

SSC CHSL 21 Jan 2017 Morning Shift

Reasoning

Instructions

For the following questions answer them individually

Question 1

Select the related word/letters/number from the given alternatives.

Hindu : Temple :: Muslim: ?

- A Synagogue
- B Mosque
- C Gurudwara
- D Church

Answer: B

Explanation:

Relationship between a religion and its worshipping place is given. Hindus worship in Temples, while Muslims worship in *Mosque*.

=> Ans - (B)

Question 2

Select the related word/letters/number from the given alternatives.

CIRCLE : CLECI R :: MANNER : ?

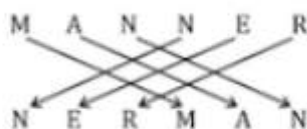
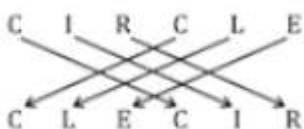
- A NAMNER
- B NERNAM
- C RENNAM
- D NERMAN

Answer: D

Explanation:

Expression = CIRCLE : CLECI R :: MANNER : ?

The pattern followed is :



Thus, MANNER : **NERMAN**

=> Ans - (D)

Question 3

Select the related word/letters/number from the given alternatives.

GROUPS : FQNTOR :: TORTURE : ?

A SNTSTQD

B SNQSTQD

C SNQTSQD

D SMQSTQD

Answer: B

Explanation:

Expression = GROUPS : FQNTOR :: TORTURE : ?

The pattern followed is :

G	R	O	U	P	S	T	O	R	T	U	R	E
-1↓	-1↓	-1↓	-1↓	-1↓	-1↓	-1↓	-1↓	-1↓	-1↓	-1↓	-1↓	-1↓
F	Q	N	T	O	R	S	N	Q	S	T	Q	D

Thus, TORTURE : **SNQSTQD**

=> Ans - (B)

Question 4

Select the related word/letters/number from the given alternatives.

989 : 26 :: 868 : ?

A 32

B 22

C 10

D 21

Answer: B

Explanation:

Expression = 989 : 26 :: 868 : ?

The second number is equal to the sum of digits of first number.

Eg :- $9 + 8 + 9 = 26$

Similarly, $8 + 6 + 8 = 22$

=> Ans - (B)

Question 5

Find out the odd word/letters/number/number pair from the given alternatives.

- A Fish
- B Turtle
- C Crocodile
- D Frog

Answer: A

Explanation:

Except fish other three are amphibians, hence it is the odd one out.

=> Ans - (A)

Question 6

Find out the odd word/letters/number/number pair from the given alternatives.

- A ST39
- B GF15
- C NO29
- D LM25

Answer: B

Explanation:

According to the corresponding value of position.

$$S + T = 19 + 20 = 39$$

$$G + F = 7 + 6 = 13$$

$$N + O = 14 + 15 = 29$$

$$L + M = 12 + 13 = 25$$

=> Ans - (B)

Question 7

Find out the odd word/letters/number/number pair from the given alternatives.

A 423

B 789

C 567

D 356

Answer: D

Explanation:

Except 356 other three are divisible by 3, hence it is the odd one out.

=> Ans - (D)

Question 8

Find out the odd word/letters/number/number pair from the given alternatives.

A 484

B 784

C 676

D 575

Answer: D

Explanation:

Except 575 other three are perfect squares, hence it is the odd one out.

$$484 = (22)^2, 784 = (28)^2, 676 = (26)^2$$

=> Ans - (D)

Question 9

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

Wind turbine, Generation, Battery bank, ? , Distribution

A Steam

B Turbine

C Water

D Transmission

Answer: D

Explanation:

Steps of generating electricity from windmill.

= Wind turbine -> Generation -> Battery bank -> Transmission -> Distribution

=> Ans - (D)

Question 10

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

JD,?,QK, VP, BV

A NP

B NO

C MG

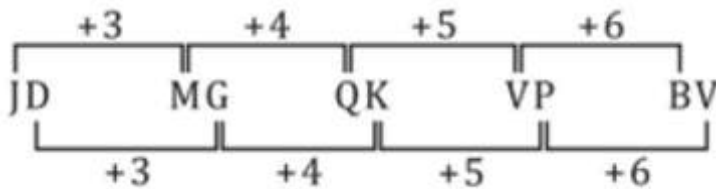
D MH

Answer: C

Explanation:

Expression : JD,?,QK, VP, BV

The pattern followed is :



Thus, missing term = **MG**

=> Ans - (C)

Question 11

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

OK, SN, WQ, AT, ?

A KN

B HJ

C GH

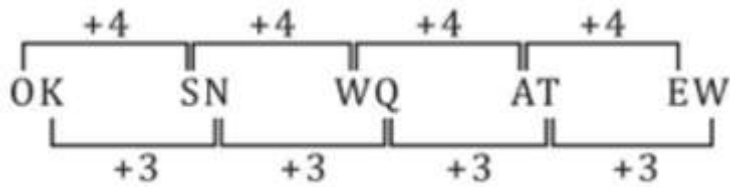
D EW

Answer: D

Explanation:

Expression : OK, SN, WQ, AT, ?

The pattern followed is :



Thus, missing term = EW

=> Ans - (D)

Question 12

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

289, 256, 225, 196, ?

A 164

B 165

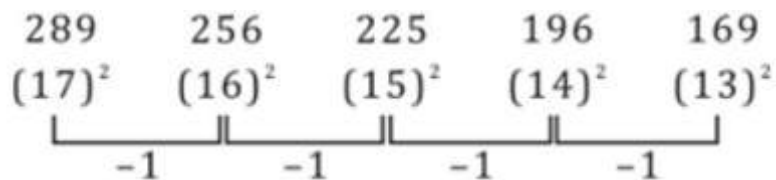
C 169

D 170

Answer: C

Explanation:

The pattern followed is that squares of natural numbers in decreasing order are given.



Thus, missing term = 169

=> Ans - (C)

Question 13

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

Statement:

- (I) Government is taking measures for safety of women in multi-dimensional aspects.
- (II) Sensitization programmes for awareness are up through various modes of promotion.

Conclusions:

- (I) Women helpline has been introduced for 24x7 for helping the females.
- (II) The number of rape and extortion cases have reduced in last six months.

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

Answer: C

Question 14

I hire a taxi from my home to go to my workplace. The fare system in the city is such that for the first kilometre, I am charged Rs 25, and after that, I am charged Rs 6 per kilometre. If my workplace is 10 km far from my home, what amount do I have to pay if I go by taxi?

- A Rs. 64
- B Rs. 89
- C Rs. 90
- D Rs. 79

Answer: D

Explanation:

Fare for 1st km = Rs. 25 and fare or rest of the journey = Rs. 6/km

Distance travelled = 10 km

$$\Rightarrow \text{Amount to be paid} = (1 \times 25) + (9 \times 6)$$

$$= 25 + 54 = \text{Rs. } 79$$

\Rightarrow Ans - (D)

Question 15

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

- i. Argument
- ii. Augmentation
- iii. Agility
- iv. Astute

A iii,ii,i,iv

B iii,i,iv,ii

C iii,i,ii,iv

D iv,ii,iii,i

Answer: B

Explanation:

As per the order of dictionary :

= Agility -> Argument -> Astute -> Augmentation

≡ iii,i,iv,ii

=> Ans - (B)

Question 16

In a certain code language, "DIGIT" is written as "@#^#*" and "EAR" is written as "?!<". How is "TIGER" written in that code language?

A *#?^<

B #*^?<

C *#^##

D *#^?<

Answer: D

Explanation:

The codes for each letter is given :

T -> *

I -> #

G -> ^

E -> ?

R -> <

Thus, TIGER : *#^?<

=> Ans - (D)

Question 17

Find the missing number in the given Series?

4	6	8
32	42	56
8	?	7

A 6

B 9

C 7

D 8

Answer: C

Explanation:

In each column, the number at the middle is obtained by multiplying the other two.

$$\text{Eg :- } 4 \times 8 = 32 \text{ and } 8 \times 7 = 56$$

$$\text{Similarly, } 6 \times x = 42$$

$$\Rightarrow x = \frac{42}{6} = 7$$

\Rightarrow Ans - (C)

Question 18

If "A" means "subtraction", "B" means "division", "C" means "addition" and "D" means "multiplication", then
330 B 6 A 32 C 45 D 12 = ?

A 525

B 547

C 582

D 563

Answer: D

Explanation:

Expression : 330 B 6 A 32 C 45 D 12 = ?

$$\equiv 330 \div 6 - 32 + 45 \times 12$$

$$= \left(\frac{330}{6}\right) + (-32) + (45 \times 12)$$

$$= 55 - 32 + 540 = 563$$

=> Ans - (D)

Question 19

Which set of letters when sequentially placed at the gaps in the given letter series shall complete it?
NO_PQN_PP_NOP_Q

A OPQP

B POQP

C PQQP

D PONQ

Answer: B

Explanation:

The pattern followed is that in groups of 5, the term 'NOPPQ' is repeated.

= NOPPQ NOPPQ NOPPQ

=> Ans - (B)

Question 20

A person leaves from his office on his motorcycle to watch a movie. He rides 50 km towards east, turns right and rides for another 24 km. Finally, he turns towards the west and rides 43 km further and reaches the movie hall. What is the minimum distance between the movie hall and his office?

A 15 km

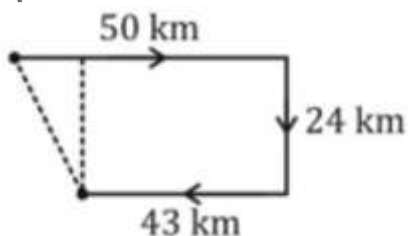
B 31 km

C 25 km

D 10 km

Answer: C

Explanation:



The person starts from his office and rides 50 km east, then turned right and ride south for 24 km, finally he turned left and travelled west for 43 km.

Thus, shortest distance between his office and movie hall

$$= \sqrt{(24)^2 + (50 - 43)^2}$$

$$= \sqrt{576 + 49}$$

$$= \sqrt{625} = 25 \text{ km}$$

=> Ans - (C)

Question 21

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix 1 are numbered from 0 to 4 and that of Matrix 2 are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'Z' can be represented by 41, 01 etc. and H can be represented by 65, 59 etc. Similarly, you have to identify the set for the word 'PULP'.

Matrix 1

	0	1	2	3	4
0	E	Z	R	L	G
1	S	L	M	Q	H
2	L	X	L	W	P
3	A	V	K	P	O
4	C	Z	L	Y	I

Matrix 2

	5	6	7	8	9
5	V	M	P	G	H
6	H	P	U	D	U
7	P	Z	Y	U	Z
8	N	X	U	A	K
9	M	U	I	S	L

- A 24,96,42,34
- B 33,67,10,75
- C 57,87,11,22
- D 66,78,03, 33

Answer: D

Explanation:

(A) : 24,96,42,34 = PULO

(B) : 33,67,10,75 = PUSP

(C) : 57,87,11,22 = PULL

(D) : 66,78,03, 33 = **PULP**

=> Ans - (D)

Question 22

Raman is Sunaina's father and Sunaina is Vidur's wife. Saksham is the father of Vidur's father. How is Saksham related to Sunaina?

A Father-in-law

B Grandfather-in-law

C Son

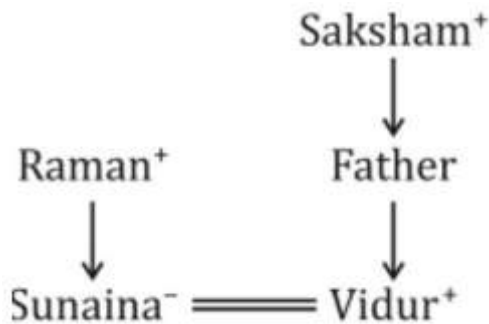
D Husband

Answer: B

Explanation:

Raman is Sunaina's father and Sunaina is Vidur's wife.

Also, Saksham is the father of Vidur's father.

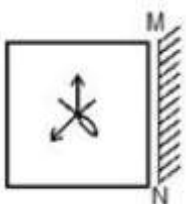


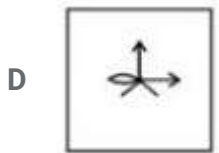
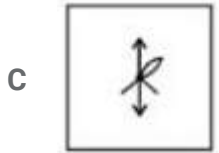
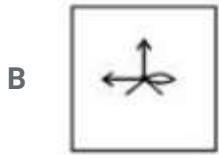
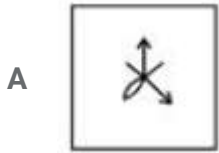
Thus, Saksham is Sunaina's **grandfather-in-law**.

=> Ans - (B)

Question 23

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

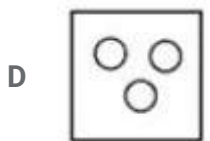
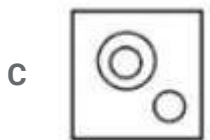
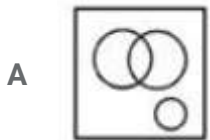




Answer: A

Question 24

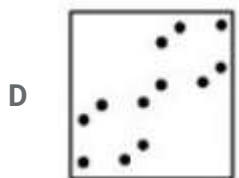
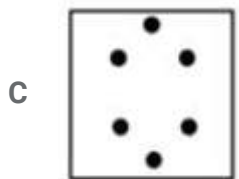
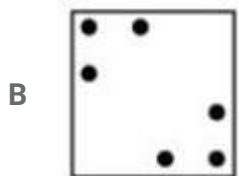
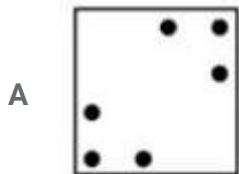
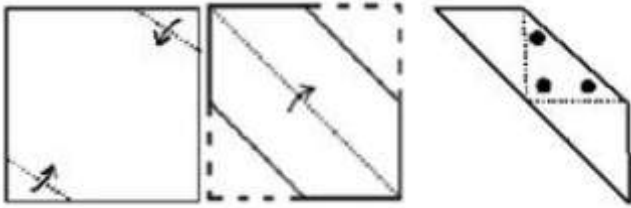
Identify the diagram that best represents the relationship among the given classes. Bird, Reptile, Snake



Answer: C

Question 25

A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.



Answer: D

General Awareness

Instructions

For the following questions answer them individually

Question 26

Which caves is a cultural mix of religious arts of Buddhism, Hinduism and Jainism?

A Ajanta

B Ellora

C Elephanta

D Badami

Answer: B

Question 27

Which Indian actor has won maximum number of National awards?

A Tabu

B Kamal Haasan

C Shabana Azmi

D Kangana Ranaut

Answer: C

Question 28

Which of the following induces souring of milk?

A Acetic Acid

B Citric Acid

C Ascorbic Acid

D Lactic Acid

Answer: D

Question 29

Which non-flowering, spore bearing plants have roots?

A mosses

B angiosperms

C ferns

D gymnosperms

Answer: C

Question 30

Which of the following is an excretory organ of cockroach?

- A Malpighian Tubules
- B Nephridia
- C Coxal Gland
- D Green Gland

Answer: A

Question 31

The Chemical formula of Cadmium nitrate is.....

