

**CMAT**

**Previous Year Paper  
2019**

## Quant

### Instructions

For the following questions answer them individually

### Question 1

How much time does Mr.Surya take to cover a distance of 500 m if he runs at a speed of 25 km/hr?

A 35 sec

B 80 sec

C 60 sec

D 72 sec

Answer: D

### Explanation:

Given Speed of surya = 25 km/hr =  $25 \times \frac{5}{18} = \frac{125}{18}$  m/s.

Time taken(T) = Distance Travelled/ Speed

$$\Rightarrow T = \frac{500}{\frac{125}{18}} = 72 \text{ sec}$$

Hence the time taken by Mr. Surya is '72 sec' or '1.2 min'.

### Question 2

What is the area covered by a bell-shaped curve from  $-6\sigma$  to  $+6\sigma$  in normal distribution?

A 99.73%

B 99.99%

C 99.999666%

D 99.9999%

Answer: C

### Explanation:

As per the empirical rule, approximately 99.7% of the data in a bell-shaped distribution lies within three standard deviations of the mean, or  $\mu \pm 3\sigma$ .  $\mu \pm 6\sigma$  will have approximately 99.99967% of the data. Hence, option C.

### Question 3

The following table lists the marks of seven students(rows) of a class across six subjects(columns). The Numbers in the Parenthesis indicate the maximum marks of the subject concerned. Use the data in the table to answer the question that follows :

	English(150)	Hindi(120)	History(100)	Physics(100)	Maths(100)	Chemistry(100)
Maya	90	50	90	60	70	80
Arya	100	80	88	60	80	70
Riya	90	72	70	72	91	70
Sreya	85	65	80	80	60	60
Roopesh	80	55	85	95	50	90
Chandesh	70	75	65	85	40	61
Hanish	65	35	50	77	80	80

Who is the topper of the class?

- A Maya
- B Arya
- C Roopesh
- D Riya

**Answer: B**

**Explanation:**

The topper of the class is the one who gets highest overall score. Let us check the options, who has got the overall score.

Option A:

The overall score of Maya =  $90 + 50 + 90 + 60 + 70 + 80 = 430$  marks

Option B:

The overall score of Arya =  $100 + 80 + 88 + 60 + 80 + 70 = 478$  marks

Option C:

The overall score of Rupesh =  $80 + 55 + 85 + 95 + 50 + 90 = 455$  marks

Option D:

The overall score of Riya =  $90 + 72 + 70 + 72 + 91 + 70 = 465$  marks  
So, the topper of the class is Arya, with a overall score of 478 marks.

**Question 4**

**Rajesh can check the quality of 1000 items in 5 hours and Rakesh can complete 75% of the same job in 3 hours. How much time is required for both of them to check 1300 items, if Rakesh stops checking after 2 hours ?**

- A 1 hour
- B 2 hours
- C 4 hours
- D 3 hours

**Answer: C**

**Explanation:**

Given, Rajesh can check the quality of 1000 items in 5 hours

⇒ Efficiency of Rajesh = 200 items/hr.

Also given, Rakesh can complete the 75% of same job in 3 hours

⇒ time taken by Rakesh to complete 100% of the job =  $\frac{100}{75} \times 3 = 4$  hours.

⇒ Efficiency of Rakesh = 250 items/hr.

Given in the process of checking 1300 items, Rakesh spends only 2 hours. Let say time spent by Rajesh be 't' hours, which is also the total time taken.

Total Work = Efficiency × time taken

⇒  $1300 = 250 \times 2 + 200 \times t$

⇒  $200t = 800$

⇒  $t = 4$

Hence the time taken in the process of checking 1300 items is 4 hours.

**Question 5**

Two oranges, three bananas and four apples cost Rs. 15. Three oranges, two bananas and one apple cost Rs. 10. I bought 3 oranges, 3 bananas and 3 apples. How much did I pay ?

- A Rs. 10
- B Rs. 8
- C Rs. 15
- D Cannot be determined

**Answer: C**

**Explanation:**

Let the cost of each orange, banana and apple be Rs. 'o', 'b', and 'a' respectively.

Given, Two oranges, three bananas and four apples cost Rs. 15

$$\Rightarrow 2o + 3b + 4a = 15 \dots\dots\dots(1)$$

Also given, Three oranges, two bananas and one apple cost Rs. 10

$$\Rightarrow 3o + 2b + a = 10 \dots\dots\dots(2)$$

Adding (1) and (2), we get,

$$5o + 5b + 5a = 25$$

$$\Rightarrow o + b + a = 5$$

Then the cost of three oranges, three bananas and three apples is given as

$$3o + 3b + 3a = 3 [o + b + a] = 3 \times 5 = \text{Rs. } 15$$

**Question 6**

What value should come in place of question mark(?) in the following equation?

$$360\sqrt{?} + 4500 = 19700 - 9800$$

- A 395
- B 295
- C 225
- D 215

**Answer: C**

**Explanation:**

$$360\sqrt{?} + 4500 = 19700 - 9800$$

$$\Rightarrow 360\sqrt{?} + 4500 = 9900$$

$$\Rightarrow 360\sqrt{?} = 5400$$

$$\Rightarrow \sqrt{?} = 15$$

$$\Rightarrow ? = 15^2$$

$$\Rightarrow ? = 225$$

**Question 7**

In a building there are 30 cylindrical pillars. The radius of each pillar is 35 cm and height is 5 m. Find out the cost of painting the curved surface of half the number of pillars. The rate of painting is Rs. 10 per  $m^2$ .

- A Rs. 16,500
- B Rs. 8250
- C Rs. 1650
- D Rs. 4125

**Answer: C**

**Explanation:**

Curved surface area of cylindrical pillar is given as  $A = 2\pi rh$ , where 'r' is base radius and 'h' is height of the cylinder.

So curved surface area of each pillar  $A = 2 \times \pi \times 0.35 \times 5 = 11m^2$

Given there are 30 cylindrical pillars.

The curved surface area of half the number of pillars =  $15 * A = 165 m^2$ .

Given rate of painting is Rs. 10 per  $m^2$

The cost of painting curved surface of half the number of pillars = Curved surface area \* rate of painting

$$= 165 \times 10$$

$$= \text{Rs. } 1650.$$

**Question 8**

A management institute has 6 senior professors and 4 junior professors, 3 professors are selected at random for a government project. The probability that at least one of the junior professors would get selected is :

- A 2/3
- B 1/5
- C 5/6
- D 1/6

**Answer: C**

**Explanation:**

Probability = Expected number of outcomes/ Total number of outcomes.

