



SSC CHSL 17th March 2020 Shift-1

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English Language (Basic Knowledge)

Instructions

For the following questions answer them individually

Question 1

Select the most appropriate ANTONYM of the given word.

EXTENSIVE

- A Elaborate
- B Intricate
- C Lengthy
- D Intensive

Answer: D

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Question 2

Select the most appropriate synonym of the given word.

TRUST (n)

- A Welfare
- B Safety
- C Belief
- D Ability

Answer: C

Question 3

Select the word with the incorrect spelling.

- A Quantity
- B Quarrell
- C Argument
- D Aisle

Answer: B

Question 4

Select the most appropriate option to fill in the blank.

Several environmentalists from the city conducted a meet to discuss issues related to the _____ pollution levels created by the growing number of pharmaceutical companies.

- A rise in
- B raising of

C rising from

D raise in

Answer: A

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Instructions

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

One of the most fascinating archaeological sites in Maharashtra, the Ellora Caves, date back (1)_____ about 1,500 years ago, and (2)_____ the epitome of Indian rock-cut architecture. (3)_____ 34 caves are actually Buddhist, Hindu and Jain religious monuments (4)_____ in the rock. They were given the (5)_____ of World Heritage Site in 1983. Created between the 6th and 10th century, the 12 Buddhist, 17 Hindu and 5 Jain caves carved in proximity at Ellora are proof of the religious harmony prevalent during this period of Indian history.

Question 5

Select the most appropriate option to fill in blank No.1.

A to

B for

C at

D in

Answer: A

Question 6

Select the most appropriate option to fill in blank No.2.

A were

B are

C be

D is

Answer: B

Question 7

Select the most appropriate option to fill in blank No.3.

A The

B Many

C An

D Few

Answer: A

Question 8

Select the most appropriate option to fill in blank No.4.

- A carved
- B created
- C constructed
- D erected

Answer: A

Question 9

Select the most appropriate option to fill in blank No.5.

- A role
- B symbol
- C status
- D function

Answer: C

Instructions

For the following questions answer them individually

Question 10

Select the word which means the same as the group of words given.

Close fitting cover for a sword or knife

- A Guard
- B Sheath
- C Screen
- D Shield

Answer: B

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Question 11

Select the most appropriate meaning of the underlined idiom.

Hats off to someone

- A Make new hats for
- B Congratulations to
- C Give hats to
- D Announce a prize for

Answer: B

Question 12

Select the wrongly spelt word.

- A Expedition
- B Extempore
- C Extinct
- D Experiment

Answer: A

Question 13

Select the segment in the sentence, which contains the grammatical error.

They had to wait for the luggages to be put into the cab before they themselves got into it.

- A They had to wait
- B before they themselves got into it
- C to be put into the cab
- D for the luggages

Answer: D

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Question 14

Select the alternative that will improve the underlined part of the sentence. In case there is no improvement select 'No improvement'.

I had no informations about the bank strike so I went there yesterday.

- A no information about
- B no informations concerning
- C No improvement
- D not got informations about

Answer: A

Question 15

Select the option that is the passive form of the sentence.

The sub-committee is presenting its report in a week's time.

- A The report of the sub-committee is presenting in a week's time.
- B The report of the sub-committee had been presented in a week's time.
- C The report of the sub-committee is being presented in a week's time.
- D The report of the sub-committee has been presented in a week's time.

Answer: C

Question 16

Select the segment in the sentence, which contains the grammatical error.

Did you know whether we can exchange the dress if my sister doesn't like it?

- A doesn't like it
- B we can exchange the dress
- C Did you know whether
- D if my sister

Answer: C

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Question 17

Select the most appropriate meaning of the underlined idiom in the given sentence.

A lot of work has gone on behind the scenes for the special event which is being planned next week.

- A In the theatre
- B Unknown to everyone
- C For spreading the news
- D To complete the arrangements

Answer: B

Question 18

Select the alternative that will improve the underlined part of the sentence. In case there is no improvement select 'No improvement'.

Harry and Meghan have decided to work and become financially independent.

- A No improvement
- B have decide to work and become
- C has decided to work and become
- D have decided to work and became

Answer: A

Question 19

Select the most appropriate ANTONYM of the given word.

ABBREVIATE

- A Challenge
- B Dispute
- C Expand

D Oppose

Answer: C

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Question 20

Given below are four jumbled sentences. Select the option that gives their correct order.

- A. "It is mine. I saw it first," claimed one cat.
- B. Suddenly they spotted a loaf of bread lying beneath a tree.
- C. Once upon a time, two cats were passing through a street.
- D. Both pounced upon it and caught the loaf at the same time.

A ADBC

B BADC

C DBCA

D CBDA

Answer: D

Question 21

Given below are four jumbled sentences. Select the option that gives their correct order.

- A. Ibn Al-Haitham wrote a book in seven volumes namely 'Kitāb al-Manāẓir' also known as 'The Book of Optics.'
- B. However, during the medieval period, the notable work of an Arab writer and scientist, Ibn Al-Haitham revolutionised the concept of physics.
- C. During the ancient period, the development of Physics took place simultaneously with the development of astronomy.
- D. In this book, Ibn Al-Haitham disproved the ancient Greek concept of vision and introduced a new theory.

A CBAD

B BCDA

C ADBC

D ACBD

Answer: A

Question 22

Select the most appropriate synonym of the given word.

ALLURING

A Attractive

B Cheating

C Deceitful

D Distracting

Answer: A

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Question 23

Select the most appropriate option to fill in the blank.

Astronomy enthusiasts and sky gazers will be able to watch six eclipses in 2020, but only three of them are expected to be _____ in India.

- A evident
- B exposed
- C revealed
- D visible

Answer: D

Question 24

Select the option that is the direct form of the sentence.

The doctor advised Jaya to put the eye drops into her eyes four times a day from the next day.

- A The doctor advised Jaya, "From tomorrow put the eye drops into her eyes four times a day."
- B The doctor advises Jaya, "From the next day put the eye drops into your eyes four times a day."
- C The doctor advised Jaya, "From tomorrow put the eye drops into your eyes four times a day."
- D The doctor had advised Jaya, "From the next day you put the eye drops into your eyes four times a day."

Answer: C

Question 25

Select the word which means the same as the group of words given.

A large natural or artificial lake used as a source of water supply

- A Pond
- B Creek
- C Reservoir
- D Pool

Answer: C

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General Intelligence

Instructions

For the following questions answer them individually

Question 26

Select the option that is related to the third word in the same way as the second word is related to the first word.

Farmer : Field :: Artist : ?

- A Theatre

- B Hero
- C Actor
- D Action

Answer: A

Explanation:

Farmer's hard work will be known in the field. In the similar way, Artist's hard work will be known in the theatre.

∴ Theatre is related to Artist in the same way Field is related to Farmer

Hence, the correct answer is Option A

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Question 27

Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

- All woods are roots.
- All fruits are roots.
- No woods are a fruit.

Conclusion:

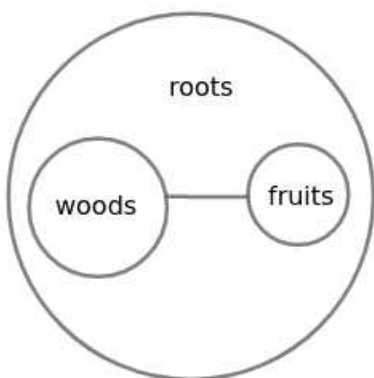
- (I) Some roots are fruits.
- (II) All roots are woods.