- A $Cd(NO_3)_2$
- B $CdNO_3$
- C b: $CdNO_3$
c: $Cd_2(NO_3)_2$
- D Cd_2NO_3

Answer: A

Question 32

The common name of hydrogen peroxide is

- A borax
- B bleach (liquid)
- C baking soda
- D gypsum

Answer: B

Question 33

.....is a series of supercomputers designed and assembled by the Centre for Development of Advanced Computing (C-DAC) in Pune, India.

- A PARAM
- B TITAN
- C SHAKTI
- D VIGYAN

Answer: A

Question 34

Bharatanatyam is a folk dance of which state?

- A Kerala
- B Tamil Nadu
- C Andhra Pradesh
- D Uttarakhand

Answer: B

Question 35

Reema wants to buy a certain designer party dress. The shop is offering a discount of 20% on that dress which is marked at Rs 5000. If Reema was willing to pay even Rs 7000 for that dress, Reema's consumer surplus is

- A Rs 3000
- B Rs 2000
- C Rs 1000
- D Rs 7000

Answer: A

Explanation:

Marked price = Rs. 5000

Discount % = 20%

$$\Rightarrow \text{Selling price} = 5000 \times \frac{(100-20)}{100}$$

$$= 50 \times 80 = \text{Rs. } 4000$$

$$\text{Thus, Reema's consumer surplus} = 7000 - 4000 = \text{Rs. } 3000$$

=> Ans - (A)

Question 36

The unemployment created at certain times of the year, when the demand for goods and services are lower than normal, is.....

- A Cyclical unemployment
- B Frictional unemployment
- C Seasonal unemployment
- D Structural unemployment

Answer: C

Question 37

Evaporation of water takes place in which part of plants?

- A Stem
- B Stomata
- C Branch
- D Fruit

Answer: B

Question 38

Kalakkad-Mundanthurai Tiger Reserve is in which state?

- A Tamil Nadu
- B Chhattisgarh
- C Arunachal Pradesh
- D Uttarakhand

Answer: A

Question 39

Picture of which US President is on the 5 dollar note?

- A George Washington
- B Thomas Jefferson
- C Abraham Lincoln
- D Andrew Jackson

Answer: C

Question 40

Which country is the largest producer of Guava?

- A Brazil
- B China
- C United States
- D India

Answer: D

Question 41

Port Blair is the Capital City of.....

- A Andaman and Nicobar Islands
- B Andhra Pradesh
- C Bihar
- D West Bengal

Answer: A

Question 42

Battle of Plassey was fought in.....

- A 1657
- B 1707
- C 1757
- D 1807

Answer: C

Question 43

Shah Jahan (1627-1657 AD) was the ruler of which dynasty?

- A Mughal
- B Nanda
- C Maurya
- D Haryanka

Answer: A

Question 44

Who was the first Indian astronaut to travel in space?

- A Rakesh Sharma
- B Ravish Malhotra
- C Kalpana Chawla
- D Sheikh Muszaphar Shukor

Answer: A

Question 45

$AV = \text{constant}$, where $A =$ area of cross-section and $V =$ velocity of fluid. This equation is called.....

- A Equation of discontinuity
- B Equation of continuity
- C Equation of sustenance

D Equation of parallelism

Answer: B

Question 46

A body in equilibrium.....

A can move with constant acceleration

B is always at rest

C can move with constant velocity

D can move with variable acceleration

Answer: C

Question 47

All India Trinamool Congress was founded in the year.....

A 1925

B 1955

C 1984

D 1998

Answer: D

Question 48

Indian National Congress is a part of which political group?

A United Progressive Alliance

B National Democratic Alliance

C Janata Parivar

D Rashtra Parivar

Answer: A

Question 49

Which among the following countries won the Sultan Azlan Shah cup in 2016?

- A Netherlands
- B Germany
- C England
- D Australia

Answer: D

Question 50

Who wrote the book -"The Algebra of Infinite Justice"?

- A Bankim Chandra Chatterji
- B Arundhati Roy
- C Ashwaghosha
- D Anita Desai

Answer: B

English

Instructions

For the following questions answer them individually

Question 51

Select the word with the correct spelling.

- A crockery
- B filigre
- C mobillity
- D saccristy

Answer: A

Question 52

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

To spill the beans

- A To reveal secret information unintentionally
- B To lose inherited wealth
- C To spread rumours to intentionally harm someone
- D To spend away hard earned savings

Answer: A

Question 53

Improve the bracketed part of the sentence.

The pool was dry as the water (had been drained off) the day before.

- A has been drained off
- B was drained
- C has been drained away
- D no improvement

Answer: D

Question 54

**Select the antonym of
cosset**

- A ignore
- B close
- C caress
- D fondle

Answer: A

Question 55

Rearrange the parts of the sentence in correct order.

The essay is about

P-namely,

Q-what its title says,

R-the enemies of intellectual liberty

A RPQ

B QRP

C QPR

D PRQ

Answer: C

Question 56

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

The combination of high IQ and general knowledge makes it easier to.....these skills.

A have

B acquire

C procure

D get

Answer: B

Question 57

In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one, which best express the same sentence in Indirect/Direct speech.

"Bring me a cup of coffee" said Nita to her mother.

A Nita asked her mother that would she bring her a cup of coffee.

B Nita asked her mother that if she could bring her a cup of coffee.

C Nita asked her mother that could she bring her a cup of coffee.

D Nita asked her mother to bring her a cup of coffee.

Answer: D

Question 58

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

Despite the bank's security staff.....a vigil over the treasury boxes, the cash was stolen.

A putting

B placing

C keeping

D taking

Answer: C

Question 59

In the following question, a sentence has been given in Active/Passive voice. Out of four alternatives suggested, select the one, which best expresses the same sentence in Passive/Active voice.

Why did he break the vase?

A Why is the vase broken by him?

B Why was the vase broken by him?

C Why had been the vase broken by him?

D Why has been the vase broken by him?

Answer: B

Question 60

**Select the synonym of
privation**

A hardship

B abundance

C private

D luxury

Answer: A

Question 61

**Select the synonym of
carnage**

- A accord
- B butchery
- C concord
- D cessation

Answer: B

Question 62

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

To spin one's wheels

- A to take a chance
- B to do a job quickly
- C to narrate someone a confusing story
- D to waste one's time

Answer: D

Question 63

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

The average age at which(A)/people die of heart diseases(B)/are decreasing.(C)/No error(D)

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

Answer: C

Question 64

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

to kill someone by covering their nose and mouth so that they suffocate

A to smite

B to extirpate

C to lynch

D to smother

Answer: D

Question 65

Select the word with the correct spelling.

A smoldder

B alveolar

C canvacess

D innosent

Answer: B

Question 66

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

Hardly had I stepped(A)/out of my house when(B)/I saw them coming towards my house.(C)/No error(D)

A A

B B

C C

D D

Answer: D

Question 67

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

to break up into small parts as the result of impact or decay

A to disintegrate

B disharmony

C to disinherit

D to denigrate

Answer: D

Question 68

Select the antonym of hollow

A alveolate

B cleft

C cavernous

D solid

Answer: D

Question 69

Rearrange the parts of the sentence in correct order.

It was never meant

P-upon fundamental rights

Q-to become a tool

R-to broaden the scope of restrictions

A RQP

B RPQ

C PRQ

D QRP

Answer: D

Question 70

**Improve the bracketed part of the sentence.
(Her all) answers were incorrect.**

- A All of her
- B Her every answer
- C All in her
- D no improvement

Answer: C

Instructions

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

To impose costs on one of the parties at the end of a.....litigation is common; it is meant, among other things, to act as a.....against litigants abusing the process and the system of the law. But to seek pre-deposits with a view to prioritising a certain kind of case over another, byearly dates of hearing to those that are capable of paying huge.....of money, is simply staggering. It reinforces a scheme of classism that ought to have no place in any court of law, let.....the apex court of the land.Explanation:

Question 71

To impose costs on one of the parties at the end of a.....litigation is common

- A chronic
- B protracted
- C perpetual
- D infinite

Answer: B

Question 72

to act as a.....against litigants abusing the process and the system of the law.

- A deterrent
- B incentive

C catalyst

D stimulus

Answer: A

Question 73

by.....early dates of hearing

A conceding

B rewarding

C donating

D granting

Answer: D

Question 74

capable of paying huge.....of money

A total

B quantity

C sums

D worth

Answer: C

Question 75

let.....the apex court of the land.

A only

B lonely

C alone

D sole

Answer: C

Mathematics

Instructions

For the following questions answer them individually

Question 76

If $4(4x + 5) > 2x - 1 > 4x - 3$, then the value of x is

A 2

B 3

C -2

D 0

Answer: D

Explanation:

Expression 1 : $4(4x + 5) > 2x - 1$

$$\Rightarrow 16x + 20 > 2x - 1$$

$$\Rightarrow 16x - 2x > -1 - 20$$

$$\Rightarrow 14x > -21$$

$$\Rightarrow x > \frac{-3}{2} \text{ -----(i)}$$

Expression 2 : $2x - 1 > 4x - 3$

$$\Rightarrow 4x - 2x < 3 - 1$$

$$\Rightarrow 2x < 2$$

$$\Rightarrow x < 1 \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get : $\frac{-3}{2} < x < 1$

The only value that x can take among the options = 0

\Rightarrow Ans - (D)

Question 77

Point $Q(-2,b)$ is the midpoint of segment EF . Co-ordinates of E are $(-7,-6)$ and F are $(a,0)$. What is the value of a and b ?

A $a = 3; b = -3$

B $a = -3; b = -3$

C $a = 3; b = 3$

D $a = -3; b = 3$

Answer: A

Explanation:

Coordinates of mid point of line joining points (x_1, y_1) and $(x_2, y_2) = \left(\frac{x_1+y_1}{2}, \frac{y_1+y_2}{2}\right)$

Coordinates of E(-7,-6) and F(a,0). Mid point of EF is Q(-2,b)

$$\Rightarrow -2 = \frac{-7+a}{2}$$

$$\Rightarrow a - 7 = -4$$

$$\Rightarrow a = 7 - 4 = 3$$

Similarly, $b = \frac{-6+0}{2}$

$$\Rightarrow b = \frac{-6}{2} = -3$$

\Rightarrow Ans - (A)

Question 78

Find x.

$$693.5 - (47.23 - x) - 82.48 = 8.172$$

A -720.578

B -555.618

C -650.078

D 831.382

Answer: B

Explanation:

$$\text{Expression : } 693.5 - (47.23 - x) - 82.48 = 8.172$$

$$\Rightarrow 693.5 - 47.23 + x = 8.172 + 82.48$$

$$\Rightarrow 646.27 + x = 90.652$$

$$\Rightarrow x = 90.652 - 646.27$$

$$\Rightarrow x = -555.618$$

\Rightarrow Ans - (B)

Question 79

Coefficient of x^2 in $(x + 7)(5 - 3x)(3x - 6)$ is

A 96

B -30

C 42

D -18

Answer: B

Explanation:

A coefficient is a numerical or constant quantity placed before and multiplying the variable in an algebraic expression. Eg : In ax^2 , coefficient is a

$$\begin{aligned}\text{Expression : } & (x + 7)(5 - 3x)(3x - 6) \\ & = (5x - 3x^2 + 35 - 21x)(3x - 6) \\ & = (-3x^2 - 16x + 35)(3x - 6) \\ & = 3x(-3x^2 - 16x + 35) - 6(-3x^2 - 16x + 35) \\ & = -9x^3 - 48x^2 + 105x + 18x^2 + 96x - 210 \\ & = -9x^3 - 30x^2 + 201x - 210\end{aligned}$$

\therefore Coefficient of $x^2 = -30$

\Rightarrow Ans - (B)

Question 80

A man travels 420 kilometres in, partly by rail and partly by steamer. He spends 8 hours more time on steamer. If the velocity of the steamer is 35 km/hr and the velocity of rail is 65 km/hr, how much distance does he cover by steamer?

A 395 km

B 329 km

C 494 km

D 592 km

Answer: B

Explanation:

Let distance covered by steamer = d km

\Rightarrow Distance covered by rail = $(420 - d)$ km

Let time taken on rail = t hours and time taken on steamer = $(t + 8)$ hours

Speed of rail = 65 km/hr and speed of steamer = 35 km/hr

Using, speed = distance/time

For steamer, $\frac{d}{t+8} = 35$

$$\Rightarrow d = 35t + 280 \text{ -----(i)}$$

For rail, $\frac{420-d}{t} = 65$

Substituting value of d from equation (i), we get :

$$\Rightarrow 420 - (35t + 280) = 65t$$

$$\Rightarrow 420 - 280 = 65t + 35t = 100t$$

$$\Rightarrow t = \frac{140}{100} = 1.4 \text{ hours}$$

Substituting value of t in equation (i), $\Rightarrow d = (35 \times 1.4) + 280$

$$= 49 + 280 = 329 \text{ km}$$

Question 81

If $\cos -300^\circ = x$, then the value of x is

A $1/2$

B $-1/\sqrt{2}$

C $-1/2$

D $\sqrt{3}/2$

Answer: A

Explanation:

Expression : $\cos -300^\circ = x$

$$\because \cos(-x) = \cos(x)$$

$$= \cos(300)$$

$$= \cos(360 - 60) = \cos(60)$$

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

\Rightarrow Ans - (A)

Question 82

What is the slope of the line $4x - 8y = 3$?

A $-1/2$

B 2

C $1/2$

D -2

Answer: C

Explanation:

Slope of line $ax + by + c = 0$ is $= \frac{-a}{b}$

Now, equation of line $4x - 8y = 3$

$$\Rightarrow \text{Slope} = \frac{-4}{-8} = \frac{1}{2}$$

\Rightarrow Ans - (C)

Question 83

Rajat sells a machine for Rs 53 lakhs at a loss. Had he sold it for Rs 64 lakh, his gain would have been 10 times the former loss. Find the cost price of the machine.

A Rs 63 lakhs

B Rs 69.3 lakhs

C Rs 45 lakhs

D Rs 54 lakhs

Answer: D

Explanation:

Let cost price of the machine = Rs. x lakhs

When selling price = Rs. 53 lakhs

$$\Rightarrow \text{Loss} = \text{Rs. } (x - 53) \text{ lakhs}$$

If selling price = Rs. 64 lakhs

$$\Rightarrow \text{Profit} = \text{Rs. } (64 - x) \text{ lakhs}$$

According to ques, Profit = $10 \times$ loss

$$\Rightarrow (64 - x) = 10 \times (x - 53)$$

$$\Rightarrow 64 - x = 10x - 530$$

$$\Rightarrow 10x + x = 530 + 64 = 594$$

$$\Rightarrow x = \frac{594}{11} = \text{Rs. } 54 \text{ lakhs}$$

\Rightarrow Ans - (D)

Question 84

The ratio of present ages of Rambha and Sarvesh is 8:5. After 7 years the ratio of their ages will be 5:4. What is Rambha's present age?

