

A x and -

B + and  $\div$

C - and +

D  $\div$  and -

Answer: A

**Explanation:**

Expression :  $12 + 8 - 25 \div 10 \times 18 = 14$

(A) : x and -

$$\equiv 12 + 8 \times 25 \div 10 - 18 = 14$$

$$\text{L.H.S.} = 12 + \left(\frac{8 \times 25}{10}\right) - 18$$

$$= 12 + 20 - 18 = 14 = \text{R.H.S.}$$

=> Ans - (A)

**Question 40**

If  $2\%1 = 30$ ,  $6\%2 = 80$  and  $2\%5 = 70$ , then find the value of  $4\%1 = ?$

A 100

B 50

C 80

D 30

**Answer: B**

**Explanation:**

Given :  $2\%1 = 30$ ,  $6\%2 = 80$  and  $2\%5 = 70$

If we replace '%' with '+', and multiply the sum by 10, we get the desired result.

Eg :-  $(2 + 1) \times 10 = 30$

and  $(6 + 2) \times 10 = 80$  and  $(2 + 5) \times 10 = 70$

Similarly,  $(4 + 1) \times 10 = 50$

=> Ans - (B)

**Question 41**

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

**QPQPQRQP, QPQPRQP, QPQRQPQP, QPRQPQP, QRPQPQP, \_\_\_\_\_.**

A RQPQPQP

B QPQPQRQP

C QPQPQRQP

D QPQPRQP

**Answer: A**

**Explanation:**

Expression : QPQPQRQP, QPQPRQP, QPQRQPQP, QPRQPQP, QRPQPQP, \_\_\_\_\_.

The above series is a combination of 4 'QP', also there is an 'R' in each term starting from fourth position from right side and shifting one place to the left in each term.

Thus, in the missing term, 'R' will be at first position = **RQPQPQP**

=> Ans - (A)

**Question 42**

**A man leaves from his home for work on his motorcycle. He goes 5 km South, then turn to his left and travels 6 km, then turns South and travels 13 km then turns West and travels 6 km to reach his office. Where is his office with reference to his home?**

A 8 km South

- B 18 km South
- C 13 km North
- D 18 km North

Answer: B

**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 roses are flowers**

**Statement II: Some red are roses**

**Conclusion I: Some flowers are red**

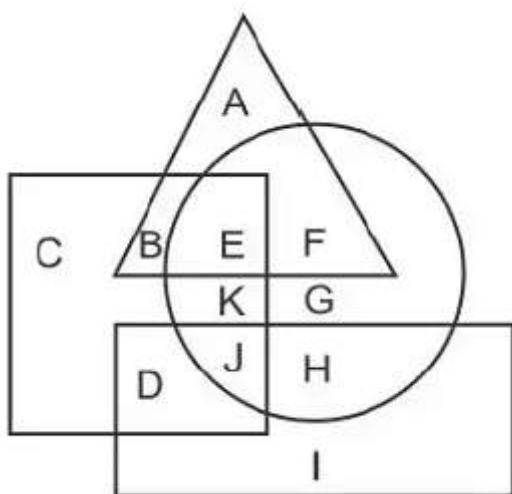
**Conclusion II: All red are flowers**

- 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 Chefs, circle represents Racers, triangle represents Jugglers and square represents Golfers. Which set of letters represents Racers who are not Jugglers?



- A EF
- B KGJH

C EFKG

D EKJ

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.

MTS, LSR, KRQ, JQP, ?

A HPO

B ION

C HON

D IPO

Answer: D

#### Explanation:

Series : MTS, LSR, KRQ, JQP, ?

The pattern followed in each letter of the terms is :

1st letter : M (-1 letter) = L (-1 letter) = K (-1 letter) = J (-1 letter) = I

2nd letter : T (-1 letter) = S (-1 letter) = R (-1 letter) = Q (-1 letter) = P

3rd letter : S (-1 letter) = R (-1 letter) = Q (-1 letter) = P (-1 letter) = O

Thus, missing term = **IPO**

=> Ans - (D)

#### Question 46

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

113, 116, 119, 122, 125, ?