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

Answer: C

Explanation:

The basic diagram for the given statements is



(I) Some roots are fruits

From the basic diagram, some roots are fruits. Hence conclusion I follows.

(II) All roots are woods

From the basic diagram, all roots are not woods. Hence conclusion II do not follow.

∴ Only conclusion I follows the given statements

Hence, the correct answer is Option C

Question 28

Of the four given equations, the first three are solved on the basis of a certain system. Find the correct answer for the unsolved fourth equation on the same basis.

$$6 * 5 = 91$$

$$8 * 7 = 169$$

$$10 * 7 = 211$$

$$22 * 5 = ?$$

A 993

B 331

C 845

D 678

Answer: B

Explanation:

$$6 * 5 = 91 \rightarrow (6 \times 5) \times 3 + 1 = 30 \times 3 + 1 = 91$$

$$8 * 7 = 169 \rightarrow (8 \times 7) \times 3 + 1 = 56 \times 3 + 1 = 169$$

$$10 * 7 = 211 \rightarrow (10 \times 7) \times 3 + 1 = 70 \times 3 + 1 = 211$$

Similarly,

$$22 * 5 = (22 \times 5) \times 3 + 1 = 110 \times 3 + 1 = 331$$

Hence, the correct answer is Option B

Question 29

Select the number that can replace the question mark (?) in the following pattern.

10 17 8

5 3 15

6 14 ?

42 68 92

A 23

B 25

C 46

D 10

Answer: A

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Question 30

Select the letter that can replace the question mark (?) in the following series.

A, C, E, D, C, E, G, F, ?

A E

B D

C H

D C

Answer: A

Explanation:

Given series is a alternate series with the two series are A, E, C, G, ... and C, D, E, F, ...

In series A, E, C, G,

$$A + 4 = E$$

$$E - 2 = C$$

$$C + 4 = G$$

Similarly, the next term = $G - 2 = E$

∴ The next term of the given series is E

Hence, the correct answer is Option A

Question 31

Select the option that does NOT belong to the given series:

EC, H, HF, N, KI, U

A HF

B EC

C N

D U

Answer: D

Explanation:

The logic here is

$$E + C = 5 + 3 = 8 = H$$

$$H + F = 8 + 6 = 14 = N$$

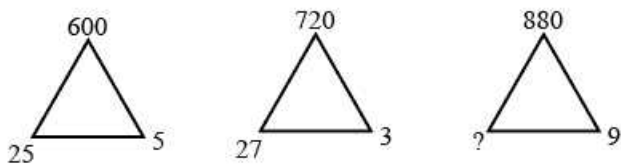
$$K + I = 11 + 9 = 20 = T$$

∴ U does not belong to the given series

Hence, the correct answer is Option D

Question 32

Select the number that can replace the question mark (?) in the following pattern.



A 23

B 21

C 31

D 17

Answer: C

Explanation:

The logic here is

$$25^2 - 5^2 = 625 - 25 = 600$$

$$27^2 - 3^2 = 729 - 9 = 720$$

The top number is the difference of square of bottom left number and bottom right number.

Let the required number = a

Similarly, $a^2 - 9^2 = 880$

$$\Rightarrow a^2 - 81 = 880$$

$$\Rightarrow a^2 = 961$$

$$\Rightarrow a = 31$$

∴ Required number = 31

Hence, the correct answer is Option C

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Question 33

In a certain code language, RUMMY is written as QVLNX. How is CHESS written in that code?

- A BIFRT
- B BGDTR
- C BGFTR
- D BIDTR

Answer: D

Explanation:

Given, RUMMY is written as QVLNX in the code language

The logic here is

18	21	13	13	25
R	U	M	M	Y
-1	+1	-1	+1	-1
Q	V	L	N	X
17	22	12	14	24

Similarly,

3	8	5	19	19
C	H	E	S	S
-1	+1	-1	+1	-1
B	I	D	T	R
2	9	4	20	18

∴ CHESS is written as BIDTR in code language

Hence, the correct answer is Option D

Question 34

Choose the correct cluster of letters to complete the given series.

_bac_ac_acb__ba

- A c, a, b, b, c
- B a, b, b, a, c
- C a, c, c, b, b
- D c, b, b, a, c

Answer: D

Explanation:

By Trial and Error method,

Option A

cba | caa | cba | cbb | cba

The above letters do not form a series. Hence option A is incorrect.

Option B

aba | cba | cba | cba | cba

The above letters do not form a series. Hence option B is incorrect.

Option C

aba | cca | cca | cbb | bba

The above letters do not form a series. Hence option C is incorrect.

Option D

cba | cba | cba | cba | cba

The above letters form a series.

Hence, the correct answer is Option D

Question 35

Four words have been given, out of which three are alike in some manner and one is different. Select the odd one.

- A Chirp
- B Caw
- C Foal

D Howl

Answer: C

Explanation:

Chirp, Caw, Howl are different kind of sounds whereas Foal is a young horse.

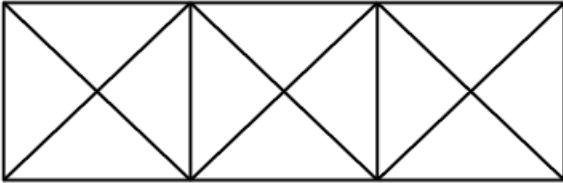
∴ Foal is the odd one among the given words

Hence, the correct answer is Option C

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Question 36

Find the number of triangles in the given figure.



A 18

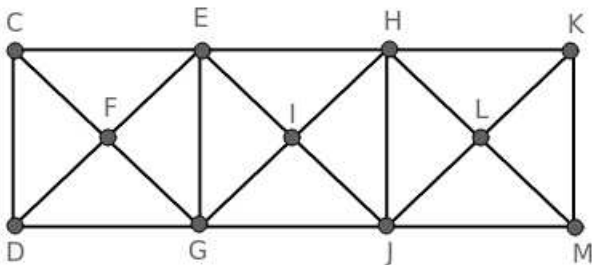
B 46

C 24

D 28

Answer: D

Explanation:



The different triangles in the given figure are CFE, EFG, GFD, DFC, EIH, HIJ, JIG, GIE, HLK, KLM, MLJ, JLH, CDG, CEG, ECD, EGD, EGJ, EHJ, HEG, HJG, HJM, HKM, KHJ, KMJ, CGH, EJK, DEJ, GHM

∴ Number of triangles in the given figure = 28

Hence, the correct answer is Option D

Question 37

Select the option that is related to the third number in the same way as the second number is related to the first number.

27 : 125 :: 343 : ?

A 1000

B 1343

C 729

D 512

Answer: C

Explanation:

$$27 : 125 \rightarrow 3^3 : (3+2)^3$$

$$343 : ? \rightarrow 7^3 : ?$$

Similarly, the required number = $(7+2)^3 = 9^3 = 729$

Hence, the correct answer is Option C

Question 38

Select the option that is related to the third term in the same way as the second term is related to the first term.

CAG : GEK :: HEL : ?

- A LIP
- B LEP
- C GAC
- D INP

Answer: A

Explanation:

The logic here is

$$C + 4 = G$$

$$A + 4 = E$$

$$G + 4 = K$$

Similarly,

$$H + 4 = L$$

$$E + 4 = I$$

$$L + 4 = P$$

∴ LIP is related to HEL in the same way GEK is related to CAG

Hence, the correct answer is Option A

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Question 39

Four numbers have been given, out of which three are alike in some manner and one is different. Select the one that is different.