- A 5
- B 30
- C 8
- D 48

Answer: C

Explanation:

Let Rambha's present age = $8x$ years and Sarvesh's present age = $5x$ years

$$\text{According to ques, } \Rightarrow \frac{8x+7}{5x+7} = \frac{5}{4}$$

$$\Rightarrow 32x + 28 = 25x + 35$$

$$\Rightarrow 32x - 25x = 35 - 28$$

$$\Rightarrow 7x = 7$$

$$\Rightarrow x = \frac{7}{7} = 1$$

$$\therefore \text{Rambha's age} = 8 \times 1 = 8 \text{ years}$$

\Rightarrow Ans - (C)

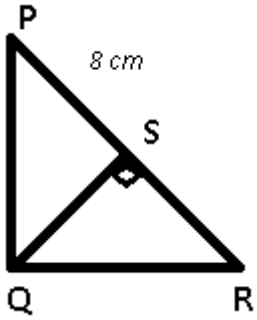
Question 85

ΔPQR is right angled at Q. QS is the altitude. PQ is $4\sqrt{29}$ cm and PS is 8 cm. Find length of SR?

- A $10\sqrt{29}$ cm
- B $8\sqrt{29}$ cm
- C 50 cm
- D 20 cm

Answer: C

Explanation:



Given : $PQ = 4\sqrt{29}$ cm and $PS = 8$ cm

$$\text{In } \triangle PQS, \Rightarrow (PQ)^2 = (PS)^2 + (QS)^2$$

$$\Rightarrow (4\sqrt{29})^2 = (8)^2 + (QS)^2$$

$$\Rightarrow (QS)^2 = 464 - 64 = 400$$

$$\Rightarrow (QS) = \sqrt{400} = 20 \text{ cm}$$

Let $SR = x$ cm

$$\text{Using, } (QS)^2 = (PS) \times (SR)$$

$$\Rightarrow (20)^2 = 8 \times x$$

$$\Rightarrow x = \frac{400}{8} = 50 \text{ cm}$$

\Rightarrow Ans - (C)

Question 86

In a rectangle.....

- A Consecutive angles are congruent as well as supplementary
- B Diagonals are perpendicular to each other
- C Diagonals bisect opposite angles
- D Diagonals are not equal

Answer: A

Explanation:

In a rectangle, all the angles are right angle and thus consecutive angles are congruent (equal) as well as supplementary (sum = 180°)

\Rightarrow Ans - (A)

Question 87

If $\sqrt{\operatorname{cosec}^2 A - 1} = x$, then the value of x is

- A $\tan A$

B $\sin A$

C $\cos A$

D $\cot A$

Answer: D

Explanation:

Expression : $\sqrt{\operatorname{cosec}^2 A - 1}$

$\therefore (\operatorname{cosec}^2 A - \cot^2 A = 1)$

$= \sqrt{\cot^2 A} = \cot A$

=> Ans - (D)

Question 88

A can do a work in 15 days and B in 20 days. If they work on it together for 5 days, then what fraction of work is left?

A $2/9$

B $3/10$

C $5/12$

D $1/4$

Answer: C

Explanation:

Let total work to be done = 60 units

A's efficiency = $\frac{60}{15} = 4$ units/day

B's efficiency = $\frac{60}{20} = 3$ units/day

(A + B)'s 1 day's work together = $4 + 3 = 7$ units/day

Now, work done by them together in 5 days = $5 \times 7 = 35$ units

=> Work left = $60 - 35 = 25$ units

\therefore Fraction of work that is left = $\frac{25}{60} = \frac{5}{12}$

=> Ans - (C)

Question 89

A dishonest milkman buys milk at Rs 30 per litre and adds $1/5$ of water to it and sells the mixture at Rs 32 per litre. What will be his gain?

- A 33.33 percent
- B 50 percent
- C 28 percent
- D 25 percent

Answer: C

Explanation:

The milkman adds $(\frac{1}{5})^{th}$ of water, thus total mixture = $1 + \frac{1}{5} = \frac{6}{5}$

Cost price per litre of the mixture = $\frac{30}{\frac{6}{5}} = 30 \times \frac{5}{6} = Rs\ 25$

Selling price per litre = Rs. 32

$$\therefore \text{Profit \%} = \frac{32-25}{25} \times 100$$

$$= 7 \times 4 = 28\%$$

=> Ans - (C)

Question 90

If the radius of a circle is increased by 21%, then its area will increase by what percent?

- A 42 percent
- B 21 percent
- C 23.205 percent
- D 46.41 percent

Answer: D

Explanation:

Let radius = 10 cm

$$\Rightarrow \text{Area of circle} = \pi(10)^2 = 100\pi \text{ sq. cm}$$

If radius is increased by 21%, => New radius = 12.1 cm

$$\text{New area} = \pi(12.1)^2 = 146.41\pi \text{ sq. cm}$$

$$\Rightarrow \% \text{ increase in area} = \frac{146.41-100}{100} \times 100$$

$$= 46.41\%$$

=> Ans - (D)

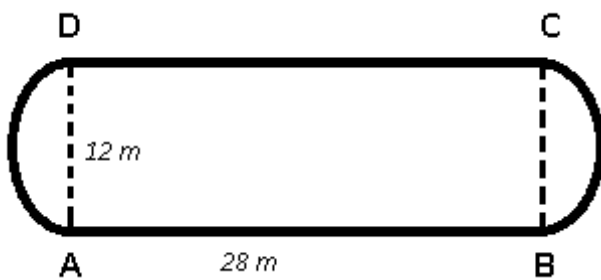
Question 91

A cylindrical capsule has hemispherical ends of the radii equal to radius of the cylindrical part. If length of the capsule is 40 m and radius 6 m, what is the total surface area of this capsule?

- A 3017.14 sq mts
- B 4525.71 sq mts
- C 1508.57 sq mts
- D 754.29 sq mts

Answer: C

Explanation:



Radius = 6 m and length of whole capsule = 40 m

=> Height of cylindrical part = $AB = 40 - 6 - 6 = 28$ m

Total surface area of cylinder = Curved surface area of cylinder + $2 \times$ Curved surface area of hemisphere

$$= (2\pi rh) + (2 \times 2\pi r^2)$$

$$= (2\pi r)(h + 2r)$$

$$= (2 \times \frac{22}{7} \times 6)(28 + 2 \times 6)$$

$$= \frac{264}{7} \times 40$$

$$= 1508.57 \text{ m}^2$$

=> Ans - (C)

Question 92

If $2\cos^2 A - 1 = x$, then the value of x is

- A $\operatorname{cosec}^4 A - \sin^4 A$
- B $\cos^4 A - \sin^4 A$
- C $\cos^4 A - \tan^4 A$
- D $\operatorname{cosec}^4 A - \tan^4 A$

Answer: B

Explanation:

$$\text{Expression : } 2\cos^2 A - 1 = x$$

$$\therefore (\sin^2 A + \cos^2 A = 1)$$

$$= 2\cos^2 A - (\sin^2 A + \cos^2 A)$$

$$= 2\cos^2 A - \cos^2 A - \sin^2 A$$

$$= \cos^2 A - \sin^2 A = (\cos^2 A - \sin^2 A) \times (1)$$

$$= (\cos^2 A - \sin^2 A) \times (\cos^2 A + \sin^2 A)$$

$$= \cos^4 A - \sin^4 A$$

=> Ans - (B)

Question 93

In a class of 56 students there are 28 girls. The average weight of these girls is 46 kg and average weight of the full class is 51 kgs. What is the average weight of the boys of the class?

A 55

B 56

C 53

D 54

Answer: B

Explanation:

Total number of students = 56 and number of girls = 28

=> Number of boys in class = 56 - 28 = 28

Average weight of girls = 46 kg

=> Total weight of girls = $46 \times 28 = 1288$ kg

Similarly, total weight of full class = $51 \times 56 = 2856$ kg

=> Total weight of boys = $2856 - 1288 = 1568$ kg

\therefore Average weight of boys = $\frac{1568}{28} = 56$ kg

=> Ans - (B)

Question 94

The ratio of ages of father and son is 7:2. Five years ago the product of their ages was 150. What is the age of the father?

A 30 years

B 45 years

C 35 years

D 40 years

Answer: C

Explanation:

Let father's age = $7x$ years and son's age = $2x$ years

According to ques, $\Rightarrow (7x - 5)(2x - 5) = 150$

$$\Rightarrow 14x^2 - 35x - 10x + 25 - 150 = 0$$

$$\Rightarrow 14x^2 - 45x - 125 = 0$$

$$\Rightarrow 14x^2 - 70x + 25x - 125 = 0$$

$$\Rightarrow 14x(x - 5) + 25(x - 5) = 0$$

$$\Rightarrow (x - 5)(14x + 25) = 0$$

$$\Rightarrow x = 5, \frac{-25}{14}$$

Since, age can't be negative, thus $x = 5$

\therefore Father's age = $7 \times 5 = 35$ years

\Rightarrow Ans - (C)

Question 95

Three consecutive natural numbers are such that the square of the greatest is greater than the product of the other two by 19. The smallest of these numbers is

A 5

B 6

C 7

D 4

Answer: A

Explanation:

Let the three consecutive natural numbers be $(x - 1)$, (x) and $(x + 1)$

According to ques, $\Rightarrow (x + 1)^2 - (x - 1)(x) = 19$

$$\Rightarrow (x^2 + 2x + 1) - (x^2 - x) = 19$$

$$\Rightarrow 3x + 1 = 19$$

$$\Rightarrow 3x = 19 - 1 = 18$$

$$\Rightarrow x = \frac{18}{3} = 6$$

$$\therefore \text{Smallest number} = (x - 1) = 6 - 1 = 5$$

\Rightarrow Ans - (A)

Question 96

Deepanshu lent Rs. 8400 to Jaipal for 15 years and Rs. 5100 to Kareem for 14 years on simple interest at the same rate of interest and received Rs. 17766 in all from both of them as interest. The rate of interest per annum is

A 9.5 percent

B 10 percent

C 10.5 percent

D 9 percent

Answer: D

Explanation:

rate of interest per annum = $r\%$

Sum lent to Jaipal = Rs. 8400 for 15 years and Rs. 5100 to Kareem for 14 years

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

$$\Rightarrow \text{Total interest} = \left(\frac{8400 \times r \times 15}{100} \right) + \left(\frac{5100 \times r \times 14}{100} \right) = 17766$$

$$\Rightarrow 1260r + 714r = 17766$$

$$\Rightarrow 1974r = 17766$$

$$\Rightarrow r = \frac{17766}{1974} = 9\%$$

\Rightarrow Ans - (D)

Question 97

Read the data and answer the questions

	Weight	Height in Meters
Amrita	53	1.7
Anagha	78	1.55
Anamika	52	1.63
Anandi	54	1.62

Whose has the least Weight to height ratio ?

A Amrita

B Anagha

C Anamika

D Anandi

Answer: A

Explanation:

Ratio of weight to height

$$\text{Amrita} : \frac{53}{1.7} = 31.1 \quad \text{[LEAST]}$$

$$\text{Anagha} : \frac{78}{1.55} = 50.3$$

$$\text{Anamika} : \frac{52}{1.63} = 31.9$$

$$\text{Anandi} : \frac{54}{1.62} = 33.3$$

=> Ans - (A)

Question 98

Read the the table and answer the questions

Years	Company's Profit in %
2011	20
2012	10
2013	5
2014	10
2015	20

What was the Revenue of the company if its Expenditure was Rs 400 crore in the year when its % profit was the least?

A 460

B 440

C 420

D 400

Answer: C

Explanation:

Profit % was least in 2013 = 5%

Let revenue = Rs. x crore and expenditure = Rs. 400 crore

$$\Rightarrow \text{Profit \%} = \frac{x-400}{400} \times 100 = 5$$

$$\Rightarrow \frac{x-400}{400} = \frac{5}{100} = \frac{1}{20}$$

$$\Rightarrow x - 400 = \frac{400}{20} = 20$$

$$\Rightarrow x = 400 + 20 = 420 \text{ crore}$$

=> Ans - (C)

Question 99

Read the table and answer the questions

No of Children	No of Houses
0	6
1	15
2	14
3	7

What is the average number of children per house?

- A 1.52
- B 1.77
- C 2.02
- D 1.27

Answer: A

Explanation:

Total number of houses = $6 + 15 + 14 + 7 = 42$

Total children = $(0 \times 6) + (1 \times 15) + (2 \times 14) + (3 \times 7)$
 $= 15 + 28 + 21 = 64$

\therefore Average number of children per house = $\frac{64}{42} = 1.52$

=> Ans - (A)

Question 100

Read the table and answer the given questions

Partners	Present % Share
Anand	15
Basu	30
Chinmay	15
Dhiraj	30
Ejaz	10

If the company has issued six lakh shares between its five partners and if Chinmay offers to sell 15,000 of his shares to Dhiraj, then Dhiraj will have how many shares?

- A 180000 shares
- B 210000 shares

C 165000 shares

D 195000 shares

Answer: D

Explanation:

Total shares = 6,00,000

Original shares with Dhiraj = $\frac{30}{100} \times 600000 = 1,80,000$

If Chinmay offers to sell 15,000 of his shares to Dhiraj,

=> Shares with Dhiraj = 1,80,000 + 15,000 = 1,95,000

=> Ans - (D)

SSC CHSL 21 Jan 2017 Afternoon Shift

Reasoning

Instructions

For the following questions answer them individually

Question 1

Select the related word/letters/number from the given alternatives.

India : Rupee :: ? : Taka

- A Indonesia
- B Nepal
- C Bangladesh
- D Sri Lanka

Answer: C

Explanation:

Rupee is the currency of India, similarly Taka is the currency of *Bangladesh*.

=> Ans - (C)

Question 2

Select the related word/letters/number from the given alternatives.

RST:QPO:: MNO:: ?

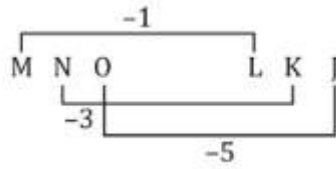
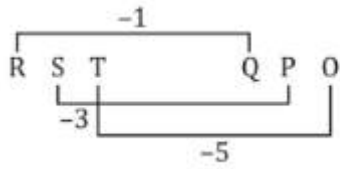
- A YZA
- B GHI
- C BAC
- D LKJ

Answer: D

Explanation:

Expression = RST:QPO:: MNO:: ?

The pattern followed is :



Thus, MNO : LKJ

=> Ans - (D)

Question 3

Select the related word/letters/number from the given alternatives.

JOCKER : MRFNHU :: DRAUGHT : ?

- A GUDXKWJ
- B GUDXJWK
- C GUDXJKW
- D GUDJXKW

Answer: C

Explanation:

Expression = JOCKER : MRFNHU :: DRAUGHT : ?

The pattern followed is :

J	O	C	K	E	R
(+3)	(+3)	(+3)	(+3)	(+3)	(+3)
M	R	F	N	H	U

Similarly, for DRAUGHT :

D	R	A	U	G	H	T
(+3)	(+3)	(+3)	(+3)	(+3)	(+3)	(+3)
G	U	D	X	J	K	W

=> Ans - (C)

Question 4

Select the related word/letters/number from the given alternatives.

8 : 504 :: 11 : ?