Total number of outcomes = The number of ways of selecting 3 professors at random from a total of 10 professors.

$$= {}^{10}C_3 = 120 \text{ ways.}$$

Expected number of outcomes = Selecting 3 professors so that at least one of the junior professor is selected.

The possible cases are,

Case(1): Selecting 1 junior professor out of 4 and Selecting 2 senior professor out of 6 =  ${}^4C_1 * {}^6C_2$ .

Case(2): Selecting 2 junior professor out of 4 and Selecting 1 senior professor out of 6 =  ${}^4C_2 * {}^6C_1$ .

Case (3): Selecting 3 junior professor out of 4 =  ${}^4C_3$ .

So Expected number of outcomes =  ${}^4C_1 * {}^6C_2 + {}^4C_2 * {}^6C_1 + {}^4C_3 = 4 \times 15 + 6 \times 6 + 4 = 100 \text{ ways.}$

$$\text{Probability} = \frac{100}{120} = \frac{5}{6}$$

**Question 9**

The angle created by two hands of a clock when the clock shows 5.20 P.M. is :

- A 40°
- B 60°
- C 35°
- D 30°

**Answer:** D

**Explanation:**

In a clock,

In one revolution the minute hand covers 360°

⇒ 60 minutes = 360°

⇒ 1 minute = 6°.

⇒ for every minute the minute hand covers 6°.

Similarly In one revolution the hour hand covers 12 hours.

⇒ 12 hours = 360°

⇒ 1 hour = 30°.

⇒ for every hour, the hour hand covers 30°.

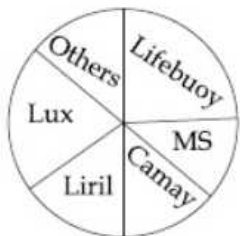
So at 5.20 P.M. the hour hand must have covered  $5 * 30° = 150°$

and minute hand must have covered  $20 * 6° = 120°$ .

So the angle created by two hands of the clock when the time is 5.20 P.M. =  $150 - 120 = 30°$ .

**Question 10**

The total volume of soaps sold is 680 lakhs units. The volume of Lux sold is 136 lakh units. If the percentage of Lifebuoy sold is 30%, Camay 10%, Liril 15% and Mysore Sandal 10%, answer the following questions.



What is the market share of others in percentage points?

- A 15
- B 13.5
- C 16.8
- D 16

**Answer:** A

**Explanation:**

Given, Total volume of soaps sold = 680 lakh units.

Volume of Lux sold = 136 lakh units.

$$\Rightarrow \text{Percentage of Lux sold} = \frac{136}{680} \times 100 = 20\%$$

Also given,

percentage of Lifebuoy sold is 30%,

percentage of Camay 10%,

percentage of Liril 15% and

percentage of Mysore Sandal 10%

From the pie chart

The percentage of Lux + Lifebuoy + Camay + Liril + Mysore Sandal + Others sold = 100%

$$\Rightarrow \text{The market share of others} = 100 - 20 - 30 - 10 - 15 - 10 = 15\%$$

### Question 11

In a triangle ABC, AD is the bisector of angle A. If AC = 4.2 cm, DC = 6 cm, BC = 10 cm, find AB.

A 2.7 cm

B 2.9 cm

C 2.8 cm

D 3.4 cm

**Answer: C**

#### Explanation:

In a triangle, the angular bisector divides the side which it intersects in the ratio of other two sides.

So, In the triangle ABC, the angular bisector AD divides the side BC in the ratio of AB and AC

$$\Rightarrow BD : DC = AB : AC$$

Given BC = 10 cm and DC = 6 cm

$$\Rightarrow BD = BC - DC = 10 - 6 = 4 \text{ cm}$$

$$\text{Then } AB = \frac{BD}{DC} \times AC = \frac{4}{6} \times 4.2 = 2 \times 1.4 = 2.8 \text{ cm}$$

### Question 12

There are 6 tasks and 6 persons. Task 1 cannot be assigned either to person 1 or person 2. Task 2 must be assigned to either person 3 or person 4. Every person is to be assigned one task. In how many ways can the assignment be done ?

A 360

B 192

C 144

D 180

**Answer: C**

#### Explanation:

Based on the given constraints, there will be two cases in which task 1 is either assigned to one among person 3 or 4 or to one among person 5 or 6

Case 1:

Assigning Task 1 to either Person 3 or 4.

No. of ways of assigning task 1 = 2 ways

No. of ways of assigning task 2 = 1 way

Remaining 4 tasks can be assigned among the remaining 4 persons in 4! ways.

Therefore, Total number of ways =  $2 \times 1 \times 4! = 48$

Case 2:

Assigning Task 2 to either Person 5 or 6.

No. of ways of assigning task 1 = 2 ways

No. of ways of assigning task 2 = 2 ways

Remaining 4 tasks can be assigned among the remaining 4 persons in 4! ways.

Therefore, Total number of ways =  $2 \times 2 \times 4! = 96$

Hence, total number of possible arrangements =  $48 + 96 = 144$

### Question 13

The maximum value of  $3 \cos x + 4 \sin x + 8$  is

A 15

B 3

C 13

D 7

Answer: C

#### Explanation:

Let us consider the function  $f(x) = a \cos x + b \sin x + c$

The range of  $f(x)$  is given as  $c - \sqrt{a^2 + b^2} \leq f(x) \leq c + \sqrt{a^2 + b^2}$

Then the maximum value of  $3 \cos x + 4 \sin x + 8$  is  $= 8 + \sqrt{3^2 + 4^2}$   
 $= 8 + 5 = 13$

### Question 14

If one third of one-fourth of a number is 15, then three-tenth of that number is

A 61

B 54

C 46

D 38

Answer: B

#### Explanation:

Let the number be 'x'

one-fourth of the number =  $\frac{1}{4} \times x = \frac{x}{4}$

one-third of one-fourth of the number =  $\frac{1}{3} \times \frac{x}{4} = \frac{x}{12}$



Given, one-third of one-fourth of the number is = 15

$$\Rightarrow \frac{x}{12} = 15$$

$$\Rightarrow x = 180$$

Hence the number is 180.

$$\text{Then three-tenth of the number} = \frac{3}{10} \times x = \frac{3}{10} \times 180 = 54$$

#### Question 15

Students in a commerce class took a test. The average score of men is 70 and of women is 83. The class average is 76. What is the ratio of men to women in the class?

A 8:7

B 7:8

C 7:6

D 6:7

**Answer: C**

#### Explanation:

Let the number of men be 'm' and number of women be 'w' in the class.