- A 144
- B 256
- C 676
- D 81

Answer: D

Explanation:

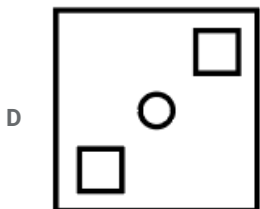
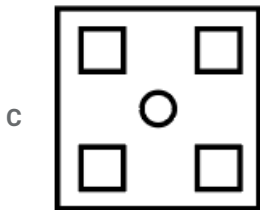
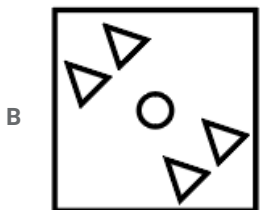
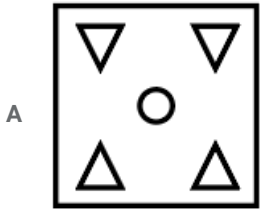
144, 256, 676 are even numbers where as 81 is a odd number.

∴ 81 is the odd one among the given numbers

Hence, the correct answer is Option D

Question 40

The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



Answer: C

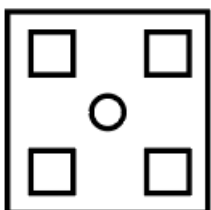
Explanation:

When the paper is unfolded, the pattern of cutting will be similar in the four similar parts.

When the paper is unfolded first, two squares will appear at the bottom of the paper.

When the paper is unfolded again, two squares will appear at the top of the paper and the sector which is cut will form a circle at the centre.

∴ When the paper is unfolded it appears as shown below



Hence, the correct answer is Option C

Question 41

If 683 is coded as FOX, 654 is FIN, 4581 is NIOC, then what will be the code of 654513?

- A FIXICN
- B FNINXC
- C FINICX
- D FINNCX

Answer: C

Explanation:

Given, 683 is coded as FOX, 654 is FIN, 4581 is NIOC

Here each number is coded with different letters respectively.

F = 6

O = 8

X = 3

I = 5

N = 4

C = 1

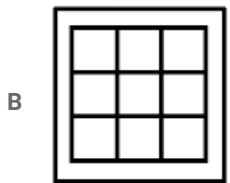
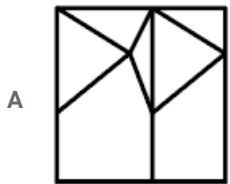
∴ 654513 is coded as FINICX

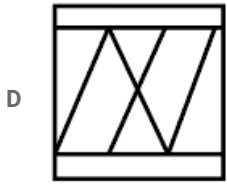
Hence, the correct answer is Option C

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Question 42

Select the option in which the given figure is embedded. (Rotation is not allowed)

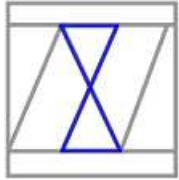




Answer: D

Explanation:

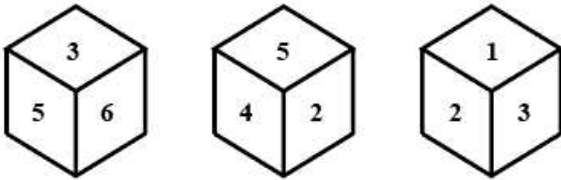
The given figure is embedded in figure 4 as shown below



Hence, the correct answer is Option D

Question 43

Three different positions of the same dice are shown. Select the number that will be on the face opposite to the one having 5.



- A 1
- B 4
- C 6
- D 3

Answer: A

Explanation:

From the first position of dice, 5 is not opposite to 3 and 6

From the second position of dice, 5 is not opposite to 2 and 4

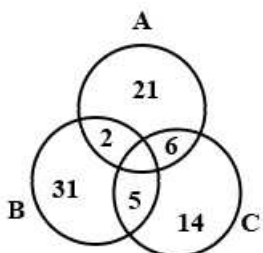
\Rightarrow 5 is opposite to the remaining number 1

\therefore 1 will be on the face opposite to the one having 5

Hence, the correct answer is Option A

Question 44

In the given Venn diagram, A denotes mangoes, B denotes bananas, C denotes apples, and the numbers in each section represent the number of persons who like those fruits. How many persons like only bananas?



- A 38
- B 7
- C 31
- D 33

Answer: C

Explanation:

From the Venn diagram,

Persons who like only bananas = Only B without intersection of A and C = 31

Hence, the correct answer is Option C

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Question 45

Select the number that can replace the question mark (?) in the following series.

213, 217, 233, 269, ?

- A 296
- B 333
- C 428
- D 312

Answer: B

Explanation:

$$217 - 213 = 4 = 2^2$$

$$233 - 217 = 16 = 4^2$$

$$269 - 233 = 36 = 6^2$$

The difference between the consecutive numbers of the series are squares of even numbers.

The next difference is $8^2 = 64$

Let the required number = a

$$\Rightarrow a - 269 = 64$$

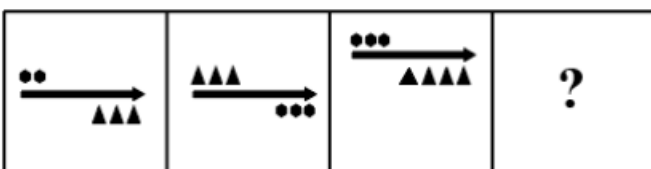
$$\Rightarrow a = 333$$

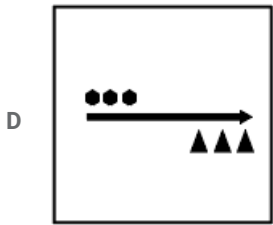
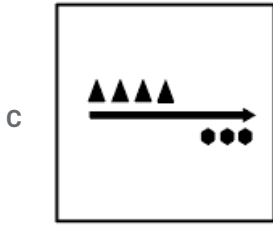
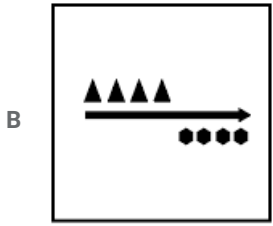
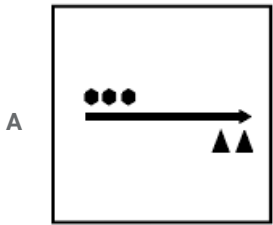
\therefore The required number = 333

Hence, the correct answer is Option B

Question 46

Select the figure that can replace the question mark (?) in the following figure series.





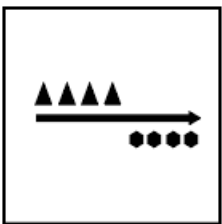
Answer: B

Explanation:

From the given figure series,

The hexagons and triangles are increasing by 1 alternatively and also interchanging their positions alternatively. So in the next figure triangles will be on the top of the line and hexagons will be bottom of the line. Also the number of hexagons will increase by 1.

∴ The next figure in the given figure series is



Hence, the correct answer is Option B

Question 47

If '#' means '-', '&' means '÷', '@' means '×' and '÷' means '+', then $15 @ 2 \div 900 \& 30 \# 10 = ?$

- A 21
- B 310
- C 50
- D 600

Answer: C

Explanation:

By applying the given conditions,

$$\begin{aligned}15 @ 2 \div 900 \& 30 \# 10 &= 15 \times 2 + 900 \div 30 - 10 \\&= 15 \times 2 + 30 - 10 \\&= 30 + 30 - 10 \\&= 50\end{aligned}$$

Hence, the correct answer is Option C

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Question 48

Select the number that can replace the question mark (?) in the following series.