A 128

B 126

C 129

D 130

**Answer: A**

**Explanation:**

'3' is added to all the numbers.

$$113 + 3 = 116$$

$$116 + 3 = 119$$

$$119 + 3 = 122$$

$$122 + 3 = 125$$

$$125 + 3 = \mathbf{128}$$

=> 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 (31, 33, 35)

B (41, 43, 45)

C (43, 45, 47)

D (33, 37, 39)

**Answer: D**

**Explanation:**

The numbers are of the form :  $(x, x + 2, x + 4)$

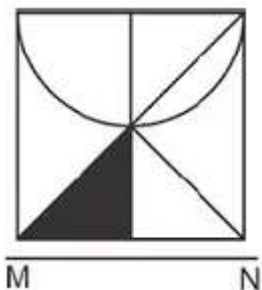
But in the last option, we have =  $33 + 2 = 35 \neq 37$  and  $33 + 4 = 37 \neq 39$

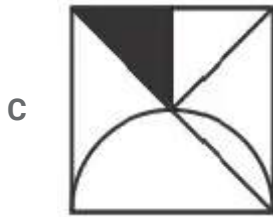
Thus, (33, 37, 39) is the odd one out.

=> 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?

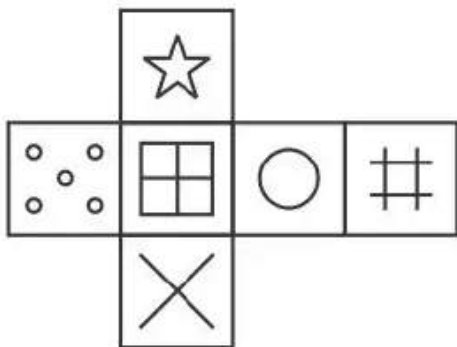




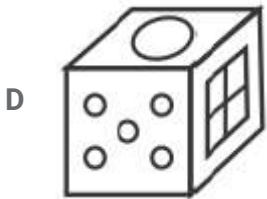
Answer: C

Question 49

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







Answer: D

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 '11' can be represented by 13, 21 etc and T can be represented by 57, 79 etc. Similarly, you have to identify the set for the word 'Glow'.

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

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

A 12,88,41,85

B 41,76,31,79

C 30,14,75,76

D 32,85,33,57

Answer: C

Explanation:

(A) : 12,88,41,85 = FNAQ

(B) : 41,76,31,79 = AWHT

(C) : 30,14,75,76 = GLOW

(D) : 32,85,33,57 = IQMT

=> Ans - (C)

## English

### Instructions

For the following questions answer them individually

### Question 51

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'.

Mark won all of (a) the award for the categories (b) in which he was nominated. (c) No error (d)

A a

B b

C c

D d

Answer: B

### Question 52

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'.

You'll spend most of your time gazing (a) in awe at the Kailash temple, but that (b) isn't a only gem that Ellora has to offer. (c) No error (d)

A a

B b

C c

D d

Answer: C

### Question 53

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.

The lecturer did not see her \_\_\_\_\_.

- A again
- B besides
- C anew
- D nevermore

Answer: A

### Question 54

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.

The power of silence is its ability to mediate the \_\_\_\_\_.

- A excitable
- B irreconcilable
- C excusable
- D fashionable

Answer: B

### Question 55

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

**Insuperable**

- A Weak
- B Insurmountable
- C Beatable

**D** Unstable

**Answer:** B

### Question 56

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

**Volition**

**A** Dependence

**B** Violence

**C** Villainy

**D** Choice

**Answer:** D

### Question 57

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

**Officious**

**A** Busy

**B** Intrusive

**C** Rude

**D** Timid

**Answer:** D

### Question 58

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

**Grandiose**

**A** Noble

**B** Impressive

**C** Moderate

**D** Vast

**Answer: C**

**Question 59**

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

**The art of letter-writing is**

**P : something that every educated person**

**Q : must acquire for practical purposes**

**R : not merely an ornamental accomplishment, but**

**A** PRQ

**B** QRP

**C** RPQ

**D** RQP

**Answer: C**

**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.**

**Shah Jahan built the Red Fort.**

**A** The Red Fort is build by Shah Jahan.

**B** The Red Fort was built by Shah Jahan.

**C** The Red Fort got build by Shah Jahan.

**D** The Red Fort built by Shah Jahan.

**Answer: B**

**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.**

**“Cheer up, father, I’ll go and get work somewhere.” said Jane.**

- A Jane ask her father to cheer up as she will go and get work somewhere.
- B Jane asked her father to cheer up, because she would be gone and got work somewhere.
- C Jane asks her father to cheer up as she would get job.
- D Jane asked her father to cheer up as she would go and get work somewhere.