Given Average score of men = 70

$$\Rightarrow \text{Total score of men} \div \text{number of men} = 70$$

$$\Rightarrow \text{Total score of men} = 70 \times m$$

Also, Average score of women = 83

$$\Rightarrow \text{Total score of women} \div \text{number of women} = 83$$

$$\Rightarrow \text{Total score of women} = 83 \times w$$

Given the class average = 76

$$\Rightarrow (\text{Total score of men} + \text{Total score of women}) \div (\text{number of men} + \text{number of women}) = 76$$

$$\Rightarrow \frac{70 \times m + 83 \times w}{m + w} = 76$$

Let the ratio of number of men to women  $\frac{m}{w} = k$

$$\Rightarrow 70k + 83 = 76k + 76$$

$$\Rightarrow 6k = 7$$

$$\Rightarrow k = 7 : 6.$$

Hence the ratio of men to women in the class is 7 : 6.

#### Question 16

What is the probability of drawing a king or a heart from a deck of cards ?

A 1/13

B 1/52

C 17/15

D 4/13

**Answer: D**

#### Explanation:

Probability of A or B = Probability of A + Probability of B - Probability of A and B.

⇒ Probability of drawing king or heart = Probability of drawing king + Probability of drawing heart - Probability of drawing kings which are hearts from the deck of cards.

A deck of cards contain 52 cards, of which there are 4 kings and 13 hearts and 1 king which is heart also.

Probability of drawing a king =  $\frac{4}{52}$

Probability of drawing a heart =  $\frac{13}{52}$

Probability of drawing a king which are heart also =  $\frac{1}{52}$

⇒ Probability of drawing king or heart =  $\frac{4}{52} + \frac{13}{52} - \frac{1}{52}$

=  $\frac{16}{52}$

=  $\frac{4}{13}$

### Question 17

The sum of three consecutive odd numbers is 20 more than the first number. What is the middle number ?

A 7

B Data inadequate

C 11

D 9

**Answer:** D

### Explanation:

Let the three consecutive odd numbers be 'x-2', 'x' and 'x+2'

Given the sum of three consecutive odd numbers is 20 more than the first number

⇒  $x-2 + x + x+2 = 20 + x-2$

⇒  $2x = 18$

⇒  $x = 9$

Therefore the three consecutive odd numbers are 7,9 and 11.

The middle number is 9.

### Question 18

In a simultaneous throw of a pair of dice, find the probability of getting a total of 9 or more.

A  $\frac{5}{18}$

B  $\frac{5}{12}$

C  $\frac{2}{7}$

D  $\frac{2}{36}$

**Answer:** A

### Explanation:

When a pair of dice are thrown simultaneously the maximum sum possible is 12.

The possible cases of getting a sum of 9 are:

dice 1	dice 2	
four	five.....	(1)
five	four.....	(2)
six	three.....	(3)
three	six.....	(4)

So a total of 4 cases are possible

The possible cases of getting a sum of 10 are:

dice 1	dice 2	
four	six.....	(1)
six	four.....	(2)
five	five.....	(3)

So a total of 3 cases are possible

The possible cases of getting a sum of 11 are:

dice 1	dice 2	
five	six.....	(1)
six	five.....	(2)

So a total of 2 cases are possible

The possible cases of getting a sum of 12 are:

dice 1	dice 2	
six	six.....	(1)

So a total of 1 case is possible.

Total number ways of getting a sum of 9 or more =  $4 + 3 + 2 + 1 = 10$  ways

Total outcomes when two dice are rolled simultaneously =  $6 * 6 = 36$  ways

Probability of getting a sum of 9 or more = Expected number of outcomes/ Total outcomes

$$= \frac{10}{36}$$

$$= \frac{5}{18}$$

**Question 19**

The length, breadth and height of a rectangular cuboid are in the ratio 1 : 2 : 3. If the length, breadth and height are increased by 100% each then what would be the increase in the volume of the cuboid ?

- A 8 times
- B 7 times
- C 10 times
- D 9 times

**Answer: B**

**Explanation:**

Given the length, breadth and height of a rectangular cuboid are in the ratio 1 : 2 : 3.

Let the length, breadth and height be  $k$ ,  $2k$ , and  $3k$  units where 'k' is a constant.

Volume of the cuboid( $V$ ) =  $l \times b \times h$  units =  $k \times 2k \times 3k = 6k^3$  units

Given the length, breadth and height are increased by 100% each .

Then the new length, breadth and height will be doubled.

So new length, breadth and height of the rectangular cuboid are  $2k$ ,  $4k$ , and  $6k$  units.

New Volume of the cuboid ( $V'$ ) =  $2k \times 4k \times 6k = 48k^3$  units.

Increase in the volume of the cuboid =  $V' - V = 48k^3 - 6k^3 = 42k^3 = 7[6k^3] = 7V$

Therefore the volume has increased 7 times the initial volume.

### Question 20

It costs Rs. 6000/- and Rs. 6,100- respectively to paint the 4 walls of 2 square halls, of the same height. If the length of one hall exceeds the length of the other by 1 m and the cost of painting is Rs. 5 per sq.m., what is the height of the two walls ?

- A 10 m
- B 7.5 m
- C 3 m
- D 5 m

**Answer:** D

#### Explanation:

let the length of the halls be 'a' and 'a+1' m respectively and height of the halls be 'h' m.

Area of 4 walls of first square hall ( $A_1$ ) =  $(4 \times a \times h)m^2$

Given, cost of painting is Rs. 5 per sq.m

$\Rightarrow$  cost of painting 4 walls of the first square hall =  $A_1 * 5 = 4 \times a \times h \times 5 = Rs.20 * a * h$ .

Given that this cost of painting = Rs. 6000

$\Rightarrow 20*a*h = 6000.....(1)$

Similarly,

Area of 4 walls of second square hall ( $A_2$ ) =  $(4 \times a + 1 \times h)m^2$

$\Rightarrow$  cost of painting 4 walls of the second square hall =  $A_2 * 5 = 4 \times a + 1 \times h \times 5 = Rs.20 * (a + 1) * h$ .

Given that this cost of painting = Rs. 6100

$\Rightarrow 20*(a+1)*h = 6100.....(2)$

Dividing (2) with (1), we get

$$\frac{a+1}{a} = \frac{6100}{6000}$$

$$\Rightarrow 1 + \frac{1}{a} = \frac{61}{60}$$

$$\Rightarrow a = 60$$

Substituting this value in equation (1), we get

$$20*60*h = 6000$$

$$\Rightarrow h = 5 \text{ m.}$$

So, the height of the two walls is 5 m.