126, 217, 344, ?

- A 513
- B 521
- C 729
- D 512

Answer: A

Explanation:

$$126 = 125 + 1 = 5^3 + 1$$

$$217 = 216 + 1 = 6^3 + 1$$

$$344 = 343 + 1 = 7^3 + 1$$

The number of the series are in the form of $n^3 + 1$

\therefore Next number in the series = $8^3 + 1 = 513$

Hence, the correct answer is Option A

Question 49

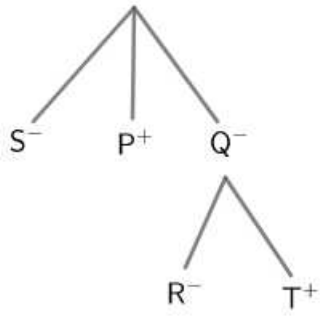
P is the brother of Q. R is the daughter of Q. S is the sister of P. Q is sister of S. T is the brother of R. Who is the uncle of T?

- A P
- B Q
- C C
- D S

Answer: A

Explanation:

According to the problem, the family tree is



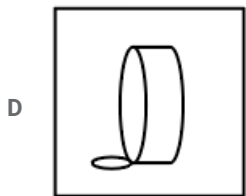
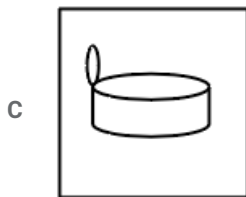
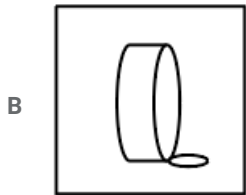
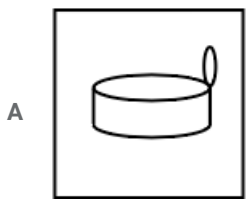
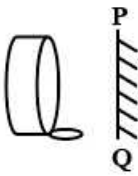
∴ P is the uncle of T from the family tree

Hence, the correct answer is Option A

Question 50

Select the correct mirror image of the given figure when a mirror is placed on the line PQ.

Question figure:



Answer: D

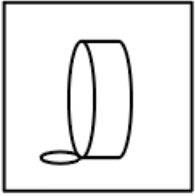
Explanation:

When a mirror is placed on the line PQ,

The facing of the figure to the left and right direction changes to opposite direction in mirror image(right facing changes to left and vice versa). There won't be change in top and bottom direction.

The ellipse at the bottom right will be at the bottom left in the mirror image.

∴ The mirror image of the given figure is



Hence, the correct answer is Option D

SSC CGL Previous Papers (DOWNLOAD PDF)

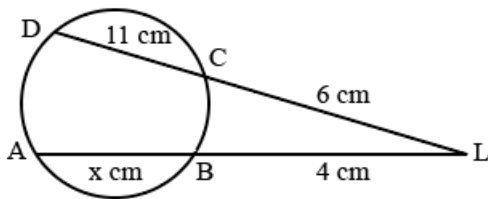
Quantitative Aptitude(Basic Arithmetic Skill)

Instructions

For the following questions answer them individually

Question 51

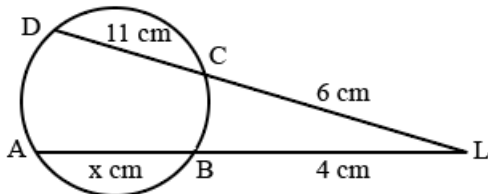
In the given figure, chords AB and CD are intersecting each other at point L. Find the length of AB.



- A 23.5 cm
- B 21.5 cm
- C 22.5 cm
- D 24.5 cm

Answer: B

Explanation:



LD and LA are the secants to the circle from the external point L

$$\Rightarrow LD.LC = LA.LB$$

$$\Rightarrow (LC+CD).LC = (LB+AB).LB$$

$$\Rightarrow (6+11)6 = (4+x)4$$

$$\Rightarrow 51 = 2x + 8$$

$$\Rightarrow 2x = 43$$

$$\Rightarrow x = 21.5 \text{ cm}$$

\therefore Length of AB = $x = 21.5 \text{ cm}$

Hence, the correct answer is Option B

SSC CGL Free Mock Test (Latest Pattern)

Question 52

A dealer marks his goods at 30% above the cost price. Then he allows 35% discount on it. What would be his loss percentage?

- A 15.5%
- B 16.5%
- C 17.5%
- D 18.5%

Answer: A

Explanation:

Let the Cost Price = C.P

Given, dealer marked his goods at 30% above cost price

$$\Rightarrow \text{Marked Price (M.P)} = \frac{130}{100} \text{ C.P} = \frac{13}{10} \text{ C.P}$$

Discount = 35%

$$\Rightarrow \text{Selling Price (S.P)} = \frac{65}{100} \text{ M.P} = \frac{65}{100} \times \frac{13}{10} \text{ C.P} = \frac{845}{1000} \text{ C.P}$$

$$\therefore \text{Loss \%} = \frac{\text{C.P} - \text{S.P}}{\text{C.P}} \times 100$$

$$= \frac{\text{C.P} - \frac{845}{1000} \text{ C.P}}{\text{C.P}} \times 100$$

$$= \frac{155}{1000} \times 100$$

$$= 15.5\%$$

Hence, the correct answer is Option A

Question 53

The difference between two numbers is 43 and their product is 50. Find the sum of their squares.

- A 1947
- B 1949
- C 1946
- D 1948

Answer: B

Explanation:

Let the two numbers are a and b

Given, Product of numbers = 50

$$\Rightarrow ab = 50$$

Difference of numbers = 43

$$\Rightarrow a - b = 43$$

$$\Rightarrow (a - b)^2 = 43^2$$

$$\Rightarrow a^2 + b^2 - 2ab = 1849$$

$$\Rightarrow a^2 + b^2 - 2(50) = 1849$$

$$\Rightarrow a^2 + b^2 = 1849 + 100$$

$$\Rightarrow a^2 + b^2 = 1949$$

∴ Sum of the squares of the numbers = 1949

Hence, the correct answer is Option B

Question 54

The perimeter of a rectangle is 50 cm. Its area and length are in the ratio of 5 : 1. Find the length of the rectangle.

- A 22 cm
- B 18 cm
- C 20 cm
- D 15 cm

Answer: C

Explanation:

Let the length and breadth of the rectangle are l and b

Ratio of area and length of the rectangle = 5 : 1

$$\Rightarrow \frac{lb}{l} = \frac{5}{1}$$

$$\Rightarrow b = 5 \text{ cm}$$

Given, Perimeter of rectangle = 50 cm

$$\Rightarrow 2(l + b) = 50$$

$$\Rightarrow l + b = 25$$

$$\Rightarrow l + 5 = 25$$

$$\Rightarrow l = 20 \text{ cm}$$

∴ Length of the rectangle = 20 cm

Hence, the correct answer is Option C

SSC CHSL Important Questions and Answers (Download PDF)

Question 55

Two sides of a triangle are of length 3 cm and 8 cm. If the length of the third side is 'x' cm, then:

- A $x > 11$
- B $0 < x < 11$
- C $5 < x$
- D $5 < x < 11$

Answer: D

Explanation:

Given,

Length of the two sides of the triangle are 3 cm and 8 cm

Length of the third side = 'x' cm

In a triangle, length of a side is less than sum of the length of other two sides

$$\Rightarrow x < 3 + 8$$

$$\Rightarrow x < 11 \dots\dots\dots(1)$$

Also, in a triangle length of a side is greater than difference of the other two sides

$$\Rightarrow x > 8 - 3$$

$$\Rightarrow x > 5 \dots\dots\dots(2)$$

From (1) and (2)

$$5 < x < 11$$

Hence, the correct answer is Option D

Question 56

What will come at place of x , ($x < 10$) for $\frac{(132 \div 12 \times x - 3 \times 3)}{(5^2 - 6 \times 4 + x^2)} = 1$?