- A 1300
- B 1310
- C 1320
- D 1302

Answer: C

Explanation:

Expression = $8 : 504 :: 11 : ?$

The pattern followed is = $x : (x - 1)(x)(x + 1)$

Eg :- $8 : (7)(8)(9) = 8 : 504$

Similarly, $10 \times 11 \times 12 = 1320$

=> Ans - (C)

Question 5

Select the odd word/letters/number/number pair from the given alternatives.

A Horse

B Pony

C Mare

D Cub

Answer: D

Explanation:

Except cub other three related to Horse family, hence cub is the odd one out.

=> Ans - (D)

Question 6

Select the odd word/letters/number/number pair from the given alternatives.

A VW

B ST

C BD

D PQ

Answer: C

Explanation:

Except for BD, other letters are consecutive pairs according to the English alphabetical order, hence BD is the odd one out.

=> Ans - (C)

Question 7

Select the odd word/letters/number/number pair from the given alternatives.

A 85431

B 23870

C 99300

D 11559

Answer: B

Explanation:

The sum of digits of the numbers is 21, but $2 + 3 + 8 + 7 + 0 = 20$, hence 23870 is the odd one out.

=> Ans - (B)

Question 8

Select the odd word/letters/number/number pair from the given alternatives.

A 9

B 729

C 81

D 243

Answer: D

Explanation:

Except 243 other three are exponents of 9.

$$9^1 = 9, 9^2 = 81, 9^3 = 729$$

=> Ans - (D)

Question 9

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

Egg, ? , Pupa, Adult

A Larva

B Chicken

C Mammal

D Insect

Answer: A

Explanation:

Life cycle of silkworm is given.

= Egg -> Larva -> Pupa -> Adult

=> Ans - (A)

Question 10

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

?, LKJ, DCB, UTS

A SRQ

B SPQ

C SPO

D SRT

Answer: A

Explanation:

Expression : ?, LKJ, DCB, UTS

The pattern followed is :

S R Q L K J D C B U T S
 └───┘ └───┘ └───┘
 -5 -6 -7

Thus, missing term = SRQ

=> Ans - (A)

Question 11

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

WX, AB, FG, ?

A LI

B LO

C LM

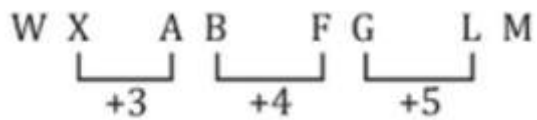
D LN

Answer: C

Explanation:

Expression : WX, AB, FG, ?

The pattern followed is :



Thus, missing term = LM

=> Ans - (C)

Question 12

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

35, 39, 34, 38, ?

A 39

B 33

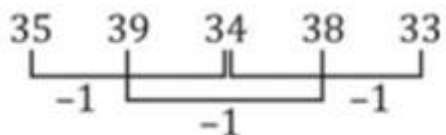
C 32

D 31

Answer: B

Explanation:

The pattern followed is :



Thus, missing number = 33

=> Ans - (B)

Question 13

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

Statements:

- (I) Ramaa is brilliant.
- (II) Ramaa is a woman.

Conclusion:

- (I) Women are brilliant.
- (II) Ramaa is brilliant as she is a woman.

- A Conclusion I follows
- B Conclusion II follows
- C Neither I nor II follows
- D Both I and II follows

Answer: C

Question 14

Bumrah, Jaggu, Mahi, Yuvi and Sehwag play cricket. Sehwag scored more runs than Yuvi but lesser runs than Mahi. Bumrah scored more runs than Mahi but lesser runs than Jaggu. Who scored the maximum runs?

- A Yuvi
- B Bumrah
- C Mahi
- D Jaggu

Answer: D

Explanation:

Sehwag scored more runs than Yuvi but lesser runs than Mahi, \Rightarrow Mahi > Sehwag > Yuvi

Bumrah scored more runs than Mahi but lesser runs than Jaggu, \Rightarrow Jaggu > Bumrah > Mahi

Combining above statements, we get : **Jaggu > Bumrah > Mahi > Sehwag > Yuvi**

\therefore Jaggu scored the maximum runs.

\Rightarrow Ans - (D)

Question 15

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

- i. Parachute
- ii. Pacable
- iii. Pachometer
- iv. Pabloism

A iv, ii, i, iii

B iv, i, ii, iii

C iii, i, iv, ii

D iv, ii, iii, i

Answer: D

Explanation:

As per the order of dictionary :

= Pabloism -> Pacable -> Pachometer -> Parachute

≡ iv, ii, iii, i

=> Ans - (D)

Question 16

In a certain code language, "DOMINOS" is written as "5981796" and "MONEY" is written as "89742" How is "MOMOS" written in that code language?

A 89872

B 89896

C 89895

D 89897

Answer: B

Explanation:

The codes for each letter is given :

M -> 8

O -> 9

M -> 8

O -> 9

S -> 6

Thus, MOMOS : **89896**

=> Ans - (B)

Question 17

Find the missing number as per given series in the table?

17	8	136
19	?	171
8	13	104

A 7

B 9

C 6

D 2

Answer: B

Explanation:

In each row, the number at the end is obtained by multiplying the other two.

Eg :- $17 \times 8 = 136$ and $8 \times 13 = 104$

Similarly, $19 \times x = 171$

$$\Rightarrow x = \frac{171}{19} = 9$$

\Rightarrow Ans - (B)

Question 18

If "K" means "minus", "L" means "divided by", "M" means "plus" and "D" means "multiplied by", then

$104 \text{ L } 2 \text{ K } 25 \text{ M } 2 \text{ D } 9 = ?$

A 15

B 25

C 35

D 45

Answer: D

Explanation:

Expression : $104 \text{ L } 2 \text{ K } 25 \text{ M } 2 \text{ D } 9 = ?$

$$\equiv 104 \div 2 - 25 + 2 \times 9$$

$$= \left(\frac{104}{2}\right) + (-25) + (2 \times 9)$$

$$= 52 - 25 + 18 = 45$$

=> Ans - (D)

Question 19

In the following question, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

_q_rpq_r_qq_

A pqqpr

B prpqr

C pqqqr

D prrrp

Answer: A

Explanation:

The pattern followed is that in groups of 4, the term 'pqqr' is repeated

= pqqr pqqr pqqr

=> Ans - (A)

Question 20

Riya left home for school. She moved 5 km in the east direction, then she turned towards south-east to move 10 km, again she turned towards north-east to move for another 10 km. From there, she finally moved 5 km towards east to reach her school. How far is she from her home?

A $10+10\sqrt{2}$ km

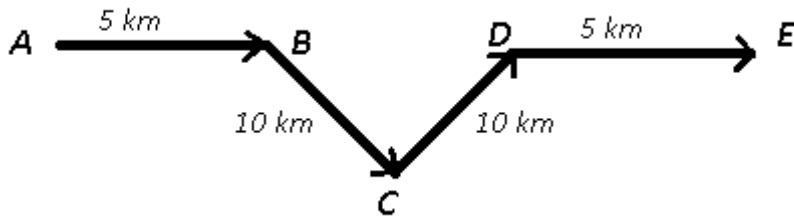
B $10+20\sqrt{2}$ km

C $20+10\sqrt{2}$ km

D $15+20\sqrt{2}$ km

Answer: A

Explanation:



Let Riya started from point A and moved east for 5 km, then she turned south-east and moved 10 km to reach point C, from there she turned north-east for 10 km and finally stopped at point E.

$$\text{Now, } BD = \sqrt{(10)^2 + (10)^2} = \sqrt{100 + 100}$$

$$= \sqrt{200} = 10\sqrt{2} \text{ km}$$

$$\text{Thus, } AE = 5 + 5 + 10\sqrt{2} = 10 + 10\sqrt{2} \text{ km}$$

=> Ans - (A)

Question 21

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'D' can be represented by 01, 10, etc., and 'R' can be represented by 34, 22, etc. Similarly, you have to identify the set for the word 'GREEN'.

MATRIX 1:

	0	1	2	3	4
0	A	D	N	M	R
1	D	T	W	R	W
2	S	H	R	B	E
3	F	R	E	V	R
4	R	E	G	C	F

MATRIX 2:

	5	6	7	8	9
5	H	E	Z	A	T
6	E	G	A	G	Y
7	K	A	X	G	M
8	A	B	C	M	W
9	K	V	M	H	N

A 98, 40, 85, 14, 20

B 01, 04, 42, 76, 98

C 78, 34, 65, 24, 99

D 42, 04, 24, 41, 88

Answer: C

Explanation:

(A) : 98, 40, 85, 14, 20 = HRAWS

(B) : 01, 04, 42, 76, 98 = DRGAH

(C) : 78, 34, 65, 24, 99 = **GREEN**

(D) : 42, 04, 24, 41, 88 = GREEM

=> Ans - (C)

Question 22

Pointing towards a lady in a picture, Jatin says, "She is the only daughter-in-law of my paternal grandfather's wife." How is the lady related to Jatin?

A Cousin

B Mother

C Sister

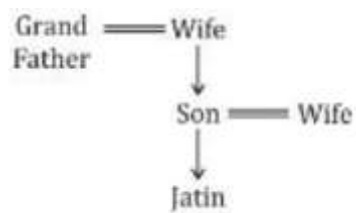
D Niece

Answer: B

Explanation:

Jatin's paternal grandfather's wife = Jatin's grandmother

Now, the lady is daughter-in-law of Jatin's grandmother, => Jatin is her son

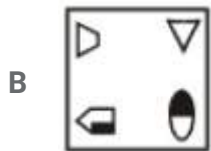
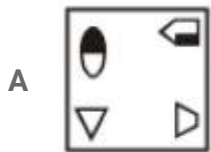
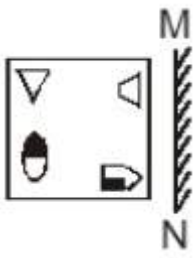


Thus, that lady is Jatin's mother.

=> Ans - (B)

Question 23

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



Answer: B

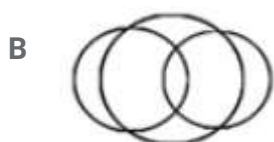
Question 24

Identify the diagram that best represents the relationship among the given classes.

Furniture, Sofa, Tables



fig 2

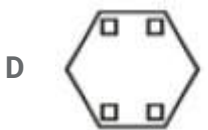
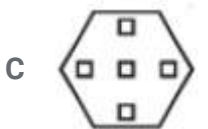
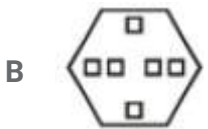
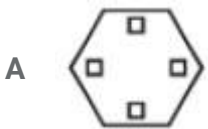
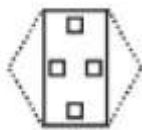
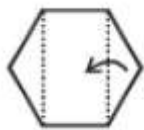




Answer: A

Question 25

A piece of paper is folded and Punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.



Answer: B

General Awareness

Instructions

For the following questions answer them individually

Question 26

Which World Heritage Monument has been acclaimed as the "Necropolis of the Mughal dynasty"?

- A Humayun's Tomb
- B Mahabodhi Temple Complex
- C Qutub Minar
- D Red Fort Complex

Answer: A

Question 27

Highest Civilian Honour received by Priyanka Chopra is

- A Padma Shri
- B Padma Bhushan
- C Padma Vibhushan
- D Bharat Ratna

Answer: A

Question 28

Which drug is used to cure Osteoporosis?

- A Risedronate
- B Tramadol
- C Promethazine
- D Levothyroxine

Answer: A

Question 29

A ____ is the fleshy, spore-bearing fruiting body of a fungus.

- A aloe vera
- B coral
- C cactus

D mushroom

Answer: D

Question 30

Which of the following is a fungal disease?

A Dermatitis

B Cholera

C Jaundice

D Indigofera

Answer: A

Question 31

Which of the following is present in Nail polish remover?

A Citric acid

B Acetone

C Ethylene

D Benzene

Answer: B

Question 32

What is the formula of potassium ion in the noble gas state?

A K^+

B K^{2+}

C K^{2-}

D K^-

Answer: A

Question 33

Unix operating system was developed in 1970s by

- A** Moto Labs
- B** Microsoft Labs
- C** IBM Labs
- D** Bell Labs

Answer: D

Question 34

Malayalam is the official language of _____.

- A** Haryana
- B** Jharkhand
- C** Kerala
- D** Uttarakhand

Answer: C

Question 35

If price of an article decreases from Rs 18 to Rs 16, quantity demanded increases from 1250 units to 1400 units. What is the point elasticity of demand?

- A** -2.04
- B** -1.08
- C** 1.08
- D** 2.04

Answer: B

Question 36

If goods A and B are substitutes, a decrease in the price of good B will

- A decrease demand for good B
- B decrease demand for both the goods
- C increase demand for both the goods
- D decrease demand for good A

Answer: D

Question 37

Qatar is the highest per capita emitter of which of the following gases?

- A Carbon Dioxide
- B Carbon Monoxide
- C Ammonia
- D Hydrogen Sulphide

Answer: A

Question 38

Where is Dachigam National Park located?

- A Uttarakhand
- B Mizoram
- C Jammu & Kashmir
- D Himachal Pradesh

Answer: C

Question 39

Name the first satellite of India dedicated exclusively for educational purposes.

- A KNOWSAT

B TEJSAT

C EDUSAT

D GSAT

Answer: C

Question 40

In terms of size, Uranus ranks no. ___ in our Solar System.

A 1

B 2

C 3

D 4

Answer: C

Question 41

Hyderabad is the Capital City of ____.

A Assam

B Chhattisgarh

C Andhra Pradesh

D Telangana

Answer: D

Question 42

Who was first Viceroy and Governor-General of pre-independence era?

A Warren Hastings

B Lord William Bentinck

C Lord Mountbatten

D Lord Canning

Answer: D

Question 43

Jahangir was the son of?

- A Babur
- B Humayun
- C Akbar
- D Shah Jahan

Answer: C

Question 44

Isaac Newton invented _____.

- A Thermometer
- B Reflecting Telescope
- C Hydraulic Accumulator
- D Transistor

Answer: B

Question 45

Which among the following is false about work?

- A If displacement is zero, work is zero
- B Work done can be negative
- C It is a vector quantity
- D Its unit is Joule

Answer: C

Question 46

What is inertia?

- A Tendency to resist change in the current state
- B Tendency to impart acceleration to a body
- C Tendency to bring a body to rest
- D Tendency to change its current state

Answer: A

Question 47

Article 356 of the Indian Constitution is about

- A Directive Principles of state policy
- B Imposition of President's Rule in states
- C Hindi as official language
- D Special status to Kashmir

Answer: B

Question 48

The number of parliamentary seats (Lok Sabha) of Maharashtra is

- A 10
- B 26
- C 28
- D 48

Answer: D

Question 49

Which cricketer scored 400 runs in an innings in Test Cricket?

- A Sachin Tendulkar
- B Don Bradman
- C Brian Lara

D Vivian Richards

Answer: C

Question 50

Name the author of the book "Discovery of India".

A Jawahar Lal Nehru

B Kiran Desai

C K Natwar Singh

D Indira Gandhi

Answer: A

English

Instructions

For the following questions answer them individually

Question 51

Select the word with the correct spelling.

A enarvate

B liggament

C accesses

D dweling

Answer: C

Question 52

In the following question, a sentence has been given in Active/Passive voice. Out of four alternatives suggested, select the one, which best expresses the same sentence in Passive/Active voice.