### Question 21

A rectangular box of width(a), length(b), and height(c) has a solid cylinder of height 'c' and of diameter 'a' placed within it. If  $a= 6$ ,  $b =8$  and  $c =10$ , how much volume is left in the rectangular box ?

- A  $480 - 180\pi$

B  $240 - 96\pi$

C  $380 - 90\pi$

D  $480 - 90\pi$

**Answer:** D

**Explanation:**

Volume left out in the rectangular box = Total volume of the rectangular box - Volume of the cylinder placed within it.

Total volume of the rectangular box of width(a), length(b), and height(c) is given as  $(V) = a \times b \times c$  cubic units.

$$= 6 \times 8 \times 10$$

$$= 480 \text{ cubic units.}$$

Volume of the solid cylinder of height 'c' and of diameter 'a' is given by  $(V) = \frac{\pi}{4} * a^2 * c$  cubic units.

$$= \frac{\pi}{4} * 6^2 * 10$$

$$= 90\pi \text{ cubic units.}$$

Therefore left out volume =  $480 - 90\pi$  cubic units.

**Question 22**

If  $f(x) = x^3 - 4x + p$  and  $f(0)$  and  $f(1)$  are of opposite signs, Which one of the following is necessarily true?

A  $-1 < p < 2$

B  $0 < p < 3$

C  $-2 < p < 1$

D  $-3 < p < 0$

**Answer:** B

**Explanation:**

Given  $f(x) = x^3 - 4x + p$  and  $f(0)$  and  $f(1)$  are of opposite signs.

$$\Rightarrow f(0) \times f(1) < 0$$

$$f(0) = 0^3 - 4 * 0 + p = p$$

$$f(1) = 1^3 - 4 * 1 + p = p - 3$$

$$\Rightarrow (p)(p - 3) < 0$$

$$\Rightarrow 0 < p < 3.$$

**Question 23**

The speed of a boat in still water is 5 km/hr. If it takes thrice as much time in going 20 km upstream as in going the same distance downstream, find the speed of the stream.

A 5.5 km/hr

B 2.5 km/hr

C 3.5 km/hr

D 4.5 km/hr

**Answer:** B

**Explanation:**

Given, speed of a boat in still water ( $V$ ) = 5 km/hr

Let speed of the stream be  $V'$  km/hr.

time taken to go 20km downstream ( $t$ ) = distance travelled  $\div$  relative speed of the boat

$$= \frac{20}{V+V'}$$

$$= \frac{20}{5+V'} \text{ hours}$$

time taken to go 20 km upstream ( $t'$ ) = distance travelled  $\div$  relative speed of the boat

$$= \frac{20}{V-V'}$$

$$= \frac{20}{5-V'} \text{ hours}$$

Given that  $t' = 3t$

$$\Rightarrow \frac{20}{5-V'} = 3 \times \frac{20}{5+V'}$$

$$\Rightarrow 4V' = 10$$

$$\Rightarrow V' = 2.5 \text{ km/hr.}$$

So the speed of the stream is 2.5 km/hr.

**Question 24**

Three solid cubes of sides 1 cm, 6 cm and 8 cm are melted to form a new cube. Find the surface area of the cube so formed.

A  $729 \text{ cm}^2$

B  $486 \text{ cm}^2$

C  $125 \text{ cm}^2$

D  $529 \text{ cm}^2$

**Answer:** B

**Explanation:**

Whenever some cubes are melted to form a single larger cube, the total volume always remains constant.

So, Sum of the volumes of three small cubes = Volume of the larger cube.

Let the side of the larger cube so formed be 'a' cm.

$$\text{Then } 1^3 + 6^3 + 8^3 = a^3$$

$$\Rightarrow a^3 = 729$$

$$\Rightarrow a = 9 \text{ cm.}$$

$$\text{Surface area of cube so formed} = 6a^2 = 6 \times 9^2 = 6 \times 81 = 486 \text{ cm}^2$$

**Question 25**

The speeds of 3 cars in the ratio 5:4 : 6. The ratio between the time taken by them to travel same distance is

A 12:15:10

B 12:10:13

C 10:20:30

D 15:12:11

**Answer:** A

**Explanation:**

Speed = Distance travelled ÷ time taken

So, for the same distance travelled, Speed is inversely proportional to time taken.

$$Speed \propto \frac{1}{time\ taken}$$

Given ratio of speeds of three cars is 5 : 4 : 6.

$$\begin{aligned} \text{So, ratio of the time taken to travel same distance is } & \frac{1}{5} : \frac{1}{4} : \frac{1}{6} \\ & = 12 : 15 : 10 \end{aligned}$$

## Reasoning

**Instructions**

For the following questions answer them individually

**Question 26**

In the following question a statement is given followed by two arguments choose the correct option.

**Statement :** Should the political parties be banned

**Argument I :** Yes, It is necessary to teach a lesson to the politicians

**Argument II :** No, it will lead to an end of democracy

- A Both the arguments are strong
- B Only II is strong
- C Neither I, nor II is strong
- D Only I is strong

**Answer:** B

**Explanation:**

The given statement indicates a question about the ban of political parties, the first argument is weak as there is no context about teaching the lesson to the political parties.

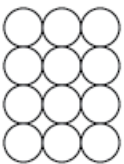
But the second argument is strong, because if the parties are banned, it will definitely lead to an end of democracy.

Hence, only II is strong.

=> Ans - (B)

**Question 27**

In the given figure, if the centres of all the circles are joined by horizontal and vertical lines, then find the number of squares that can be formed.



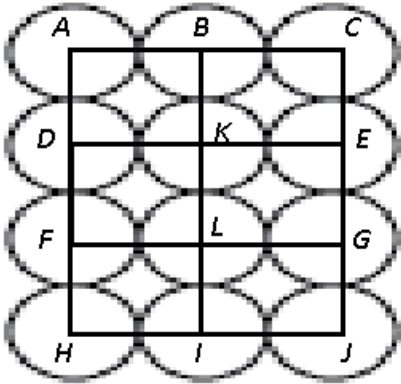
- A 1
- B 7

C 8

D 6

Answer: C

Explanation:



Small squares = 6 (ABKD, BCEK, DKLF, KEGL, FLIH, LGJI)

Big squares = 2 (ACGF, DEJH)

Total squares = 8

=> Ans - (C)

#### Question 28

In analogy, you are required to guess the function relation between the two given words and find the similar relation between the words given in any of the option.

CUP : LIP :: BIRD : .....

A GRASS

B BUSH

C BEAK

D FOREST

Answer: C

Explanation:

Cup is used to drink something with the help of lips. Similarly birds collect grass with the help of beak to make her nest.