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

Answer: B

Explanation:

$$\frac{(132 \div 12 \times x - 3 \times 3)}{(5^2 - 6 \times 4 + x^2)} = 1$$

$$\Rightarrow \frac{(11 \times x - 3 \times 3)}{(25 - 6 \times 4 + x^2)} = 1$$

$$\Rightarrow \frac{11x - 9}{25 - 24 + x^2} = 1$$

$$\Rightarrow \frac{11x - 9}{1 + x^2} = 1$$

$$\Rightarrow 11x - 9 = 1 + x^2$$

$$\Rightarrow x^2 - 11x + 10 = 0$$

$$\Rightarrow x^2 - 10x - x + 10 = 0$$

$$\Rightarrow x(x - 10) - 1(x - 10) = 0$$

$$\Rightarrow (x - 10)(x - 1) = 0$$

$$\Rightarrow x = 10 \text{ or } x = 1$$

Given $x < 10$

$$\Rightarrow x = 1$$

Hence, the correct answer is Option B

Question 57

If $x + y = 4$, $xy = 2$, $y + z = 5$, $yz = 3$, $z + x = 6$ and $zx = 4$, then find the value of $x^3 + y^3 + z^3 - 3xy$.

- A 151.75
- B 152.75
- C 153.75
- D 150.75

Answer: C

Explanation:

Given,

$$x + y = 4 \text{ and } xy = 2$$

$$y + z = 5 \text{ and } yz = 3$$

$$z + x = 6 \text{ and } zx = 4$$

$$x^3 + y^3 + z^3 - 3xy = (x + y + z) (x^2 + y^2 + z^2 - xy - yz - zx)$$

$$= \frac{2}{2} (x + y + z) \frac{2}{2} (x^2 + y^2 + z^2 - xy - yz - zx)$$

$$= \frac{1}{2} (2x + 2y + 2z) \frac{1}{2} (2x^2 + 2y^2 + 2z^2 - 2xy - 2yz - 2zx)$$

$$= \frac{(x+y)+(y+z)+(z+x)}{2} \cdot \frac{(x^2+y^2+2xy+y^2+z^2+2yz+z^2+x^2+2zx-4xy-4yz-4zx)}{2}$$

$$= \frac{(4)+(5)+(6)}{2} \cdot \frac{((x+y)^2+(y+z)^2+(z+x)^2-4(2)-4(3)-4(4))}{2}$$

$$= \frac{15}{2} \cdot \frac{(4^2+5^2+6^2-8-12-16)}{2}$$

$$= \frac{15}{2} \cdot \frac{(16+25+36-36)}{2}$$

$$= \frac{15}{2} \cdot \frac{41}{2}$$

$$= 153.75$$

Hence, the correct answer is Option C

SSC CHSL Study Material

Question 58

How much should be added to each term of 4 : 7 so that it becomes 2 : 3?

A 2

B 3

C 4

D 1

Answer: A

Explanation:

Let x is added to the each term of 4 : 7

According to the problem,

$$\frac{4+x}{7+x} = \frac{2}{3}$$

$$\Rightarrow 12 + 3x = 14 + 2x$$

$$\Rightarrow 3x - 2x = 14 - 12$$

$$\Rightarrow x = 2$$

Hence, the correct answer is Option A

Question 59

If M is the mid-point of the side BC of $\triangle ABC$, and the area of $\triangle ABM$ is 18cm^2 , then the area of $\triangle ABC$ is:

A 36cm^2

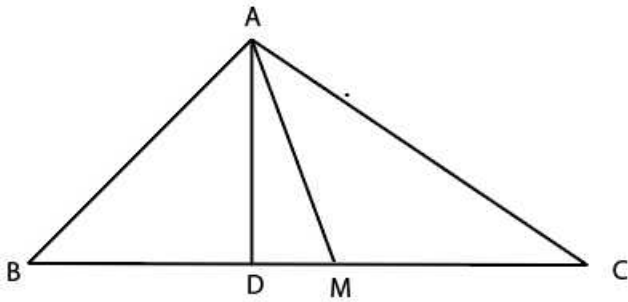
B 34cm^2

C 30 cm^2

D 32 cm^2

Answer: A

Explanation:



Let AD is the perpendicular to BC

Given,

Area of the $\triangle ABM = 18\text{ cm}^2$

$$\Rightarrow \frac{1}{2} \times AD \times BM = 18\text{ cm}^2$$

M is the mid-point of BC

$$\Rightarrow BM = MC$$

$$\text{Area of the } \triangle ACM = \frac{1}{2} \times AD \times MC = \frac{1}{2} \times AD \times BM = 18\text{ cm}^2$$

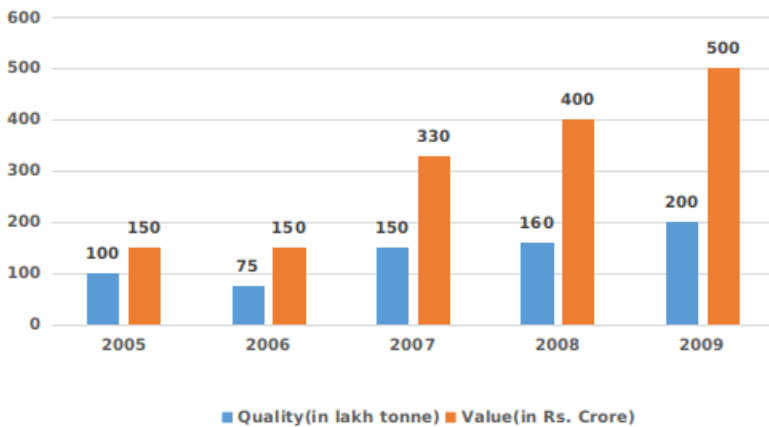
$$\therefore \text{Area of the } \triangle ABC = \text{Area of the } \triangle ABM + \text{Area of the } \triangle ACM = 18 + 18 = 36\text{ cm}^2$$

Hence, the correct answer is Option A

Question 60

Study the following graph and answer the question.

India's Biscuit export



In which year was the value per tonne the minimum?