The dog is being fed by us.

A We fed the dog.

- B** We have had been feeding the dog.
- C** We are feeding the dog.
- D** We had been feeding the dog.

Answer: C

Question 53

Select the word with the correct spelling.

- A** autarchie
- B** inately
- C** choossers
- D** gimmicks

Answer: D

Question 54

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

to be indecisive

- A** to vex
- B** to dither
- C** tiff
- D** to stew

Answer: B

Question 55

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

The last Mughal emperor was(A)/send into exile(B)/by the British.(C)/No error(D)

- A** The last Mughal emperor was
- B** send into exile

C by the British.

D No error

Answer: B

Question 56

Select the antonym of
elf

A pixie

B nisse

C fay

D giant

Answer: D

Question 57

Improve the bracketed part of the sentence.

Bunty did not just throw the toy, he (has broken it).

A had broken it

B broke it too

C breaks it

D no improvement

Answer: B

Question 58

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

Being a sunny day(A)/I decided to stay at home(B)/and take a nap.(C)/No error(D)

A A

B B

C C

D D

Answer: A

Question 59

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

to pull or twist out of shape

A to distort

B to gnarl

C pervert

D to repudiate

Answer: A

Question 60

Select the synonym of

batter

A insulate

B assure

C bash

D bulwark

Answer: C

Question 61

Improve the bracketed part of the sentence.

You ought not to (go) there but you did.

A have gone

B be going

C going

D no improvement

Answer: A

Question 62

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

Keynesian economic theory differs _____ from Marxian.

A variably

B markedly

C literally

D usually

Answer: B

Question 63

Select the antonym of
imminent

A friendly

B nigh

C escapable

D dangerous

Answer: C

Question 64

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

No horse in this race

A A rigged contest

B A very easily won contest where there are no b contestants

C To have no vested interest in the outcome of a contest

D To have no chance of winning

Answer: C

Question 65

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

The management should have put up a notice _____ the dates of the event.

A illustrating

B implying

C indicating

D expressing

Answer: C

Question 66

Rearrange the parts of the sentence in correct order:

Therefore, perhaps

P-on ensuring learning standards

Q-there is a case

R-to introduce some clauses

A RQP

B QRP

C PRQ

D PQR

Answer: B

Question 67

Select the synonym of

jeer

A compliment

- B** hoot
- C** flatter
- D** praise

Answer: B

Question 68

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

To be pushing up daisies

- A** To get up feeling fresh
- B** To be dead and buried
- C** To smell like flowers
- D** Once beautiful but now ugly

Answer: B

Question 69

Rearrange the parts of the sentence in correct order.

**Public interest litigation,
P-presently serves a role distinctly opposed
Q-therefore,
R-to the rationale behind its fashioning**

- A** QPR
- B** RQP
- C** PQR
- D** PRQ

Answer: A

Question 70

In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one, which best express the same sentence in Indirect/Direct speech.

The professor said to the students, 'Work hard if you want to pass the test.'

- A The professor said to the students work hard if they wanted to pass the test.
- B The professor said to the students work hard if you want to pass the test.
- C The professor advised the students to work hard if they wanted to pass the test.
- D The professor informed the students to work hard if you want to pass the test.

Answer: C

Instructions

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

In the course _____ the hearing, the Central government _____ to concede that it had not fulfilled many of its statutory _____. The National Disaster Policy required under the Disaster Management Act did not exist. The Disaster Mitigation Fund proposed under the same Act _____. The National Disaster Response Force did not have _____ expertise to deal with the drought. It also admitted that the Centre had delayed releasing assistance to States under the National Disaster Response Fund.

Question 71

In the course _____ the hearing

- A of
- B for
- C to
- D with

Answer: A

Question 72

the Central government _____ to concede

- A forced
- B was forced
- C was being forced
- D forces

Answer: B

Question 73

it had not fulfilled many of its statutory _____.

- A liabilities
- B contracts
- C rights
- D obligations

Answer: D

Question 74

The Disaster Mitigation Fund proposed under the same Act _____.

- A would not be created
- B was not being created
- C has not been created
- D could not be created

Answer: C

Question 75

The National Disaster Response Force did not have _____ expertise to deal with the drought.

- A any
- B some
- C all
- D little

Answer: A

Instructions

For the following questions answer them individually

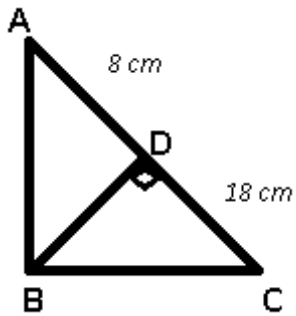
Question 76

Triangle ABC is right angled at B. BD is the altitude. AD is 8 cm and DC is 18 cm. Find length of BD?

- A 6 cm
- B 9 cm
- C 12 cm
- D 15 cm

Answer: C

Explanation:



Let $BD = x$ cm

Using, $(BD)^2 = (AD) \times (CD)$

$$\Rightarrow (x)^2 = 8 \times 18 = 144$$

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

\Rightarrow Ans - (C)

Question 77

Painter 'A' can paint a house in 50 days and 'B' can do it in 25 days. With help of 'C', they did the job in 10 days only. Then, 'C' alone can do the job in

- A 8 days
- B 16 days
- C 25 days
- D 15 days

Answer: C

Explanation:

Let total work to be done = 100 units

Painter 'A' can paint a house in 50 days and 'B' can do it in 25 days

$$\Rightarrow \text{A's efficiency} = \frac{100}{50} = 2 \text{ units/day}$$

$$\text{B's efficiency} = \frac{100}{25} = 4 \text{ units/day}$$

Let C's efficiency = x units/day

According to ques, all of them complete the job in 10 days

$$\Rightarrow (2 + 4 + x) \times 10 = 100$$

$$\Rightarrow x + 6 = \frac{100}{10} = 10$$

$$\Rightarrow x = 10 - 6 = 4$$

\therefore Time taken by C alone to do the job = $\frac{100}{4} = 25$ days

\Rightarrow Ans - (C)

Question 78

If $4 + 2x \leq 6 + x$ and $2x + 5 < 2 + 4x$; then x can take which of the following values?

A 3

B 1

C 0

D 2

Answer: D

Explanation:

Expression 1 : $4 + 2x \leq 6 + x$

$$\Rightarrow 2x - x \leq 6 - 4$$

$$\Rightarrow x \leq 2 \text{ -----(i)}$$

Expression 2 : $2x + 5 < 2 + 4x$

$$\Rightarrow 4x - 2x > 5 - 2$$

$$\Rightarrow 2x > 3$$

$$\Rightarrow x > \frac{3}{2} \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get : $\frac{3}{2} < x \leq 2$

The only value that x can take among the options = 2

\Rightarrow Ans - (D)

Question 79

What are the roots of the quadratic equation $4x^2 + 6x - 18 = 0$?

A 3, -3

B 3, 6

C $3/2, -3$

D 3, 3

Answer: C

Explanation:

Expression : $4x^2 + 6x - 18 = 0$

$$\Rightarrow 4x^2 - 6x + 12x - 18 = 0$$

$$\Rightarrow 2x(2x - 3) + 6(2x - 3) = 0$$

$$\Rightarrow (2x + 6)(2x - 3) = 0$$

$$\Rightarrow x = \frac{3}{2}, -3$$

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

Question 80

The price of an article is cut by 21%, to restore to its original value, the new price must be increased by

A 21 percent

B 26.58 percent

C 17.36 percent

D 26.25 percent

Answer: B

Explanation:

Let the original price of the article = Rs. 100

If the price is cut by 21%, \Rightarrow New price = $\frac{100-21}{100} \times 100 = Rs.79$

To restore to its original value the new price must be increased by = $\frac{100-79}{79} \times 100$
 $= \frac{2100}{79} \approx 26.58\%$

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

Question 81

If Gafur's salary is $\frac{4}{3}$ times of Haashim's and Satish's is $\frac{5}{4}$ times of Haashim's, what is the ratio of Gafur's salary to Satish's?

A 16:15

B 3:5

C 5:3

D 15:16

Answer: A**Explanation:**

Let Haashim's salary = $12x$

$$\Rightarrow \text{Gafur's salary} = \frac{4}{3} \times 12x = 16x$$

$$\Rightarrow \text{Satish's salary} = \frac{5}{4} \times 12x = 15x$$

$$\therefore \text{Ratio of Gafur's salary to Satish's} = \frac{16x}{15x}$$

$$= 16 : 15$$

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

Question 82

If $\frac{\operatorname{cosec} A}{\operatorname{cosec} A - 1} + \frac{\operatorname{cosec} A}{\operatorname{cosec} A + 1} = x$, then x is

A $2\operatorname{cosec}^2 A$ B $2\operatorname{cosec} A$ C $2\sec A$ D $2\sec^2 A$ **Answer: D****Explanation:**

$$\text{Expression: } \frac{\operatorname{cosec} A}{\operatorname{cosec} A - 1} + \frac{\operatorname{cosec} A}{\operatorname{cosec} A + 1}$$

$$= \left[\left(\frac{1}{\sin A} \right) \div \left(\frac{1}{\sin A} - 1 \right) \right] + \left[\left(\frac{1}{\sin A} \right) \div \left(\frac{1}{\sin A} + 1 \right) \right]$$

$$= \left[\left(\frac{1}{\sin A} \right) \div \left(\frac{1 - \sin A}{\sin A} \right) \right] + \left[\left(\frac{1}{\sin A} \right) \div \left(\frac{1 + \sin A}{\sin A} \right) \right]$$

$$= \left[\left(\frac{1}{\sin A} \right) \times \left(\frac{\sin A}{1 - \sin A} \right) \right] + \left[\left(\frac{1}{\sin A} \right) \times \left(\frac{\sin A}{1 + \sin A} \right) \right]$$

$$= \left(\frac{1}{1 - \sin A} \right) + \left(\frac{1}{1 + \sin A} \right)$$

$$= \frac{(1 + \sin A) + (1 - \sin A)}{(1 + \sin A)(1 - \sin A)} = \frac{2}{1 - \sin^2 A}$$

$$= \frac{2}{\cos^2 A} = 2 \sec^2 A$$

=> Ans - (D)

Question 83

Which of the following is correct?

A $(2x - y)^2 = 4x^2 - 4xy + y^2$

B $(2x - y)^2 = x^2 - 4xy + 4y^2$

C $(2x + y)^2 = x^2 - 4xy + 4y^2$

D $(2x + y)^2 = 4x^2 - 4xy + y^2$

Answer: A

Explanation:

Expression : $(2x - y)^2$

$$= (2x)^2 + (-y)^2 + 2(2x)(-y)$$

$$= 4x^2 + y^2 - 4xy$$

$$\Rightarrow (2x + y)^2$$

$$= (2x)^2 + (y)^2 + 2(2x)(y)$$

$$= 4x^2 + y^2 + 4xy$$

=> Ans - (A)

Question 84

Of the 3 numbers whose average is 77, the first is 3/4 times the sum of other 2. The first number is

A 148

B 66

C 99

D 198

Answer: C

Explanation:

Let the three numbers be x, y, z

$$\text{Average of three numbers} = \frac{x+y+z}{3} = 77$$

$$\Rightarrow x + y + z = 77 \times 3 = 231$$

$$\text{According to ques, } \Rightarrow x = \frac{3}{4} \times (y + z)$$

$$\Rightarrow x = \frac{3}{4} \times (231 - x)$$

$$\Rightarrow 4x = 693 - 3x$$

$$\Rightarrow 4x + 3x = 7x = 693$$

$$\Rightarrow x = \frac{693}{7} = 99$$

\Rightarrow Ans - (C)

Question 85

If the amount received at the end of 2nd and 3rd year at Compound Interest on a certain Principal is Rs 34992, and Rs 37791.36 respectively, what is the rate of interest?

- A 4 percent
- B 16 percent
- C 8 percent
- D 13 percent

Answer: C

Explanation:

Compound interest at the end of 2nd year = Rs. 34,992

Compound interest at the end of 3rd year = Rs. 37,791.36

$$\Rightarrow \text{Difference} = 37791.36 - 34992 = \text{Rs } 2799.36$$

This is the interest obtained on the amount of 2nd year.

$$\therefore \text{Rate of interest, } r = \frac{2799.36}{34992} \times 100 = 8\%$$

\Rightarrow Ans - (C)

Question 86

Slope of the side DA of the rectangle ABCD is $-3/4$. What is the slope of the side AB?

- A $-4/3$
- B $3/4$
- C $-3/4$
- D $4/3$

Answer: D

Explanation:

Side DA and AB in the rectangle ABCD are perpendicular to each other, and product of slopes of two perpendicular lines is -1

Let slope of AB = m and slope of DA = $-3/4$

$$\Rightarrow m \times \frac{-3}{4} = -1$$

$$\Rightarrow m = \frac{4}{3}$$

\Rightarrow Ans - (D)

Question 87

If $\cot 30^\circ - \cos 45^\circ = x$, then x is

A $\sqrt{3}+2$

B $(\sqrt{6}-1)/\sqrt{2}$

C $(\sqrt{3}-2\sqrt{2})/\sqrt{6}$

D $(1+\sqrt{2})/2$

Answer: B

Explanation:

Expression : $\cot 30^\circ - \cos 45^\circ = x$

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

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

\Rightarrow Ans - (B)

Question 88

The length of the diagonal of a rectangle is 10 cm and that of one side is 8 cm. What is the area of this rectangle?

A 80 sq cm

B 48 sq cm

C 60 sq cm

D 32 sq cm

Answer: B

Explanation:

Let breadth of rectangle = b cm and length, $l = 8$ cm

$$\text{Diagonal of rectangle} = \sqrt{l^2 + b^2} = 10$$

$$\Rightarrow (8)^2 + (b)^2 = (10)^2$$

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

$$\Rightarrow b = \sqrt{36} \text{ cm}$$

$$\therefore \text{Area of rectangle} = l \times b$$

$$= 8 \times 6 = 48 \text{ cm}^2$$

\Rightarrow Ans - (B)

Question 89

The two numbers are 55 and 99, HCF is 11, What is their LCM?

A 486

B 479

C 476

D 495

Answer: D

Explanation:

Let the LCM = x

Numbers are = 55, 99

Also, product of numbers = HCF \times LCM

$$\Rightarrow 55 \times 99 = 11 \times x$$

$$\Rightarrow x = \frac{55 \times 99}{11} = 5 \times 99$$

$$\Rightarrow x = 495$$

\Rightarrow Ans - (D)

Question 90

A dishonest milkman buys milk at Rs 25 per litre and adds $\frac{1}{5}$ of water to it and sells the mixture at Rs 29 per litre. His gain is

A 16 percent

B 39.2 percent

C 24 percent

D 32 percent

Answer: B

Explanation:

The milkman adds $(\frac{1}{5})^{th}$ of water, thus total mixture = $1 + \frac{1}{5} = \frac{6}{5}$

Cost price per litre of the mixture = $\frac{25}{\frac{6}{5}} = 25 \times \frac{5}{6} = Rs\ 20.83$

Selling price per litre = Rs. 29

\therefore Profit % = $\frac{29-20.83}{20.83} \times 100$

= $\frac{817}{20.83} \approx 39.2\%$

=> Ans - (B)

Question 91

If $9x - 6y = 15$ and $x + 6y = 15$, then the value of x, y .