=> Ans - (C)

#### Question 29

Direction : In the following question a statement is given followed by two conclusions. Choose the correct option.

Statement : Any student who follows unethical practices in examination disqualifies himself from examinations Conclusion :

I. Those who involve in unethical practices in examination shall be debarred

II. Examination system should be improved

A Only Conclusion (I) follows

B Both Conclusion (I) and (II) follow

C Neither Conclusion (I) or (II) follows

D Only Conclusion (II) follows

Answer: A



**Explanation:**

The given statement indicates that if any student is found to use unfair or unethical means in an exam will be disqualified, hence the first conclusion follows since it also debar the student from using unfair means in the exam. But second conclusion does not follow since there is no context about the examination system.

Thus, only conclusion I follows.

=> Ans - (A)

**Question 30**

There are four Trees - Lemon, Coconut, Mango and Neem each at a different corner of a rectangular plot. A well is located at one corner and a cabin at another corner. Lemon and Coconut trees are on either side of the gate, which is located at the centre of side, opposite to the side, extremes of which the well and cabin are located. The mango tree is not at the corner where the cabin is located. Which of the following pairs can be diagonally opposite to each other in the plot ?

- A Cabin and Neem tree
- B Coconut tree and Lemon tree
- C Mango tree and Well
- D Neem tree and Lemon tree

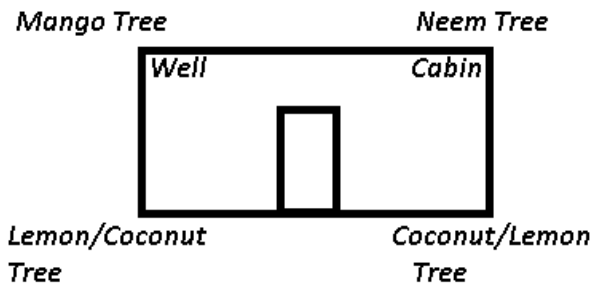
**Answer: D**

**Explanation:**

A well is located at one corner and a cabin at another corner opposite to the gate.

Lemon and Coconut trees are on either side of the gate

The mango tree is not at the corner where the cabin is located, => Mango Tree and Well are at the same corners, also Neem Tree and Cabin are at same corners



Thus, only possible combination at diagonally opposite ends is Neem Tree and Lemon Tree.

=> Ans - (D)

**Question 31**

If JAPAN is coded KCSES, then the code of CASTLE will be

- A DIJOB T
- B DJKRDP
- C DCVXQK
- D DKMSGR

**Answer: C**

**Explanation:**

JAPAN is coded KCSES

J	A	P	A	N
(+1)	(+2)	(+3)	(+4)	(+5)
K	C	S	E	S

Similarly, for Castle :

C	A	S	T	L	E
(+1)	(+2)	(+3)	(+4)	(+5)	(+6)
D	C	V	X	Q	K

=> Ans - (C)

### Question 32

In the following question below, 3 statements I, II and III are given. You are required to find out which of the given statement(s) is/are sufficient to answer the question.

How old was Deepa on 30<sup>th</sup> October 2018 ?

I. Deepa is 6 yrs older than her sister Prabha

II. Prabha is 29 yrs younger than her mother

III. Deepa's mother celebrated her 45<sup>th</sup> birthday on July 27<sup>th</sup> 2018

A I and III

B All I, II and III

C I and II

D II and III

**Answer: B**

### Explanation:

Clearly, each statement alone is not sufficient to find Deepa's age as on 30th October 2018.

Now, if we combine last two statement, we can find Prabha's age and if we add it to first statement, then we can also find Deepa's age.

Thus, all the three statements are required.

=> Ans - (B)

### Question 33

Find the missing number in the series below :

24, 28, 30, 34, .....

A 40

B 38

C 35

D 36

**Answer: D**

### Explanation:

The pattern followed is that '4' and '2' are alternatively added.

$$24 + 4 = 28$$

$$28 + 2 = 30$$

$$30 + 4 = 34$$

$$34 + 2 = 36$$

=> Ans - (D)

**Question 34**

**which word does not belong with the others?**

A Vision

B Retina

C Cornea

D Pupil

**Answer: A**

**Explanation:**

Retina, cornea and pupil are parts of a human eye, while vision is a functionality of an eye, hence it does not belong with others.

=> Ans - (A)

**Question 35**

**which word does not belong with the others?**

A Violin

B Flute

C Cello

D Guitar

**Answer: B**

**Explanation:**

Though all are musical instruments, but violin, cello and guitar are played with hands while a flute is used with mouth hence it is the odd one.

=> Ans - (B)

**Question 36**

**For the Assertion A and Reason R given below choose the correct alternative from the following**

**A : Copper is used to make electric wire**

**R : Copper has very low electric resistance**

A A is true, R is false

B A is false, R is true

C Both A and R are true and R is not the correct explanation of A

D Both A and R are true and R is the correct explanation of A

**Answer: D**

**Explanation:**

It is a known fact that Copper has a very low electric resistance, and that's why it is used to make electric wires.

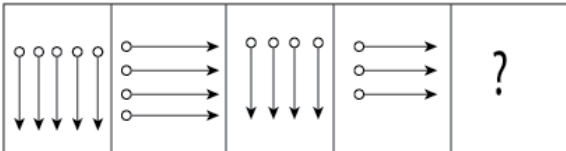
Thus, R is the correct explanation of A.

=> Ans - (D)

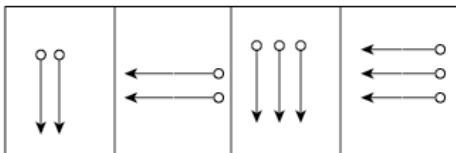
**Question 37**

In the following question, a group of four figures following certain sequence is given as problem figures. Problem figures are followed by another group of four figures known as answer figures marked (1), (2), (3), (4). Find out the figure from the answer figures which when placed next to the problem figures will continue the sequence of the problem figures.

**Problem figure:**



**Answer figure:**



- A (3)
- B (4)
- C (2)
- D (1)

**Answer: A**

**Explanation:**

Alternatively, the arrows are facing downwards, and towards the right. Also, it gets decrease by 1 in each alternate figure. Thus, in the fifth figure, there will be 3 arrows facing downwards as shown in 3rd figure.

=> Ans - (A)

**Question 38**

Vasishta started walking positioning his back towards the sun. After sometime, Vasishta turned left, the turned right, and then towards left again. Which is the direction Vasishta is going now ?