A 2009

B 2007

C 2005

D 2006

Answer: C

Explanation:

From the graph,

$$\text{Value per tonne for the year 2005} = \frac{150}{100 \times 100000} = \frac{1.5}{100000} \text{ crore/tonne}$$

$$\text{Value per tonne for the year 2006} = \frac{150}{75 \times 100000} = \frac{2}{100000} \text{ crore/tonne}$$

$$\text{Value per tonne for the year 2007} = \frac{330}{150 \times 100000} = \frac{2.2}{100000} \text{ crore/tonne}$$

$$\text{Value per tonne for the year 2009} = \frac{500}{200 \times 100000} = \frac{2.5}{100000} \text{ crore/tonne}$$

Hence, the correct answer is Option C

SSC CHSL Free App

Question 61

X and Y together can finish a piece of work in 15 days, while Y alone can finish it in 40 days. X alone can finish the work in:

- A 24 days
- B 26 days
- C 25 days
- D 23 days

Answer: A

Explanation:

Let the total work = W

Number of days in which X and Y together finish the work = 15 days

$$\Rightarrow \text{Work done by X and Y together in 1 day} = \frac{W}{15}$$

Number of days in which Y alone finish the work = 40 days

$$\Rightarrow \text{Work done by Y alone in 1 day} = \frac{W}{40}$$

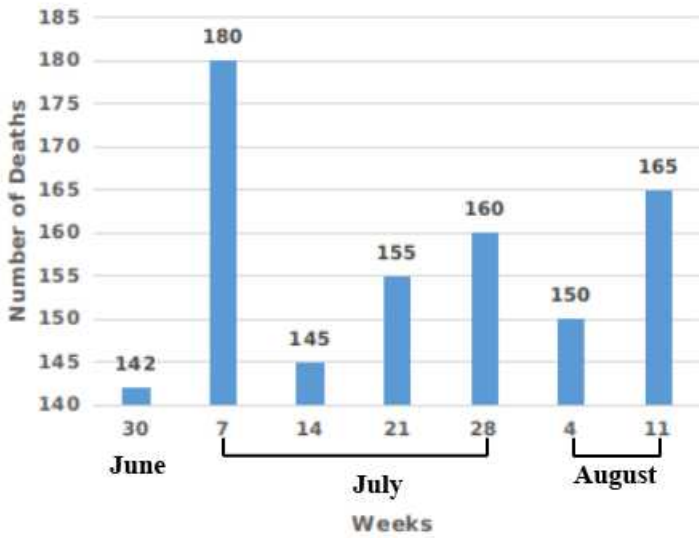
$$\Rightarrow \text{Work done by X alone in 1 day} = \frac{W}{15} - \frac{W}{40} = \frac{5W}{120} = \frac{W}{24}$$

$$\therefore \text{Number of days in which X alone finish the work} = \frac{W}{\frac{W}{24}} = 24 \text{ days}$$

Hence, the correct answer is Option A

Question 62

The following bar graph shows the number of deaths from road accidents occurred during the rainy season in the year 1992. Study the graph carefully and answer the question.



Between which two consecutive weeks was the rise in the number of deaths the greatest?

- A 4 August to 11 August
- B 30 June to 7 July
- C 14 July to 21 July
- D 21 July to 28 July

Answer: B

Explanation:

From the bar graph,

Rise in number of deaths from 30 June to 7 July = $180 - 142 = 38$

Rise in number of deaths from 14 July to 21 July = $155 - 145 = 10$

Rise in number of deaths from 21 July to 28 July = $160 - 155 = 5$

Rise in number of deaths from 4 August to 11 August = $165 - 150 = 15$

Hence, the correct answer is Option B

Question 63

Find the value of $\frac{\cos 30^\circ - \sin 30^\circ}{\sin 60^\circ + \cos 60^\circ}$

- A $2 - \sqrt{3}$
- B $2 + \sqrt{3}$
- C $1 - \sqrt{3}$
- D $1 + \sqrt{3}$

Answer: A

Explanation:

$$\frac{\cos 30^\circ - \sin 30^\circ}{\sin 60^\circ + \cos 60^\circ} = \frac{\frac{\sqrt{3}}{2} - \frac{1}{2}}{\frac{\sqrt{3}}{2} + \frac{1}{2}}$$

$$\begin{aligned}
 &= \frac{\sqrt{3}-1}{2} \\
 &= \frac{\sqrt{3}-1}{\sqrt{3}+1} \\
 &= \frac{\sqrt{3}-1}{\sqrt{3}+1} \times \frac{\sqrt{3}-1}{\sqrt{3}-1} \\
 &= \frac{(\sqrt{3})^2 + 1^2 - 2 \cdot \sqrt{3} \cdot 1}{(\sqrt{3})^2 - 1^2} \\
 &= \frac{3+1-2\sqrt{3}}{3-1} \\
 &= \frac{4-2\sqrt{3}}{2} \\
 &= 2 - \sqrt{3}
 \end{aligned}$$

Hence, the correct answer is Option A

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Question 64

Sachin's income is 25% more than Dileep's income. By how much percentage is Dileep's income less than Sachin's income ?

- A 15%
- B 20%
- C 18%
- D 22%

Answer: B

Explanation:

Let the income of Sachin = S

Income of Dileep = D

Given, Sachin's income is 25% more than Dileep's income

$$\Rightarrow S = \frac{125}{100}D$$

$$\Rightarrow S = \frac{5}{4}D$$

$$\therefore \text{Required Percentage} = \frac{S-D}{S} \times 100$$

$$= \frac{\frac{5}{4}D - D}{\frac{5}{4}D} \times 100$$

$$= \frac{\frac{D}{4}}{\frac{5D}{4}} \times 100$$

$$= \frac{1}{5} \times 100$$

$$= 20\%$$

\(\therefore\) Dileep's income is 20% less than Sachin's income

Hence, the correct answer is Option B

Question 65

Sohan sold a plot for ₹2,55,000 at a 15% loss. At what price should he sell the plot to gain a 10% profit?

- A ₹3,00,000

B ₹3,33,000

C ₹3,30,000

D ₹3,33,300

Answer: C

Explanation:

Let the cost price of the plot = CP

Given, loss% = 15%

Selling price of the plot = ₹2,55,000

$$\Rightarrow \frac{85}{100} \text{CP} = 255000$$

$$\Rightarrow \text{CP} = 255000 \times \frac{100}{85}$$

$$\Rightarrow \text{CP} = ₹300000$$

When gain is 10%,

$$\text{Selling price of the article} = \frac{110}{100} \times 300000 = ₹330000$$

Hence, the correct answer is Option C

Question 66

A batsman in his 11th inning makes a score of 77 runs, there by increasing his average scores by 3. What is his average score after the 11th inning?

A 46

B 47

C 48

D 49

Answer: B

Explanation:

Let the average for scores of 10 innings = a

Sum of the scores of 10 innings = 10a

Score in the 11th inning = 77

$$\Rightarrow \text{Sum of the scores of 11 innings} = 10a + 77$$

Average increased by 3 after 11th inning

$$\Rightarrow \text{Average of the scores of 11 innings} = a + 3$$

$$\Rightarrow \text{Sum of the scores of 11 innings} = 11(a+3)$$

$$\Rightarrow 11(a+3) = 10a + 77$$

$$\Rightarrow 11a + 33 = 10a + 77$$

$$\Rightarrow 11a - 10a = 77 - 33$$

$$\Rightarrow a = 44$$

$$\therefore \text{Average of the scores after 11th inning} = a + 3 = 44 + 3 = 47$$

Hence, the correct answer is Option B

Question 67

If $\operatorname{cosec}\theta + \cot\theta = 2$, then $\sin\theta$ is:

- A $\frac{4}{5}$
- B $\frac{2}{5}$
- C $\frac{3}{5}$
- D $\frac{3}{4}$

Answer: A

Explanation:

Given, $\operatorname{cosec}\theta + \cot\theta = 2$ (1)

$$\Rightarrow (\operatorname{cosec}\theta + \cot\theta) \times \frac{\operatorname{cosec}\theta - \cot\theta}{\operatorname{cosec}\theta - \cot\theta} = 2$$

$$\Rightarrow \frac{\operatorname{cosec}^2\theta - \cot^2\theta}{\operatorname{cosec}\theta - \cot\theta} = 2$$

$$\Rightarrow \frac{1}{\operatorname{cosec}\theta - \cot\theta} = 2$$

$$\Rightarrow \operatorname{cosec}\theta - \cot\theta = \frac{1}{2}$$
(2)

Adding (1) and (2),

$$\operatorname{cosec}\theta + \cot\theta + \operatorname{cosec}\theta - \cot\theta = 2 + \frac{1}{2}$$

$$\Rightarrow 2 \operatorname{cosec}\theta = \frac{5}{2}$$

$$\Rightarrow \operatorname{cosec}\theta = \frac{5}{4}$$

$$\Rightarrow \sin\theta = \frac{4}{5}$$

Hence, the correct answer is Option A

Question 68

If $a^3 + b^3 = 20$ and $a + b = 5$, then find the value of $a^4 + b^4$.