**Answer: D**

### 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 Immediately
- B Imedately
- C Immiediatley
- D Immedately

**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.

The written word is necessarily confined \_\_\_\_\_ the things of the understanding because only the understanding has written language; whereas art deals \_\_\_\_\_ ideas of a different mental texture, which words can only vaguely \_\_\_\_\_. However, there are a large number of people who, \_\_\_\_\_ they cannot be said to have experienced in a full sense any works of art, have undoubtedly the impelling desire which a little direction may lead on to a fuller \_\_\_\_\_. And it is to such that books on art are useful.

### Question 63

**necessarily confined \_\_\_\_\_ the things of**

- A at
- B to
- C so
- D of

**Answer: B**

**Question 64**

whereas art deals \_\_\_\_\_ ideas of a different

- A if
- B for
- C each
- D with

**Answer: D**

**Question 65**

can only vaguely \_\_\_\_\_. However, there are

- A suggestion
- B suggested
- C suggest
- D suggests

**Answer: C**

**Question 66**

people who, \_\_\_\_\_ they cannot be

- A although
- B then
- C if
- D when

**Answer: A**

**Question 67**

lead on to a fuller \_\_\_\_\_. And it is to such

- A appreciate
- B appreciates
- C appreciation
- D appreciator

**Answer: C**

### **Instructions**

For the following questions answer them individually

### **Question 68**

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

#### **Can't judge a book by its cover**

- A If you love something dearly then you have to protect it.
- B You shouldn't prejudge the value of something, by its outward appearance alone.
- C To make a false opinion without even seeing that person is prejudice.
- D A bad book needs a good cover to make it saleable.

**Answer: B**

### **Question 69**

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

#### **Back seat driver**

- A A passenger who gives unwanted and/or unneeded directions to the driver.
- B A person who gives unwanted advice is sometimes right.
- C When too many people are controlling a project it is bound to fail.
- D A person who acts as a remote control taking orders from others.

**Answer: A**



### Question 70

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

**Causing annoyance or resentment**

- A Congenial
- B Galling
- C Amiable
- D Mellow

**Answer: B**

### Question 71

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

**Recklessly extravagant or wasteful in the use of resources**

- A Profligate
- B Churlish
- C Harpy
- D Hoarder

**Answer: A**

### Question 72

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".

**Winds blowing northwards (has took) our kite to a vertiginous height.**

- A had take
- B had taken
- C had taking
- D no improvement

**Answer: B**

### Question 73

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".

The battle (had been raging) for some time.

- A have been raging
- B have been raged
- C had being raged
- D no improvement

**Answer: D**

### 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.

I was able to sense

A-a mildly supercilious tone, despite his

B-was unnerving

C-warmth and friendliness, and it

- A ABC
- B CBA
- C ACB
- D CAB

**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 svivelling
- B swiveling
- C swivelling

D sviveling

**Answer: C**

## General Awareness

### Instructions

For the following questions answer them individually

### Question 76

**What is poverty gap?**

- A the difference between poverty line and actual income level of all those living below that line
- B gap between developed and developing nations
- C gap between the rich and the poor
- D gap between infrastructural facilities in developed and developing nations

**Answer: A**

### Question 77

**Which Five Year Plan adopted Indicative Planning in India?**

- A Ninth
- B Fourth
- C Third
- D Eighth

**Answer: D**

### Question 78

**Which of the following events is NOT considered for the time being of Viceroy Lord Lytton?**

- A Afghan War
- B Burma war

**C** Arms Act

**D** Press Act

**Answer: B**

**Question 79**

**Which of the following pairs is not correctly matched?**

**A** Munda Rebellion : 1899

**B** Vellore Mutiny: 1806

**C** Santhal Rebellion: 1855

**D** Chuar Rebellion: 1870

**Answer: D**

**Question 80**

**Fausa Magna is a \_\_\_\_\_**

**A** Volcano

**B** V-shaped valley

**C** Rift lowland

**D** Rift Valley

**Answer: C**

**Question 81**

**Where is the Nandi hills located?**

**A** Bihar

**B** Gujarat

**C** Karnataka

**D** Rajasthan

**Answer: C**

**Question 82**

**Who of the following is NOT related to ghazal singing?**

- A Begum Akhtar
- B Malika Pukhraj
- C Penaz Masani
- D Haribhai Varadkar

**Answer: D**

**Question 83**

**At which city the 10th South Asia Economic Summit (SAES) was held in November 2017?**

- A Dhaka
- B Kathmandu
- C Colombo
- D Hyderabad

**Answer: B**

**Question 84**

**Who is the first African-American actor to win the Best Actor Award in a Television Drama in the history of Golden Globe?**