- A South or West
- B North or West
- C East or West
- D North or South

**Answer: D**

**Question 39**

The missing term in the series 2,1, 1/2,1/4, is

- A 1/3
- B 1/8
- C 2/8
- D 1/16

**Answer: B**

**Explanation:**

The numbers are of the form  $2^n$  where  $n$  is in decreasing order starting from 1.

$$2^1 = 2$$

$$2^0 = 1$$

$$2^{-1} = \frac{1}{2}$$

$$2^{-2} = \frac{1}{4}$$

$$2^{-3} = \frac{1}{8}$$

=> Ans - (B)

**Question 40**

Pointing at Ankit, Shruti said, "his father is the only son of my grandfather." How is Ankit related to Shruti?

- A Sister
- B Daughter
- C Mother
- D Brother

**Answer: D**

**Explanation:**

Only son of her grandfather = Shruti's father

Now, Ankit's father is also Shruti's father, => Ankit is Shruti's brother.

=> Ans - (D)

**Question 41**

Find the odd one out of given combinations :

- A TUWY
- B GHJM
- C ABDF
- D NOQS

**Answer: B**

**Explanation:**

$$(A) : T (+1) = U (+2) = W (+2) = Y$$

$$(B) : G (+1) = H (+2) = J (+3) = M$$

$$(C) : A (+1) = B (+2) = D (+2) = F$$

(D) :  $N (+1) = O (+2) = Q (+2) = S$

=> Ans - (B)

#### Question 42

In the following question, the main statement is followed by four sentences. Select the pair of sentences that relate logically to the given statement. Either the employees have no confidence in the management or they are hostile by nature.

- A. They are hostile by nature
- B. They are not hostile by nature
- C. They have confidence in the management
- D. They have no confidence in the management

A DA

B BD

C CB

D BA

Answer: C

#### Explanation:

If the employees have confidence in the management, it follows that they are hostile.

=> Ans - (C)

#### Question 43

In some way 123 means "he is talented", 3456 means "talented people earn more", 45678 means "people earn more to enjoy". Then what is equal to "earn" ?

A 4

B 6

C 7

D 5

Answer: D

#### Explanation:

From the first and 2nd clue, we can see the words and letters appear in the same order. Hence "earn" =5

#### Question 44

If X is the brother of Y and P, Z is the mother of Y and Q is the father of X, which one of the following statement is not definitely true ?

A Y is the brother of P

B Z is the wife of Q

C X is the father of P

D X is the son of Z

Answer: C

#### Explanation:

X(m), Y and P are siblings.

Z is their mother and Q is father, => Z is wife of Q.

Hence, second and fourth are definitely true. First can be true if Y is a male.

But third option can never be true, since X is brother of P.

=> Ans - (C)

#### Question 45

Read the following information carefully to answer the questions given below it.

(a) 'A +B' means that 'A' is the father of 'B'

(b) 'A – B' means that 'A' is the wife of 'B'

(c) 'A x B' means that 'A' is the brother of 'B'

(d) 'A =B' means that 'A' is the daughter of 'B'

If it is given 'P = R + S + Q', then which of the following is true ?

A Q is the aunt of P

B P is the aunt of Q

C P is the Dauter of Q

D P is the Mother of Q

**Answer:** B

#### Explanation:

R is the father of S, S is the father Q,

which implies R is the grand father of Q

P is the daughter of R

Thus P is the aunt of Q

#### Question 46

Choose the necessary for the given word

"Swimming"

A Lifejacket

B Suit

C Pool

D Water

**Answer:** D

#### Explanation:

Swimming is the practice that is done only in water, hence water is absolute necessary to perform swimming.

=> Ans - (D)

#### Question 47

In analogy, you are required to guess the relation between the two given words and fill in the blank after finding the similar relationship by choosing any word from the options given below:

Hen :Chick :: Frog : .....

A Tadpole

- B Fawn
- C Puppy
- D Kitten

**Answer:** A

**Explanation:**

The little one of a hen is called chick, similarly amphibian of a frog is called tadpole.

=> Ans - (A)

**Question 48**

Akshay and Ajay are friends studying in same class. Ajay could not score as much marks as Akshay scored and hence Ajay's father took Ajay into task. Ajay replied that there are so many like me in the class. Based on the information findout the answer to the question : Akshay ranks 13th in the class where 33 students are studying. There are 5 students below Ajay rankwise. How many students are there between Akshay and Ajay?

- A 12
- B 16
- C 14
- D 15

**Answer:** C

**Explanation:**

Total students = 33

Akshay's rank in the class = 13th

Ajay's rank (5 students below him) = 28th

Number of students between them =  $(28 - 13) - 1 = 14$

=> Ans - (C)

**Question 49**

In a certain code RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?

- A 318826
- B 618826
- C 312688
- D 318286

**Answer:** A

**Explanation:**

Code for each letter is given as :

- P -> 3
- I -> 1
- L -> 8
- L -> 8
- E -> 2



R -> 6

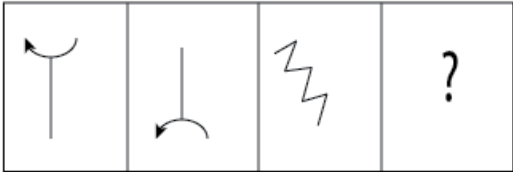
=> PILLER : 318826

=> Ans - (A)

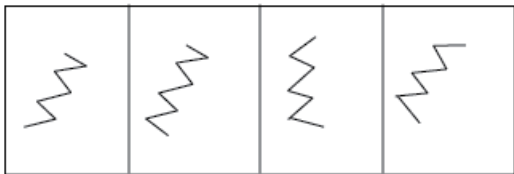
**Question 50**

Select the suitable figure from the answer figures that would replace the question mark?

**Problem figure:**



**Answer figure:**



(A) (B) (C) (D)

A A

B D

C C

D B

**Answer: A**

**Explanation:**

In the problem figure, the second image is mirror image of first when horizontal mirror is placed, similarly the first option is the correct mirror image of the question figure.

In the second figure, number of lines are not equal, and the fourth image is the mirror replica when vertical mirror is placed.