- A 26
- B 23
- C 25
- D 24

Answer: B

Explanation:

Given, $a^3 + b^3 = 20$ (1)

$$a + b = 5$$

$$\Rightarrow (a + b)^3 = 5^3$$

$$\Rightarrow a^3 + b^3 + 3ab(a + b) = 125$$

$$\Rightarrow 20 + 3ab(5) = 125$$

$$\Rightarrow 15ab = 105$$

$$\Rightarrow ab = \frac{105}{15}$$

$$\Rightarrow ab = 7 \dots\dots\dots(2)$$

$$a + b = 5$$

$$\Rightarrow (a + b)^2 = 5^2$$

$$\Rightarrow a^2 + b^2 + 2ab = 25$$

$$\Rightarrow a^2 + b^2 + 2(7) = 25$$

$$\Rightarrow a^2 + b^2 = 25 - 14$$

$$\Rightarrow a^2 + b^2 = 11 \dots\dots\dots(3)$$

$$\therefore (a^3 + b^3)(a + b) = (20)(5)$$

$$\Rightarrow a^4 + a^3b + b^3a + b^4 = 100$$

$$\Rightarrow a^4 + b^4 + ab(a^2 + b^2) = 100$$

$$\Rightarrow a^4 + b^4 + (7)(11) = 100$$

$$\Rightarrow a^4 + b^4 + 77 = 100$$

$$\Rightarrow a^4 + b^4 = 100 - 77$$

$$\Rightarrow a^4 + b^4 = 23$$

Hence, the correct answer is Option B

Question 69

If $\sec^2 x - 3 \sec x + 2 = 0$, then the value of $x(0 < x < 90^\circ)$ is:

A 30°

B 15°

C 60°

D 45°

Answer: C

Explanation:

$$\sec^2 x - 3 \sec x + 2 = 0$$

$$\Rightarrow \sec^2 x - 2 \sec x - \sec x + 2 = 0$$

$$\Rightarrow \sec x (\sec x - 2) - 1 (\sec x - 2) = 0$$

$$\Rightarrow (\sec x - 2) (\sec x - 1) = 0$$

$$\Rightarrow \sec x - 2 = 0 \text{ or } \sec x - 1 = 0$$

$$\Rightarrow \sec x = 2 \text{ or } \sec x = 1$$

$$\Rightarrow \cos x = \frac{1}{2} \text{ or } \cos x = 1$$

$$\Rightarrow \cos x = \cos 60^\circ \text{ or } \cos x = \cos 90^\circ$$

$$\Rightarrow x = 60^\circ \text{ or } x = 90^\circ$$

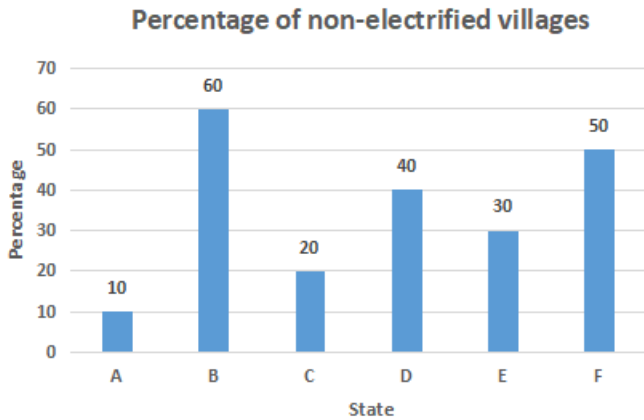
Since $(0 < x < 90^\circ)$

$$\therefore x = 60^\circ$$

Hence, the correct answer is Option C

Question 70

The given bar graph represents the Percentage of non-electrified villages in 6 states A, B, C, D, E and F. Study the graph and answer the question that follows.



How many states have at most 30% or less non-electrified villages?

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

Answer: A

Explanation:

From the bar graph,

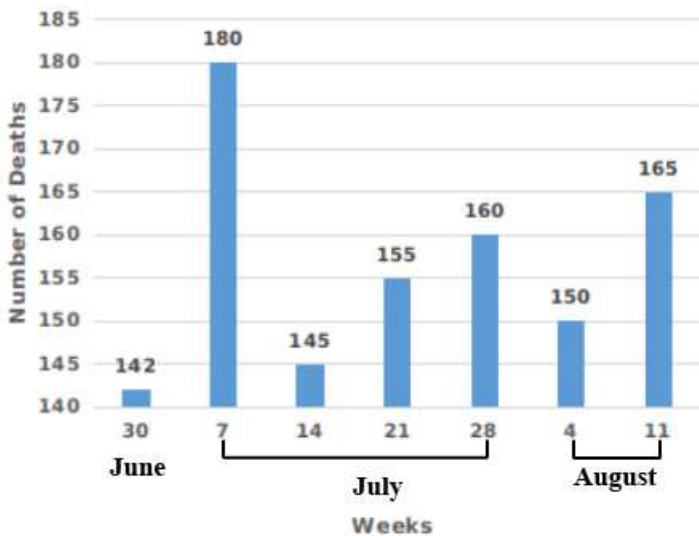
The states that have at most 30% or less non-electrified villages are A, C, E

∴ Number of states that have at most 30% or less non-electrified villages = 3

Hence, the correct answer is Option A

Question 71

The following bar graph shows the number of deaths from road accidents occurred during the rainy season in the year 1992. Study the graph carefully and answer the question.



Between which two consecutive weeks was the fall in the number of deaths the greatest?

- A 7 July to 14 July

- B 21 July to 28 July
- C 30 June to 7 July
- D 28 July to 4 August

Answer: A

Explanation:

From the bar graph,

Fall in the number of deaths from 7 July to 14 July = $180 - 145 = 35$

Fall in the number of deaths from 28 July to 4 August = $160 - 150 = 10$

There was a rise in number of deaths from 30 June to 7 July and 21 July to 28 July

∴ The fall of number of deaths is greatest from 7 July to 14 July

Hence, the correct answer is Option A

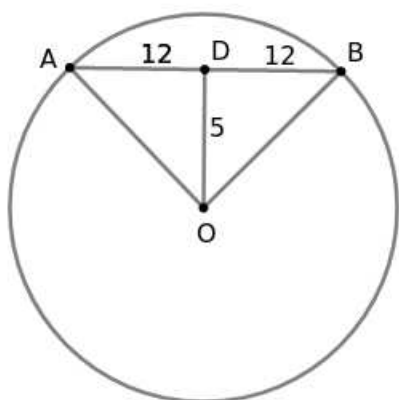
Question 72

A 5 cm long perpendicular is drawn from the centre of a circle to a 24 cm long chord. Find the diameter of the circle.