A 3, 4

B 3, 2

C 4, 5

D 5, 6

Answer: B

Explanation:

Equation 1 : $9x - 6y = 15$

Equation 2 : $x + 6y = 15$

Adding equations (i) and (ii), we get :

=> $(9x + x) = (15 + 15)$

=> $10x = 30$

=> $x = \frac{30}{10} = 3$

Substituting it in equation (ii), => $6y = 15 - 3 = 12$

=> $y = \frac{12}{6} = 2$

$\therefore (x, y) = (3, 2)$

=> Ans - (B)

Question 92

A cone of height 25 cm and diameter 21 cm is mounted on a hemisphere of the same diameter. Find the volume of the solid thus formed? (Take $\pi = 22/7$)

- A 3155 sq cms
- B 1533 sq cms
- C 3315 sq cms
- D 5313 sq cms

Answer: D

Explanation:

Height of cone, $h = 25$ cm and radius of cone, $r = 10.5$ cm

Radius of hemisphere, $r = 10.5$ cm

Volume of solid = Volume of cone + Volume of hemisphere

$$\begin{aligned} &= \left(\frac{1}{3}\pi r^2 h\right) + \left(\frac{2}{3}\pi r^3\right) \\ &= \left(\frac{\pi r^2}{3}\right)[h + 2r] \\ &= \left(\frac{22 \times (10.5)^2}{7 \times 3}\right)(25 + 21) \\ &= 22 \times 5.25 \times 46 \\ &= 5313 \text{ cm}^2 \\ &\Rightarrow \text{Ans - (D)} \end{aligned}$$

Question 93

To cover a distance of 297 km in 4.4 hours what should be the average speed of the car in meters/second?

- A 67.5 m/s
- B 33.75 m/s
- C 37.5 m/s
- D 18.75 m/s

Answer: D

Explanation:

The car covers 297 km in 4.4 hours

$$\text{Speed of car (in km/h)} = \frac{297}{4.4} = 67.5 \text{ km/hr}$$

$$\begin{aligned} \Rightarrow \text{Speed of car (in m/s)} &= 67.5 \times \frac{5}{18} \\ &= 3.75 \times 5 = 18.75 \text{ m/s} \end{aligned}$$

=> Ans - (D)

Question 94

The diameter of a circle is equal to the side of the square. What is the area of the square if the area of the circle is 36π sq cm?

A 72 sq cm

B 144 sq cm

C 36 sq cm

D 18 sq cm

Answer: B

Explanation:

Let radius of circle = r cm

$$\Rightarrow \text{Area of circle} = \pi r^2 = 36\pi$$

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

Thus, diameter of circle = Side of square = 12 cm

$$\therefore \text{Area of square} = (12)^2 = 144 \text{ cm}^2$$

=> Ans - (B)

Question 95

Marked price of an item is Rs 100. On purchase of 2 items discount is 25%, on purchase of 4 items discount is 43%. Rajasi buys 6 items, what is the effective discount?

A 37 percent

B 26.25 percent

C 9.6 percent

D 24.6 percent

Answer: A

Explanation:

Marked price of item = Rs. 100

$$\Rightarrow \text{Marked price of 2 items} = 2 \times 100 = \text{Rs. 200}$$

$$\text{Amount saved on buying 2 items} = \frac{25}{100} \times 200 = \text{Rs.50}$$

Marked price of 4 items = $4 \times 100 = \text{Rs. } 400$

Amount saved on buying 4 items = $\frac{43}{100} \times 400 = \text{Rs. } 172$

Thus, on buying 6 items, total amount saved = $50 + 172 = \text{Rs. } 222$

Total marked price of 6 items = $6 \times 100 = \text{Rs. } 600$

\therefore Effective discount = $\frac{222}{600} \times 100$

= $\frac{222}{6} = 37\%$

\Rightarrow Ans - (A)

Question 96

If $\tan 2A = x$, then x is

A $2\tan A / (1 - \tan^2 A)$

B $(1 - \tan^2 A) / 2\tan A$

C $2\tan A / (1 + \tan^2 A)$

D $(\tan^2 A - 1) / 2\tan A$

Answer: A

Explanation:

Expression : $\tan(2A)$

$\therefore \tan(A + B) = \frac{\tan A + \tan B}{1 - \tan A \tan B}$

Replacing B by A

$\Rightarrow \tan(A + A) = \frac{\tan A + \tan A}{1 - \tan A \tan A}$

$\Rightarrow \tan(2A) = \frac{2\tan A}{1 - \tan^2 A}$

\Rightarrow Ans - (A)

Question 97

Read the table and answer the given questions

	Quantity of cost	Average cost(RS)
MOBILES	40	10000
CAMERAS	93	20000
TVs	97	52000
REFRIGERATOR	21	22000
AC	39	23000

What was the total value of the cost in lakhs ?

A 866.3

B 127

C 290

D 86.63

Answer: D

Explanation:

Total cost of mobiles = $40 \times 10000 = \text{Rs. } 4,00,000$

Total cost of Cameras = $93 \times 20000 = \text{Rs. } 18,60,000$

Total cost of TVs = $97 \times 52000 = \text{Rs. } 50,44,000$

Total cost of Refrigerator = $21 \times 22000 = \text{Rs. } 4,62,000$

Total cost of AC = $39 \times 23000 = \text{Rs. } 8,97,000$

\therefore Total cost = $4,00,000 + 18,60,000 + 50,44,000 + 4,62,000 + 8,97,000 = \text{Rs. } 86,63,000$

Total cost in lakhs = Rs 86.63 lakhs

=> Ans - (D)

Question 98

Read the given data answer the questions

Years	Ratio of Import /Export
2011	0.8
2012	1.2
2013	0.8
2014	1.4
2015	0.8

If the imports in 2012 was Rs. 1000 crores and the total exports in the years 2012 and 2013 together was Rs. 3600 crores, then the imports in 2013 was?

A 2767

B 2213

C 833

D 3458

Answer: B

Explanation:

Imports in 2012 = Rs. 1000 crores

Let Exports in 2012 = Rs. y crores

Ratio of imports and exports in 2012 = 1.2

$$\Rightarrow \frac{1000}{y} = 0.7$$

$$\Rightarrow y = \frac{1000}{1.2} = 833.33$$

Total exports In the years 2012 and 2013 together = Rs. 3600 crores

\Rightarrow Exports in 2013 = Rs. (3600 - 833.33) crores = Rs 2766.67 crores

Let imports in 2013 = Rs. x crores

$$\text{Ratio of imports and exports in 2013} = \frac{x}{2766.67} = 0.8$$

$$\Rightarrow x = 2766.67 \times 0.8 = 2213.336 \approx 2213$$

\therefore Imports in 2013 was Rs. 2213 crores

\Rightarrow Ans - (B)

Question 99

Read the table and answer the questions

Measured On Birthday	Hieght of Children in CMs
4	100
5	110
6	115
7	120
8	125
9	135
10	140
11	150
12	160
13	170
14	175
15	185
16	195

What is the increase in the height in the of child from 7th birthday to 15th birthday?

- A 75 cms
- B 70 cms
- C 65 cms
- D 60 cms

Answer: C

Explanation:

Height on 7th birthday = 120 cm

Height on 15th birthday = 185 cm

Increase in height = $185 - 120 = 65$ cm

=> Ans - (C)

Question 100

Read the table and answer the questions

Deep Sleep	5
Dreaming	10
Light Sleep	10
Exreamly Sleep	20
Awake	55

Between 10pm to 6am, a fitness band records the following data. How long was the user Dreaming or was Awake?

A 3.7 hours

B 4.7 hours

C 5.2 hours

D 5.7 hours

Answer: C

Explanation:

Total time between 10 pm to 6 am = 8 hours

% time spent on dreaming and awake = $10 + 55 = 65$

=> Time spent on dreaming and awake = $\frac{65}{100} \times 8$

= $\frac{26}{5} = 5.2$ hours

=> Ans - (C)

SSC CHSL 21 Jan 2017 Evening Shift

Reasoning

Instructions

For the following questions answer them individually

Question 1

Select the related word/letters/number from the given alternatives.

Democracy : India : : Communism : ?

- A France
- B China
- C Britain
- D America

Answer: B

Explanation:

India is a democratic country, similarly among the given options, *China* is a communist country.

=> Ans - (B)

Question 2

Select the related word/letters/number from the given alternatives.

? : DDY : : BIG : CLL

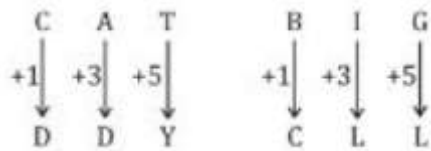
- A TAK
- B CAT
- C TAC
- D TEF

Answer: B

Explanation:

Expression = ? : DDY : : BIG : CLL

The pattern followed is :



Thus, **CAT** : DDY

=> Ans - (B)

Question 3

Select the related word/letters/number from the given alternatives.

? : LLH :: RMS : SLU

A NMK

B KMF

C MKF

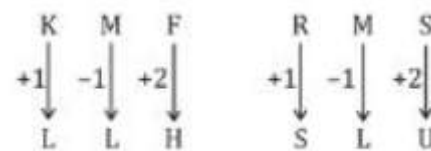
D MMF

Answer: B

Explanation:

Expression = ? : LLH :: RMS : SLU

The pattern followed is :



Thus, **KMF** : LLH

=> Ans - (B)

Question 4

Select the related word/letters/number from the given alternatives.

11 : 1210 :: 10 : ?

A 910

B 980

C 1000

D 970

Answer: C

Explanation:

Expression = $11 : 1210 :: 10 : ?$

The pattern followed is $= x : 10(x^2)$

Eg :- $11 : 10(11^2) = 11 : 1210$

Similarly, $10 \times (10^2) = 10 \times 100 = 1000$

=> Ans - (C)

Question 5

Select the odd word/letters/number/number pair from the given alternatives.

A Cap

B Turban

C Trouser

D Hat

Answer: C

Explanation:

Cap, turban and hat are worn on the head, hence trouser is the odd one out.

=> Ans - (C)

Question 6

Select the odd word/letters/number/number pair from the given alternatives.

A DAH

B IFM

C ROV

D FHA

Answer: D

Explanation:

(A) : D (-3 letters) = A (+7 letters) = H

(B) : I (-3 letters) = F (+7 letters) = M

(C) : R (-3 letters) = O (+7 letters) = V

(D) : F (+2 letters) = H (-7 letters) = A

=> Ans - (D)

Question 7

Select the odd word/letters/number/number pair from the given alternatives.

A 12

B 24

C 80

D 48

Answer: C

Explanation:

Except 80, other three are divisible by 3, hence it is the odd one out.

=> Ans - (C)

Question 8

Select the odd word/letters/number/number pair from the given alternatives.

A 125

B 144

C 256

D 361

Answer: A

Explanation:

$$125 = 5^3$$

$$144 = 12^2$$

$$256 = 16^2$$

$$361 = 19^2$$

=> Ans - (A)

Question 9

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

?, James Garfield, William McKinley, John F. Kennedy

- A Franklin Roosevelt
- B George W. Bush
- C Abraham Lincoln
- D Bill Clinton

Answer: C

Explanation:

Successive order of American Presidents is given.

= Abraham Lincoln -> James Garfield -> William McKinley -> John F. Kennedy

=> Ans - (C)

Question 10

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

AK, CO, ES, ?

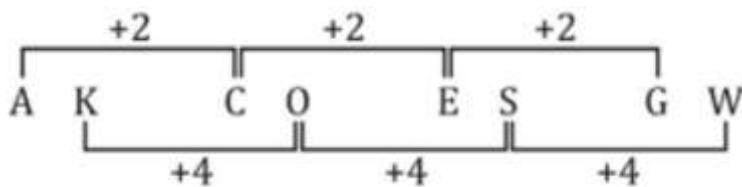
- A NO
- B FH
- C GW
- D GV

Answer: C

Explanation:

Expression : AK, CO, ES, ?

The pattern followed is :



Thus, missing term = **GW**

=> Ans - (C)

Question 11

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

CDE, HIJ, MNO, ?

A KNM

B TRS

C QRS

D RST

Answer: D

Explanation:

Expression : CDE, HIJ, MNO, ?

The pattern followed is :

C D E H I J M N O R S T
 └───┬───┘ └───┬───┘ └───┬───┘
 +3 +3 +3

Thus, missing term = RST

=> Ans - (D)

Question 12

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

3, 6, 11, 20, ?

A 42

B 41

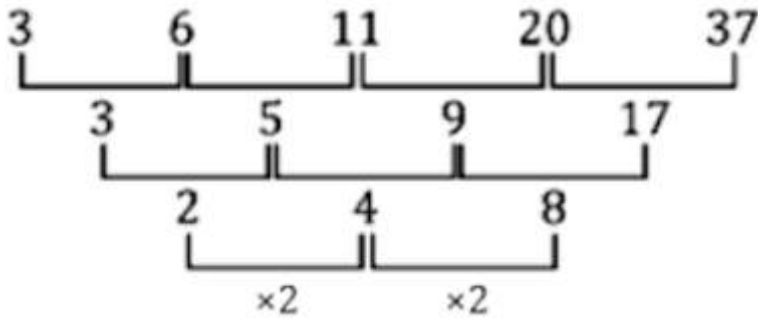
C 37

D 47

Answer: C

Explanation:

The pattern followed is :



Thus, missing number = 37

=> Ans - (C)

Question 13

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

Statements:

- (I) All dogs are bullocks.
- (II) All bullocks are goats.

Conclusion:

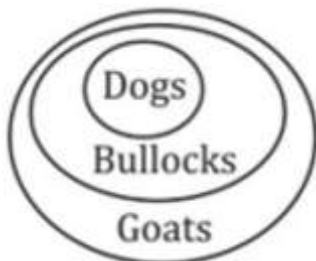
- (I) All dogs are goats.
- (II) All goats are dogs.

- A Conclusion I follows
- B Conclusion II follows
- C Neither I nor II follows
- D Both I and II follows

Answer: A

Explanation:

The venn diagram for above statements is :



Conclusion:

- (I) All dogs are goats = true
- (II) All goats are dogs = false

Thus, only conclusion I follows

=> Ans - (A)

Question 14

Sumit wants to get his clothes washed. The laundry service charges in his city are such that for the first kg of clothes, he is charged Rs.150 and after that, he is charged Rs.50 for every kg that follows. If he gets 10kg of clothes washed, how much money does he pay for the laundry service ?

- A Rs 250
- B Rs 450
- C Rs 650
- D Rs 600

Answer: D

Explanation:

Charge for 1st kg of clothes = Rs. 150 and for rest = Rs. 50/kg

Quantity of clothes washed= 10 kg

=> Amount paid by Sumit = $(1 \times 150) + (9 \times 50)$

= $150 + 450 = Rs. 600$

=> Ans - (D)

Question 15

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

- i. Latitude
- ii. Longitude
- iii. Laugh
- iv. Latent

- A iii, ii, i, iv
- B iv, iii, i, ii
- C iv, i, iii, ii
- D iv, i, ii, iii

Answer: C

Explanation:

As per the order of dictionary :

= Latent -> Latitude -> Laugh -> Longitude

≡ iv, i, iii, ii

=> Ans - (C)

Question 16

In a certain code language, "SIGHT" is written as "@?*^!" and "ANT" is written as "#&!". How is "NIGHT" written in that code language?