- A Gary Oldman
- B James Franco
- C Aziz Ansari
- D Sterling K. Brown

**Answer: D**

**Question 85**

**Bhutan's national language is known as \_\_\_\_\_.**

- A Dzongkha
- B Khengkha
- C Tshanglakha
- D Lhotshamkha

**Answer: A**

**Question 86**

**Multiplication of equivalent weight and valency of an element is equal to \_\_\_\_\_.**

- A Density
- B Relative temperature
- C Atomic weight
- D Atomicity

**Answer: C**

**Question 87**

**- Plaster of Paris \_\_\_\_\_.**

**I. changes into gypsum on mixing with water**

**II. is  $CaSO_4 \cdot 2H_2O$**

**III. is used for decoration**

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

**Answer: B**

**Question 88**

**In Indian Parliament, under which condition a house can declare the seat of a member vacant?**

- A If member is absent from all meetings of the house for 60 days continuously

- B** If member is absent from all meetings of the house for 45 days continuously
- C** If member is absent from all meetings of the house for 30 days continuously
- D** If member is absent from all meetings of the house for 21 days continuously

**Answer: A**

#### **Question 89**

**There are usually three Parliamentary sessions in India, viz, the Budget session, the Monsoon session and \_\_\_\_\_.**

- A** the Autumn session
- B** the Summer session
- C** the Winter session
- D** None of these

**Answer: C**

#### **Question 90**

**Which of the following is/are the function(s) of bile juice released from the liver?**

- I. Make the food coming from stomach alkaline.**
- II. Conversion of proteins into amino acids.**
- III. Break down of fats into smaller globules.**

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

**Answer: C**

#### **Question 91**

**The wing of a bat and the wing of a bird are the examples of \_\_\_\_\_ limbs.**

- A** Homogenous
- B** Heterogeneous

- C Analogous
- D Homologous

**Answer: C**

**Question 92**

**In August 2017, National Highway Authority of India (NHAI) launched two mobile apps named 'MyFASTag' and '\_\_\_\_\_'.**

- A FASTag Lane
- B FASTag Partner
- C FASTag First
- D FASTag Life

**Answer: B**

**Question 93**

**What is the code name of world's largest amphibious aircraft made by China?**

- A Kunlong
- B Sea Star
- C Libelle
- D Dornier

**Answer: A**

**Question 94**

**As per the announcement by the government in August 2017, Banks importing gold and precious metals will have to pay \_\_\_\_\_ tax under the GST.**

- A 5%
- B 10%
- C 3%
- D 8%



**Answer: C**

**Question 95**

**On 3 January 2018, Lok Sabha passed Ancient Monuments and Archaeological Sites and Remains (Amendment) Bill, 2017. The Bill empowers \_\_\_\_\_ to allow works in a prohibited area.**

- A** State Government
- B** Central Government
- C** Local Panchayat
- D** Municipal Corporation

**Answer: B**

**Question 96**

**Find the work done (in J) when a charge of 20 C moves across a potential difference of 4 V.**

- A** 5
- B** 40
- C** 80
- D** 10

**Answer: C**

**Question 97**

**The magnitude of the gravitational force will be equal to the \_\_\_\_\_.**

- A** product of mass and acceleration due to the gravitational force.
- B** ratio of mass and acceleration due to the gravitational force.
- C** ratio of acceleration due to the gravitational force and mass.
- D** reciprocal of product of mass and acceleration due to the gravitational force.

**Answer: A**

**Question 98**

The power of \_\_\_\_\_ is expressed in terms of a magnitude on a scale called Richter scale.

- A a tornado
- B a volcano
- C an earthquake
- D a thunderstorm

**Answer: C**

**Question 99**

Which of the statements given below are correct?

- A) Valentino Rossi won the Motorcycle race 2017 Dutch TT MotoGP.
- B) Germany hosted the 2017 AIBA World Boxing Championships.
- C) In 2017 Pro Kabaddi League, Surjeet Singh played for Bengal Warriors.

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

**Answer: C**

**Question 100**

The \_\_\_\_\_ has emerged as a convenient means of global communication, information sharing and services.

- A e-books
- B Internet
- C Satellites
- D Public telephone booths

**Answer: B**