- A 26 cm
- B 32 cm
- C 13 cm
- D 30 cm

Answer: A

Explanation:



As shown in the figure,

Perpendicular OD bisects the chord AB

$$\Rightarrow AD = BD = 12 \text{ cm}$$

By the pythagoras theorem,

$$OB^2 = 12^2 + 5^2$$

$$\Rightarrow OB^2 = 144 + 25$$

$$\Rightarrow OB^2 = 169$$

$$\Rightarrow OB = 13$$

Radius of the circle (OB) = 13 cm

∴ Diameter of the circle = $2 \times 13 = 26 \text{ cm}$

Hence, the correct answer is Option A

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Question 73

Which of the following numbers will completely divide $7^{81} + 7^{82} + 7^{83}$?

- A 389
- B 399
- C 387
- D 397

Answer: B

Explanation:

$$7^{81} + 7^{82} + 7^{83} = 7^{80} (7 + 7^2 + 7^3)$$

$$= 7^{80} (7 + 49 + 343)$$

$$= 7^{80} (399)$$

$$= 399 (7^{80})$$

∴ 399 completely divides the $7^{81} + 7^{82} + 7^{83}$

Hence, the correct answer is Option B

Question 74

The difference of simple interest on a sum of money for 8 years and 10 years is ₹200. If the rate of interest is 10 % p.a, then what is the sum of money?

- A ₹1,600
- B ₹1,000
- C ₹1,200
- D ₹1,400

Answer: B

Explanation:

Let the Principal amount = P

Given, rate of interest = 10%

The difference of simple interest on the sum of money for 8 years and 10 years is ₹200

$$\Rightarrow \frac{P \times 10 \times 10}{100} - \frac{P \times 8 \times 10}{100} = 200$$

$$\Rightarrow \frac{100P}{100} - \frac{80P}{100} = 200$$

$$\Rightarrow \frac{20P}{100} = 200$$

$$\Rightarrow P = ₹1000$$

∴ Sum of money = ₹1000

Hence, the correct answer is Option B

Question 75

A man walks from point X to Y at a speed of 20 km/h, but comes back from point Y to X at a speed of 25 km/h. Find his average speed.

A $22\frac{2}{9}$ km/h

B $24\frac{2}{9}$ km/h

C $23\frac{2}{9}$ km/h

D $25\frac{2}{9}$ km/h

Answer: A

Explanation:

Let the distance between point X and Y = d

Speed of the man from point X to Y = 20 km/h

$$\text{Time taken by the man from point X to Y} = \frac{d}{20}$$

Speed of the man from point Y to X = 25 km/h

$$\text{Time taken by the man from point Y to X} = \frac{d}{25}$$

$$\therefore \text{Average Speed} = \frac{\text{Total Distance travelled}}{\text{Total time taken}}$$

$$= \frac{d+d}{\frac{d}{20} + \frac{d}{25}}$$

$$= \frac{2d}{\frac{9d}{100}}$$

$$= \frac{200}{9}$$

$$= 22\frac{2}{9} \text{ km/h}$$

Hence, the correct answer is Option A

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General Awareness

Instructions

For the following questions answer them individually

Question 76

Which of the following states is included in the sixth schedule of the Constitution of India?

A Mizoram

B Nagaland

C Arunachal Pradesh

D Manipur

Answer: A

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Question 77

Who among the following received the Padma Bhushan in 2019?

A Sunil Chhetri

- B Mohanlal Viswanathan
- C Virat Kohli
- D Bhupen Hazarika

Answer: B

Question 78

When is 'International Ozone Day' celebrated?

- A 16 September
- B 31 October
- C 9 August
- D 2 October

Answer: A

Question 79

As of January 2020, who held the national record in both, 800 m and 1500 m sprint events?

- A Muhammad Anas
- B Jinson Johnson
- C Avinash Sable
- D Ayyasamy Dharun

Answer: B

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Question 80

In which city is Indian Railway-Rail Coach Factory located?

- A Bengaluru
- B Kapurthala
- C Chennai
- D Chittaranjan

Answer: B

Question 81

River Sharavati plunges as which of the following waterfalls?

- A Hogenakkal
- B Gerusoppe
- C Soochipara

D Athirapally

Answer: B

Question 82

Which is the largest river island in the world?

A Srirangam Island

B Majuli Island

C Bhavani Island

D Agatti Island

Answer: B

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Question 83

As of January 2020, who was the president of the BCCI ?

A Sourav Ganguly

B Harsha Bogle

C Ravi Shastri

D Sunil Gavaskar

Answer: A

Question 84

Sachin Tendulkar scored his first ODI century in his ___ match.

A 79th

B 77th

C 76th

D 78th

Answer: D

Question 85

Which of the following is a water soluble vitamin?

A Vitamin D

B Vitamin A

C Vitamin C

D Vitamin K

Answer: C



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Question 86

What was the weight of the Chandrayaan-2 spacecraft launched in July 2019?

- A 2.9 tonne
- B 4.3 tonne
- C 3.3 tonne
- D 3.8 tonne

Answer: D

Question 87

As of January 2020, who held the title of India's youngest chess grandmaster?

- A Rameshbabu Praggnanandhaa
- B Viswanathan Anand
- C Parimarjan Negi
- D D Gukesh

Answer: D

Question 88

As of Feb 2020, how many members represent the state of Uttar Pradesh in Lok Sabha?

- A 48
- B 39
- C 80
- D 62

Answer: C

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Question 89

Which of the following is a pension scheme introduced by the Government of India exclusively for senior citizens in May 2017?

- A PMGAY
- B PMVVY
- C PMGSY
- D PMMVY

Answer: B

Question 90

'Nibble' in computer terminology is also called _____.

- A Half bit
- B Byte
- C Bit
- D Half byte

Answer: D

Question 91

Where is the tomb of Sher Shah Suri located?

- A Chausa
- B Sasaram
- C Delhi
- D Rohtasgarh

Answer: B

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Question 92

Who is the author of the book 'Kerala: God's Own Country'?

- A Shashi Tharoor
- B Jeet Thayil
- C Sudha Murthy
- D Thakazhi Sivasankara Pillai

Answer: A

Question 93

Which of the following is an example of a Chola empire temple?

- A Chennakesava temple
- B Airavateswara temple
- C Virupaksha temple
- D Badami cave temple

Answer: B

Question 94

Flagella are the hair-like structures which act as organelles of locomotion in which of the following organisms?

- A Virus
- B Paramecium
- C Bacteria
- D Amoeba

Answer: C

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Question 95

Mekhela Chador' is a traditional dress from the state of:

- A Odisha
- B West Bengal
- C Assam
- D Tripura

Answer: C

Question 96

_____ is the tube that carries urine from the kidney to the urinary bladder.

- A Sphincter
- B Urethra
- C Ureter
- D Aorta

Answer: C

Question 97

Who among the following is the co-founder of Twitter?

- A Bill Gates
- B Narayan Murthy
- C Jack Dorsey
- D Tim Berners-Lee

Answer: C

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Question 98

As of January 2020, who is the managing director of YES Bank?

- A Ravneet Gill
- B Aditya Puri
- C Arundhati Bhattacharya
- D Amitabh Chaudhry

Answer: A

Question 99

In which year was UNICEF founded?

- A 1949
- B 1948
- C 1945
- D 1946

Answer: D

Question 100

Laterite soil is rich in:

- A Phosphorus
- B Calcium carbonate
- C Potassium
- D Iron oxide

Answer: D

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