A &?*^!

B &?*!^

C &*?*^!

D ?&*^!

Answer: A

Explanation:

The codes for each letter is given :

N -> &

I -> ?

G -> *

H -> ^

T -> !

Thus, NIGHT : &?*^!

=> Ans - (A)

Question 17

Find the missing number in the given table as per series

B	J	I
E	K	B
G	U	?

A O

B M

C K

D P

Answer: C

Explanation:

The pattern followed is that the alphabets are numbered alphabetically, A=1, B=2, C=3 and so on and then the last alphabet in each column is obtained by :

$$B=2 \text{ and } E=5, \Rightarrow 2 + 5 = 7 \equiv G$$

$$J=10 \text{ and } K=11, \Rightarrow 10 + 11 = 21 \equiv U$$

$$\text{Similarly, } I=9 \text{ and } B=2, \Rightarrow 9 + 2 = 11 \equiv K$$

=> Ans - (C)

Question 18

If "A" means "subtraction", "B" means "division", "C" means "addition" and "D" means "multiplication", then

$$294 \text{ B } 7 \text{ A } 40 \text{ C } 33 \text{ D } 11 = ?$$

A 369

B 365

C 368

D 363

Answer: B

Explanation:

Expression : $294 \text{ B } 7 \text{ A } 40 \text{ C } 33 \text{ D } 11 = ?$

$$\equiv 294 \div 7 - 40 + 33 \times 11$$

$$= \left(\frac{294}{7}\right) + (-40) + (33 \times 11)$$

$$= 42 - 40 + 363 = 365$$

=> Ans - (B)

Question 19

In the following question, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

X_ZX_YY_ZX_Z

A XXYY

B YXZY

C YYXY

D XXXY

Answer: B

Explanation:

The pattern followed is that the terms 'xyz' and 'xxyzz' are alternatively repeated.

= XYZ XXYYZZ XYZ

=> Ans - (B)

Question 20

A girl is standing facing towards the east. She turns 45 degree in the anticlockwise direction and then turns 180 degree in the clockwise direction. Which direction is she facing now?

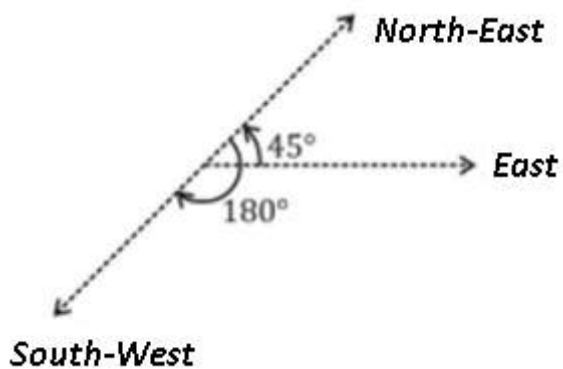
- A West
- B South
- C North
- D South-West

Answer: D

Explanation:

A girl is standing facing towards the east. She turns 45 degree in the anticlockwise direction, => she is facing north-east.

Then she turns 180 degree in the clockwise direction :



Thus, she is facing south-west direction.

=> Ans - (D)

Question 21

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, A can be represented by 01, 30, etc., and M can be represented by 56, 59, etc. Similarly, you have to identify the set for the word CARGO.

Matrix 1

	0	1	2	3	4
0	R	A	R	Y	A
1	A	C	G	Q	H
2	U	G	L	C	P
3	A	V	A	P	C
4	R	A	C	G	O

Matrix 2

	5	6	7	8	9
5	C	M	R	G	M
6	A	R	C	O	U
7	R	G	A	C	A
8	C	X	C	A	Y
9	O	G	Y	S	L

- A 78, 10, 57, 21, 95
- B 55, 31, 75, 12, 68
- C 42, 65, 02, 98, 44
- D 34, 88, 40, 76, 86

Answer: A

Explanation:

(A) : 78, 10, 57, 21, 95 = **CARGO**

(B) : 55, 31, 75, 12, 68 = CVRGO

(C) : 42, 65, 02, 98, 44 = CARSO

(D) : 34, 88, 40, 76, 86 = CARGX

=> Ans - (A)

Question 22

Introducing a man, Amar says, "His wife is the only daughter of my maternal grandfather". How is the man related to Amar?

- A Father
- B Grandfather
- C Son
- D Grandson

Answer: A

Explanation:

Only daughter of Amar's maternal grandfather = Amar's mother

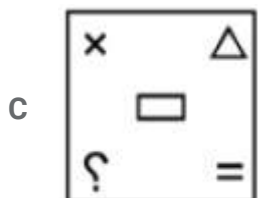
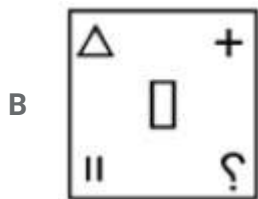
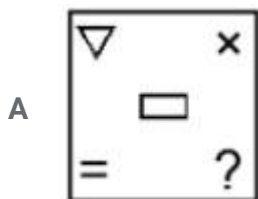
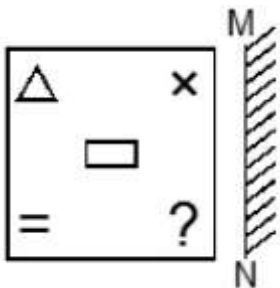
Now, the man is Amar's mother's husband, => Amar is his son.

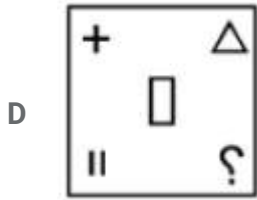
Thus, the man is Amar's father.

=> Ans - (A)

Question 23

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



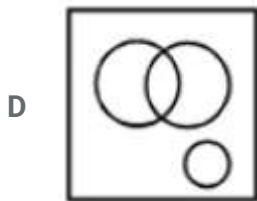
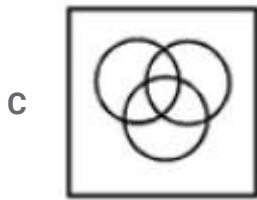
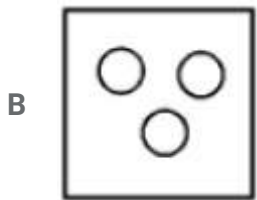
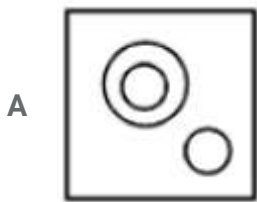


Answer: A

Question 24

Identify the diagram that best represents the relationship among the given classes.

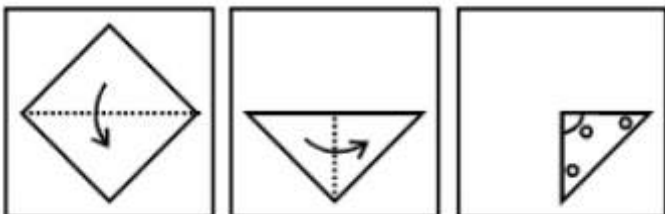
Omnivores, Bear, Dear

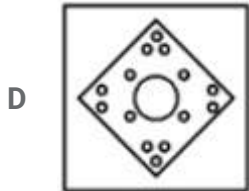
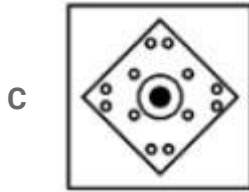
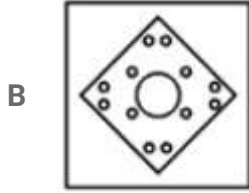
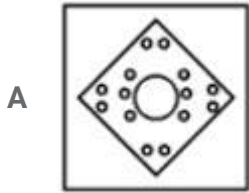


Answer: A

Question 25

A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.





Answer: A

General Awareness

Instructions

For the following questions answer them individually

Question 26

_____ caves are a network of sculpted caves located in Mumbai Harbour.

- A Ajanta
- B Ellora
- C Elephanta
- D Badami

Answer: C

Question 27

National Film Awards has been administered since ____.

- A** 1973
- B** 1980
- C** 1987
- D** 1994

Answer: A

Question 28

In which form is glucose stored in our body?

- A** Insulin
- B** Glucose
- C** Glycogen
- D** Fat

Answer: C

Question 29

Where do plants synthesize protein from?

- A** Fatty Acids
- B** Sugar
- C** Amino Acids
- D** Starch

Answer: C

Question 30

Which part of the brain is responsible for triggering actions like thinking, intelligence, memory and ability to learn?

- A Diencephalon
- B Hypothalamus
- C Cerebrum
- D Control

Answer: C

Question 31

Which of the following elements has the lowest melting point?

- A Sodium
- B Tin
- C Radon
- D Radium

Answer: C

Question 32

Atomic number of which of the following elements is greater than that of Fluorine?

- A Sodium
- B Beryllium
- C Nitrogen
- D Boron

Answer: A

Question 33

Convert decimal number 106 to binary.

- A 1101000
- B 1101010
- C 1100110

D 1110000

Answer: B

Question 34

Bihu is a folk dance of which state?

A Assam

B Maharashtra

C Odisha

D Uttarakhand

Answer: A

Question 35

A manufacturer faces a -1.2 price elasticity of demand for its product. It is presently selling 7,500 units/day. If it wants to increase quantity sold by 9%, it must lower its price by

A 7.5 percent

B 7.8 percent

C 10.2 percent

D 10 percent

Answer: A

Question 36

Government borrowing to finance budget deficits _____.

A will exert downward pressure on interest rates

B will have no effect on interest rates

C will increase supply of loanable funds

D will put upward pressure on interest rates

Answer: D

Question 37

Which of the following is also known as the Biochemical Laboratory of the Human Body?

- A Small Intestine
- B Brain
- C Pancreas
- D Liver

Answer: D

Question 38

Bandhavgarh National Park is in which state?

- A Rajasthan
- B Chhattisgarh
- C Uttar Pradesh
- D Madhya Pradesh

Answer: D

Question 39

How many steps are there in Suryanamaskar?

- A 24
- B 12
- C 6
- D 3

Answer: B

Question 40

Who proposed Continental drift theory?

- A Alfred Wegener

- B Alfred Worwick
- C Alfred Hanks
- D Alfred Mane

Answer: A

Question 41

What is the capital of Canada?

- A Wellington
- B Canberra
- C Oslo
- D Ottawa

Answer: D

Question 42

The Renaissance is a period in Europe, from the _____.

- A 18th to the 20th century
- B 14th to the 17th century
- C 11th to the 13th century
- D 7th to the 10th century

Answer: B

Question 43

Aurangzeb (1658-1707 AD) was the ruler of which dynasty?

- A Nanda
- B Mughal
- C Maurya
- D Haryanka

Answer: B

Question 44

Who invented the contact lens?

- A Enrico Fermi
- B Adolf Gaston Eugen Fick
- C Sandford Fleming
- D Benoit Fourneyron

Answer: B

Question 45

Electrons move around the nucleus in _____ motion.

- A translatory
- B spin
- C orbital
- D vibrational

Answer: C

Question 46

Blood pressure is measured by _____.

- A Barometer
- B Sphygmomanometer
- C Hydrometer
- D Thermometer

Answer: B

Question 47

First Leader of opposition in Lokshabha was _____.

- A B. R. Ambedkar
- B A. K. Gopalan
- C S Radhakrishnan
- D Vallabhbhai Patel

Answer: B

Question 48

The number of parliamentary seats (Rajya Sabha) of West Bengal is

- A 12
- B 16
- C 18
- D 31

Answer: B

Question 49

_____ recommended change in the structure and working of BCCI.

- A Lodha committee
- B Parekh committee
- C Sena committee
- D Akhil committee

Answer: A

Question 50

Who wrote the book "Five Point Someone: What Not to Do at IIT"?

- A Jhumpa Lahiri
- B Amish Tripathi
- C Kiran Bedi

D Chetan Bhagat

Answer: D

English

Instructions

For the following questions answer them individually

Question 51

Improve the bracketed part of the sentence

Grandfather always (finds faults) with the poor gardener.

A find fault

B find faults

C is finding faults

D no improvement

Answer: D

Question 52

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

During a depression even the affluent middle class struggles to _____ out a living.

A make

B eke

C pull

D stretch

Answer: B

Question 53

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

to cause a process or action to begin

- A to initiate
- B to impel
- C to imitate
- D to conscript

Answer: A

Question 54

Improve the bracketed part of the sentence.

(As) you find me absent, please leave the parcel with my colleague.

- A Would
- B Could
- C Should
- D no improvement

Answer: C

Question 55

Select the antonym of

to dawdle

- A to loiter
- B to mosey
- C to hasten
- D to saunter

Answer: C

Question 56

In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one, which best express the same sentence in Indirect/Direct speech.

Dia said to Pari, "Do you like oranges?"

- A Dia asked Pari that did she like oranges.
- B Dia asked Pari if she likes oranges.
- C Dia asked Pari that whether she liked oranges.
- D Dia asked Pari if she liked oranges.

Answer: D

Question 57

Rearrange the parts of the sentence in correct order

It is becoming

P-increasingly clear that anyone

Q-of freedom, justice and equality is seen as a threat

R-who dares to raise issues

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

Answer: C

Question 58

Select the word with the correct spelling.

- A wanquish
- B banterred
- C brouhaha
- D wanderrer

Answer: C

Question 59

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

To jump ship

- A Climbing the career ladder
- B To jump to grab an opportunity
- C To leave an organization
- D To renounce great wealth

Answer: C

Question 60

Select the antonym of

fuddle

- A upset
- B explicate
- C nonplus
- D rattle

Answer: B

Question 61

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

To kick the bucket

- A to get angry
- B to die
- C to fall ill
- D to get hurt

Answer: B

Question 62

In the following question, a sentence has been given in Active/Passive voice. Out of four alternatives suggested, select the one, which best expresses the same sentence in Passive/Active voice.

We must take care of the old.

- A Those who are old need to be taken care of by us.
- B The old must be taken care of by us.
- C Those who are old need care by us.
- D The old should be taken care of by us.

Answer: B

Question 63

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

I asked two persons(A)/the way to the school(B)but neither of them knew it.(C)/No error(D)

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

Answer: D

Question 64

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

a rich source of something

- A antecedent
- B lode
- C node
- D provenience

Answer: B

Question 65

Select the word with the correct spelling.

A envalop

B banditry

C dorsaly

D agarager

Answer: B

Question 66

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

While mother mixed the cake _____, Dipu stood at the table watching her.