=> Ans - (A)

## English

**Instructions**

Read the following passage and answer the question that follows :

An endangered language is one that is likely to become extinct in the near future. Many languages are falling out of use and being replaced by others that are more widely used in the region or nation, such as English in the U.S. or Spanish in Mexico. Unless current trends are reversed, these endangered languages will become extinct within the next century. Many other languages are no longer being learned by new generations of children or by new adult speakers ; these languages will become extinct when their last speaker dies. Infact, dozens of languages today have only one native speaker still living, and that person's death will mean the extinction of the language : It will no longer be spoken, or known, by anyone. Ancient Greek and Latin languages are considered dead because they are no longer spoken in the form in which we find them in ancient writings. But they weren't abruptly replaced by other languages ; instead, Ancient Greek slowly evolved into modem Greek, and Latin slowly evolved into modem Italian, Spanish, French, Romanian, and other languages. In the same way, the Middle English of Chauceis day is no longer spoken, but it has evolved into Modern English

**Question 51**

**"These languages will become extinct ...."**

**In the above sentence "these" refers to :**

- A Middle English
- B Other languages
- C Endangered languages
- D Spanish in Mexico

**Answer: C**

**Question 52**

**Spanish language evolved out of**

- A English
- B Greek
- C French
- D Latin

**Answer: D**

**Question 53**

**What is endangered language ?**

- A The language that is spoken by many people
- B A language that is most likely to die in the near future
- C The language that is not spoken by anyone at all
- D A language that is most likely to expand in the near future

**Answer: B**

**Instructions**

Read the following passage and answer the question that follows.

There are no World Trade Organisation (WTO) definitions of "developed" and "developing" countries. Members announce for themselves whether they are "developed" or "developing" countries. However, other members can challenge the decision of a member to make use of provisions available to developing countries. Developing country status in the WTO brings certain rights. There are for example provisions in some WTO Agreements which provide developing countries with longer transaction periods before they are required to fully implement the agreement and developing countries can receive technical assistance. That a WTO member announces itself as a developing country does not automatically mean that it will benefit from the unilateral preference schemes of some of the developed country members such as the Generalized System of Preferences (GSP). In practice, it is the preference giving country which decides the list of developing countries.

**Question 54**

**Who can change the decision of a country to make use of provisions available to developing countries ?**

- A Any neighbouring country

- B Any member country of WTO
- C The World Trade Organization
- D The preference giving country

**Answer: B**

#### Question 55

**Who decides whether one country is developing or developed ?**

- A The neighbouring countries
- B The preference giving country
- C The World Trade Organization
- D The country itself

**Answer: D**

#### Question 56

**Why would a country like to announce itself as a developing country ?**

- A So that it gets some relaxation of time in implementation WTO agreements
- B So that it need implement WTO agreements
- C So that it can become member of WTO
- D So that it can become the preference giving country

**Answer: A**

#### Instructions

Read the following passage and answer the question that follows.

When a child is born, her first connection to the world is established through her mother, or in a broader sense, her parents. An infant sees the world through her parent's eyes ; she tries to imbibe everything she recognises in her parents. Thus, a parent-child relationship lays the foundation of the 'building of her life'. Parenting is the bringing up of a child. It is like the nourishment that is necessary for a sapling to grow into a big and fruitful tree. Hence, for a child to grow into a wonderful human being, good parenting is essential. Parenting styles vary from culture to culture. The world is a big place comprising of a variety of people having different ways of living. Although culture is the key ingredient, the economic situation and standard of living also have an impact on parenting. While there are a common set of values in different cultures like honesty and integrity, the value system stands divided on some of the major facets of parenting, exemplified by the comparison of the Indian style with that of the West.

#### Question 57

**Parenting here is compared to :**

- A Maintaining a relationship
- B Maintaining a vehicle
- C Nourishing a plant
- D Looking after a pet

**Answer: C**

**Question 58**

**Which of the following is a major differentiator on some of the major facets of parenting ?**

- A Value system
- B Love
- C Honesty
- D integrity

**Answer: A**

**Question 59**

**Parenting is basically :**

- A Culture independent
- B Common across all cultures
- C Culture dependent
- D Country independent

**Answer: C**

**Instructions**

Read the following passage and answer the question that follows.

Steve Jobs was an enigma. He was quirky. I would like to share a few little known facts about the man who pretty much changed the world with one small technological device. Steve Jobs liked to work bare foot (even while in corporate environments and during million dollar negotiations). He was vegan and often went on diets where he would only eat orange things. He was a Zen Buddhist and extensively travelled India during his youth. He was such a perfectionist that there was a period when he had no furniture in his house at all, because he could not decide what to buy. He used to read his favourite book of all time, every single year 'Autobiography of a yogi, by Paramhansa Yogananda. This man was not afraid to be himself. "Remembering that I'll be dead soon, is the most important tool, I've ever encountered to help me make the big choices in life. Almost everything ... all external expectations, all pride, all fear of embarrassment or failure ... these things just fall away in the face of death, leaving only what is truly important" Jobs, used to say "Remembering that you are going to die is the best way I know to avoid the trap of thinking you have something to lose. You are already naked. There is no reason, not to follow your heart. No one wants to die. Even people who want to go to heaven, do not want to die to get there. And yet, death is the destination, we all share. No one has ever escaped it, and that is how it should be, because death is very likely the single best invention of life. It is life's change agent It clears out the old to make way for the new."

**Question 60**

**"Remembering that you are going to die, is the best way I know ...." I in this line is:**

- A The author of the article
- B Steve Jobs
- C Any manager
- D The narrator in the article

**Answer: B**

**Question 61**

**In the passage which one of the following is not true ?**

- A Look for death
- B Death is the destination
- C Death is the single best invention
- D No one escapes the death

**Answer: A**

**Question 62**

**Steve Jobs believed in**

- A Altruism
- B Normatism
- C Materialism
- D Perfectionism

**Answer: D**

**Question 63**

**Which of the following statement is false ? Steve Jobs had no furniture at his house because :**

- A He wanted to buy the perfect furniture
- B He had no money
- C He was a perfectionist
- D He could not decide what to buy

**Answer: B**

**Question 64**

**The passage is written in :**

- A Third person narrative
- B Multiple person narrative
- C First person narrative
- D Second person narrative

**Answer: C**

**Explanation:**

From the statement mentioned by the author 'I would like to share a few little known facts about the man who pretty much changed the world with one small technological device', we can say that the paragraph is in first-person narrative.

**Question 65**

**This passage tells us :**

- A Some not very well known facts.
- B Steve Job's business management skills
- C Steve Job's life story
- D Very well known facts about Steve Jobs.

**Answer: A**

**Instructions**

For the following questions answer them individually

**Question 66**

**Select the grammatically correct sentence from the following Statements :**

- A Although he failed in that Mathematics, but he received a degree in Engineering.
- B Although he had failed in Mathematics, he received a degree in Engineering.
- C Although that he failed in Mathematics, but he received a degree in Engineering.
- D Although he had failed in Mathematics, that he received a degree in Engineering.

**Answer: B**

**Question 67**

**The following are jumbled up parts of a sentence. Rearrange them in a proper sequence :**

**P : did he realize**

**Q : helped by a man**

**R : that he had been**

**S : he never respected S**

- A PRQS
- B QRPS
- C SRQP
- D PQRS

**Answer: A**

**Question 68**

**In the following sentence, what does the underlined phrase mean ? A good teacher is one who sees to it that a student does not waste time in reinventing the wheel?**

- A waste time on unnecessary details
- B repeating oneself
- C waste time in imaginary things



C B

D C

**Answer: D**

**Question 73**

**Choose the correct word that is opposite in meaning to the word :**

**PACIFY**

A Aggravate

B Discourage

C Slow down

D Encourage

**Answer: A**

**Question 74**

**Choose the closest meaning of the proverb/idiom :**

**To leave someone in the lurch.**

A To help someone in difficulties

B To respect someone

C To leave someone to his/her fate

D To make someone comfortable

**Answer: C**

**Question 75**

**A prima facie case is :**

A As it seems at first sight

B As it turns out to be at the end

C As it seems to the court after a number of hearings

D As it is made to seem at first sight

**Answer: A**

## **General Awareness**

**Instructions**

For the following questions answer them individually



**Question 76**

**The New institution that is now playing the role akin to erst while planning commission of India is:**

- A Swacch Bharath Mission
- B Strategic Policy Group
- C NITI Aayog
- D National Security Council

**Answer: C**

**Question 77**

**The major nation that announced the withdrawal from Paris climate change accord in 2017 was:**

- A Spain
- B United States of America
- C Germany
- D Srilanka

**Answer: B**

**Question 78**

**Which of the following is not mode of online money transfer in India through online banking ?**

- A IFSC
- B NEFT
- C IMPS
- D RTGS

**Answer: A**

**Question 79**

**The foundation of modern education system in India was laid by**

- A Macaulay's Minutes of 1835
- B The Hunter Commission of 1882
- C The Charter Act of 1813
- D Wood's Despatch of 1854

**Answer: A**

**Question 80**

**Who among the following heads GST council in India ?**

- A The Trade Minister
- B The Finance Minister
- C The Prime Minister
- D The Commerce Minister

**Answer: B**

**Question 81**

**For which novel did Indian novelist Aravind Adiga win the prestigious Man Booker Prize?**

- A The Inheritance of Loss
- B The God of Small Things
- C The White Tiger
- D Midnight's Children

**Answer: C**

**Question 82**

**The responsibilities of establishing and maintaining astound and efficient Accounting and Financial Reporting system in India is vested in the hands of:**

- A Finance Ministry
- B NITI AYOOG
- C The Comptroller General of Accounts
- D RBI

**Answer: C**

**Question 83**

**Consider the following statements regarding ocean currents.**

- 1. The heat fishing grounds of the world exist mainly in the mixing zones of warm and cold ocean current**
- 2. Gravity is one of factor influencing ocean currents Identify the correct statements :**

- A 1 only
- B Both 1 and 2 are correct
- C 2only
- D Both 1 and 2 are incorrect

**Answer: B**

**Question 84**

The term 'double fault' is associated with:

- A Rugby
- B Long jump
- C Squash
- D Tennis

**Answer: D**

**Question 85**

Which one of the following is credit rating agencies in india?

- A MIX
- B CARE
- C SEBI
- D BARC

**Answer: B**

**Question 86**

The first indian I.T company to reach 100 billion dollar market capitalization is :

- A Wipro
- B TCS
- C Cognizant
- D Infosys

**Answer: B**

**Question 87**

Who among the following is not conferred Bharath Ratna ?

- A Nelson Mandela
- B Sachin Tendulkar
- C Atal Bihari Vajpayee
- D Kapil Dev

**Answer: D**

**Question 88**

Which one of the following waves/rays are used in common T.V. Remote control ?

- A Ultrasonic
- B Infrared
- C Laser
- D Radio waves

**Answer: B**

**Question 89**

**Which of the following countries is not a member of SAARAC?**

- A Afghanistan
- B Bhutan
- C Maldives
- D myanmar

**Answer: D**

**Question 90**

**Who among the following is not associated with billiard in india?**

- A Subash Agarwal
- B Mihir sen
- C Ashok Shadilya
- D Manoj Kothari

**Answer: B**

**Question 91**

**The train accident that killed 61 people watching Dussera Celebrations in 2018 happened at which place :**

- A Chennai
- B Amritsar
- C Bangalore
- D Patiala

**Answer: B**

**Question 92**

**The Chabahar port being developed by India to gain access to Central Asia is located in which of the following countries ?**

- A Iraq
- B Iran
- C Oman
- D Saudi Arabia

**Answer: B**

**Question 93**

**The Person behind a wonderful concept 'Van Mahotsav':**

- A K.M. Munshi
- B A.K. Munshi
- C K.M. Upadhaya
- D A.K. Simba

**Answer: A**

**Question 94**

**Consider the following statements regarding HEATING AND COOLING OF ATMOSPHERE:**

1. Convection is important in heating the lower layers of the atmosphere.
2. The convection transfer of energy is confined only to the troposphere.
3. 'loo' is the outcome of advection process.

**Identify the correct statements :**

- A All 1,2 and 3 are correct
- B 2 and 3 only
- C All 1,2 and 3 are incorrect
- D 1 and 2 only

**Answer: B**

**Question 95**

**India and which country have agreed to undertake the Indus Water Treaty talks in the Indus basin on both sides to resolve issues on the various hydroelectric projects ?**

- A China
- B Pakistan
- C Bangladesh
- D Afghanistan

**Answer: B**

**Question 96**

**Where is the world's highest altitude Post office located?**

- A New Hampshire
- B Port Lockroy
- C Bern
- D Sikkim

Answer: D

**Question 97**

**What is the full form of NPCI?**

- A Nano Center for Political Integration
- B National Payments Corporation of India
- C National Public Control of India
- D National Council Process Interaction

Answer: B

**Question 98**

**Debenture holders of a company are its :**

- A Share holders
- B Directors
- C Creditors
- D Debtors

Answer: C

**Question 99**

**The CRR in banking parlance means the following :**

- A Corporate Reserve Ratio
- B Current Reserve Ratio
- C Cash Reserve Ratio
- D Custom Reserve Ratio

Answer: C

**Question 100**

**Which country has secured member one spot in the latest FIFA's world rankings released on 25<sup>th</sup>, Oct, 2018 ?**

- A Brazil
- B Belgium
- C France