A batter

B concoction

C recipe

D mixture

Answer: A

Question 67

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

We had to return because(A)/when we reached the railway(B)/station the train left.(C)/No error(D)

A A

B B

C C

D D

Answer: C

Question 68

**Select the synonym of
murmur**

- A fuzzy
- B muffled
- C buzz
- D taciturn

Answer: C

Question 69

Rearrange the parts of the sentence in correct order

Further negotiations

P-are necessary

Q-to reach a common understanding

R-to enable implementation

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

Answer: D

Question 70

Select the synonym of peripatetic

- A confine
- B spire
- C ultimate
- D nomadic

Answer: D

Instructions

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

All of us have admired some writers, _____ their work over that of others for their writing style as much as for the content of their work. _____ writer who has, for more than half a century, _____ for his searing honesty is George Orwell. He is recondite, but he is never _____. He says it as it is and yet says it as it has not been said _____.

Question 71

All of us have admired some writers, _____ their work

- A preferring
- B preferred
- C having preferred
- D had preferred

Answer: B

Question 72

_____ writer who has

- A The
- B This
- C That
- D One

Answer: D

Question 73

_____ for his searing honesty is George Orwell.

- A was admired
- B been admired
- C admired

D was being admired

Answer: B

Question 74

He is recondite, but he is never _____.

A trite

B pertinent

C impressive

D relevant

Answer: A

Question 75

He says it as it is and yet says it as it has not been said _____.

A after

B later

C before

D since

Answer: C

Mathematics

Instructions

For the following questions answer them individually

Question 76

Profit of Rs 936000 has to be divided among three partners Anirudhha, Balwant and Charudatta in the ratio 2:3:5. How much does Charudatta get?

A 280800

B 187200

C 468000

D 234000

Answer: C

Explanation:

Total profit to be distributed = Rs. 9,36,000

Ratio of profit divided among Anirudhha, Balwant and Charudatta = 2:3:5

Thus, amount that Charudatta will get = $\frac{5}{(2+3+5)} \times 936000$

$$= \frac{5}{10} \times 936000$$

$$= 5 \times 93600 = \text{Rs } 468,000$$

=> Ans - (C)

Question 77

The price of an article is cut by 36%, to restore to its original value, the new price must be increased by

A 56.25 percent

B 36 percent

C 26.47 percent

D 45 percent

Answer: A

Explanation:

Let the original price of the article = Rs. 100

If the price is cut by 36%, => New price = $\frac{100-36}{100} \times 100 = \text{Rs.}64$

To restore to its original value the new price must be increased by = $\frac{100-64}{64} \times 100$

$$= \frac{225}{4} = 56.25\%$$

=> Ans - (A)

Question 78

The mean of marks secured by 50 students in division A of class X is 61, 25 students of division B is 57 and that of 50 students of division C is 55. What will be the mean of marks of the students of three divisions of Class X?

A 57.1

B 56.4

C 59.2

D 57.8

Answer: D

Explanation:

Total marks secured by 50 students in division A = $50 \times 61 = 3050$

Total marks secured by 25 students in division B = $25 \times 57 = 1425$

Total marks secured by 50 students in division C = $50 \times 55 = 2750$

=> Mean of marks of the students of three divisions of Class X = $\frac{(3050+1425+2750)}{(50+25+50)}$

= $\frac{7225}{125} = 57.8$

=> Ans - (D)

Question 79

If the selling price is Rs 1680 after getting a discount of 16%, what was the marked price?

A Rs 2000

B Rs 1948.8

C Rs 1411.2

D Rs 1448

Answer: A

Explanation:

Let Marked Price = Rs. x

Selling price = Rs. 1680

Discount % = $\frac{(x-1680)}{x} \times 100 = 16$

=> $\frac{x-1680}{x} = \frac{16}{100} = \frac{4}{25}$

=> $25x - 42000 = 4x$

=> $25x - 4x = 21x = 42000$

=> $x = \frac{42000}{21} = Rs\ 2000$

=> Ans - (A)

Question 80

The sum of $6xy(2x - 4z)$, $3yz(2x - 3z)$ and $4xz(3y - 2y)^2$ is

A $12x^2y - 18xyz - 9yz^2 - 4xy^2z$

B $12x^2y - 18xyz + 9yz^2 + 4xy^2z$

C $12x^2y - 18xyz - 9yz^2 + 4xy^2z$

D $12x^2y + 18xyz - 9yz^2 + 4xy^2z$

Answer: C

Explanation:

Sum of : $6xy(2x - 4z)$, $3yz(2x - 3z)$ and $4xz(3y - 2y)^2$

$$= (12x^2y - 24xyz) + (6xyz - 9yz^2) + (4xy^2z)$$

$$= 12x^2y - 18xyz - 9yz^2 + 4xy^2z$$

=> Ans - (C)

Question 81

When a discount of 25% is given on a cruise trip, the profit is 41%. If the discount is 26%, then the profit is

A 39.12 percent

B 67 percent

C 94.88 percent

D 11.24 percent

Answer: A

Explanation:

Let marked price = Rs. $100x$

After 25% discount, selling price = $\frac{100-25}{100} \times 100x = \text{Rs. } 75x$

Let Cost price = Rs. y

$$\Rightarrow \text{Profit \%} = \frac{75x-y}{y} \times 100 = 41$$

$$\Rightarrow \frac{75x-y}{y} = \frac{41}{100}$$

$$\Rightarrow 7500x - 100y = 41y$$

$$\Rightarrow y = \frac{7500x}{141} \approx \text{Rs } 53.2x$$

If, discount = 26%, => Selling price = $\frac{100-26}{100} \times 100x = \text{Rs. } 74x$

$$\therefore \text{Profit \%} = \frac{74x-53.2x}{53.2x} \times 100 \approx 39.12\%$$

Ans - (A)

Question 82

If $(\cot A - \operatorname{cosec} A)^2 = x$, then the value of x is

- A $(1 - \cos A)/(1 + \cos A)$
- B $(1 - \sin A)/(1 + \sin A)$
- C $(1 - \sec A)/(1 + \sec A)$
- D $(1 - \operatorname{cosec} A)/(1 + \operatorname{cosec} A)$

Answer: A

Explanation:

Expression : $(\cot A - \operatorname{cosec} A)^2 = x$

$$\begin{aligned} &= \left(\frac{\cos A}{\sin A} - \frac{1}{\sin A} \right)^2 \\ &= \left(\frac{\cos A - 1}{\sin A} \right)^2 \\ &= \frac{(1 - \cos A)^2}{\sin^2 A} = \frac{(1 - \cos A)^2}{1 - \cos^2 A} \\ &= \frac{(1 - \cos A)^2}{(1 - \cos A)(1 + \cos A)} \\ &= \frac{1 - \cos A}{1 + \cos A} \end{aligned}$$

=> Ans - (A)

Question 83

A does 30% of a work in 30 days. He then calls in B and they together finish the remaining work in 20 days. How long B alone would take to do the whole work?

- A 40 days
- B 80 days
- C 120 days
- D 20 days

Answer: A

Explanation:

Let total work to be done = 100 units

Work done by A in 30 days = $\frac{30}{100} \times 100 = 30$ units

A's efficiency = $\frac{30}{30} = 1$ unit/day

Remaining work = $100 - 30 = 70$ units

Let B's efficiency = x units/day

Now, A and B complete remaining work in 20 days

$$\Rightarrow (1 + x) \times 20 = 70$$

$$\Rightarrow 1 + x = \frac{70}{20} = 3.5$$

$$\Rightarrow x = 3.5 - 1 = 2.5$$

\therefore Time taken by B to complete the whole work alone = $\frac{100}{2.5} = 40$ days

\Rightarrow Ans - (A)

Question 84

If $2x - 6 \leq x - 3$ and $1 + 3x < 4x + 4$, then x can take which of the following values?

A 4

B -4

C -6

D 2

Answer: D

Explanation:

Expression 1 : $2x - 6 \leq x - 3$

$$\Rightarrow 2x - x \leq -3 + 6$$

$$\Rightarrow x \leq 3 \text{ -----(i)}$$

Expression 2 : $1 + 3x < 4x + 4$

$$\Rightarrow 4x - 3x > 1 - 4$$

$$\Rightarrow 4x - 3x > -3$$

$$\Rightarrow x > -3 \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get : $-3 < x \leq 3$

The only value that x can take among the options = 2

\Rightarrow Ans - (D)

Question 85

If $\cot A = x$, then the value of x is

A $\sqrt{(\sec^2 A + 1)}$

B $\sqrt{(\operatorname{cosec}^2 A + 1)}$

C $\sqrt{(\sec^2 A - 1)}$

D $\sqrt{(\operatorname{cosec}^2 A - 1)}$

Answer: D

Explanation:

We know that, $\operatorname{cosec}^2 A - \cot^2 A = 1$

$$\Rightarrow \cot^2 A = \operatorname{cosec}^2 A - 1$$

$$\Rightarrow \cot A = \sqrt{\operatorname{cosec}^2 A - 1}$$

\Rightarrow Ans - (D)

Question 86

If $14.35 - (1.956 - x) - 83.92 = 3.858$ then what is the value of x?

A -92.456

B 75.384

C 71.472

D 104.084

Answer: B

Explanation:

Expression : $14.35 - (1.956 - x) - 83.92 = 3.858$

$$\Rightarrow 14.35 - 1.956 + x = 3.858 + 83.92$$

$$\Rightarrow 12.394 + x = 87.778$$

$$\Rightarrow x = 87.778 - 12.394$$

$$\Rightarrow x = 75.384$$

\Rightarrow Ans - (B)

Question 87

In a Rhombus ABCD, measure of angle CAB is 25° , what is the measure of angle ABC?

A 65°

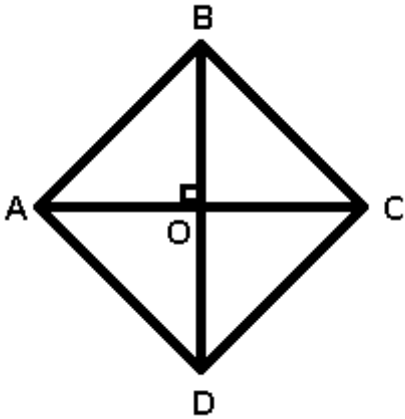
B 50°

C 40°

D 130°

Answer: D

Explanation:



Given : ABCD is a rhombus and $\angle CAB = 25^\circ$

To find : $\angle ABC = ?$

Solution : Diagonals of a rhombus bisect each other at 90° and also bisect the angles of the rhombus.

In $\triangle AOB$

$$\Rightarrow \angle AOB + \angle OBA + \angle BAO = 180^\circ$$

$$\Rightarrow 90^\circ + 25^\circ + \angle OBA = 180^\circ$$

$$\Rightarrow \angle OBA = 180^\circ - 115^\circ = 65^\circ$$

$$\therefore \angle ABC = 2 \times \angle OBA$$

$$= 2 \times 65 = 130^\circ$$

\Rightarrow Ans - (D)

Question 88

The volume of a cuboid is 320 cubic cm. Find its total surface area if its length and breadth are 10 cm and 8 cm respectively?

A 608 sq cms

B 304 sq cms

C 152 sq cms

D 456 sq cms

Answer: B

Explanation:

Let height of cuboid = h cm , length = 10 cm and breadth = 8 cm

$$\text{Volume of cuboid} = lbh = 320$$

$$\Rightarrow 10 \times 8 \times h = 320$$

$$\Rightarrow h = \frac{320}{80} = 4 \text{ cm}$$

$$\text{Total surface area of cuboid} = 2(lb + bh + hl)$$

$$= 2[(10 \times 8) + (8 \times 4) + (4 \times 10)]$$

$$= 2(80 + 32 + 40)$$

$$= 2 \times 152 = 304 \text{ cm}^2$$

\Rightarrow Ans - (B)

Question 89

The circumference of a circle is equal to the perimeter of an equilateral triangle. If the radius of the circle is 7 cm what is the length of the side of the equilateral triangle?

A $22/3$ cm

B $44/3$ cm

C 44 cm

D 22 cm

Answer: B

Explanation:

Let side of equilateral triangle = a cm and radius, $r = 7$ cm

Circumference of circle = $2\pi r$

$$= 2 \times \frac{22}{7} \times 7 = 44 \text{ cm}$$

According to ques, circumference of circle = Perimeter of triangle

$$\Rightarrow \text{Perimeter of equilateral triangle} = 3a = 44$$

$$\Rightarrow a = \frac{44}{3} \text{ cm}$$

\Rightarrow Ans - (B)

Question 90

The slope of the line passing through the points (2,-1) and (x,5) is -1. Find x?

A 4

B -4

C -8

D 8

Answer: B

Explanation:

Slope of line passing through (x_1, y_1) and (x_2, y_2) is $= \frac{y_2 - y_1}{x_2 - x_1}$

Slope of the line passing through the points $(2, -1)$ and $(x, 5) = -1$

$$\Rightarrow \frac{5+1}{x-2} = -1$$

$$\Rightarrow \frac{6}{x-2} = -1$$

$$\Rightarrow x - 2 = -6$$

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

\Rightarrow Ans - (B)

Question 91

The sum of the ages of father and son at present is 33. Two years ago the product of their ages was 28. What is the age of the father and the son?

A 26, 7

B 30, 3

C 29, 4

D 32, 1

Answer: B

Explanation:

Let the age of son = x years and father's age = $(33 - x)$ years

Product of their ages 2 years ago = $(x - 2)(33 - x - 2) = 28$

$$\Rightarrow (x - 2)(31 - x) = 28$$

$$\Rightarrow 31x - x^2 - 62 + 2x = 28$$

$$\Rightarrow x^2 - 33x + 90 = 0$$

$$\Rightarrow x^2 - 3x - 30x + 90 = 0$$

$$\Rightarrow x(x - 3) - 30(x - 3) = 0$$

$$\Rightarrow (x - 3)(x - 30) = 0$$

$$\Rightarrow x = 30, 3$$

\therefore Ages of father and son are 30 and 3

\Rightarrow Ans - (B)

Question 92

Rameshwar goes on a trip on his motor-cycle and rides for 405 kms. If he rides for 6 hours at a speed of 45 km/hr, find at what speed he travels for the remaining 3 hours of the journey?

- A 55 km/hr
- B 52 km/hr
- C 45 km/hr
- D 40 km/hr

Answer: C

Explanation:

Total distance covered = 405 km

He rides for 6 hours at a speed of 45 km/hr

$$\Rightarrow \text{Distance covered} = 6 \times 45 = 270 \text{ km}$$

$$\text{Distance left} = 405 - 270 = 135 \text{ km}$$

$$\therefore \text{Speed he should travel for the remaining 3 hours of the journey} = \frac{135}{3} = 45 \text{ km/hr}$$

\Rightarrow Ans - (C)

Question 93

There is 40% increase in an amount in 8 years at simple interest. What will be the compound interest of Rs. 10000 after 3 years at the same rate?

- A Rs 1576.25
- B Rs 6305
- C Rs 7881.25
- D Rs 4728.75

Answer: A

Explanation:

Let the principal = Rs. $100x$

$$\Rightarrow \text{Amount after simple interest} = \frac{140}{100} \times 100 = \text{Rs. } 140x$$

$$\Rightarrow \text{Simple interest} = 140x - 100x = \text{Rs. } 40x$$

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

$$\Rightarrow 40x = \frac{100x \times 8 \times R}{100}$$

$$\Rightarrow R = \frac{40}{8} = 5\%$$

Compound interest of Rs. 10,000 for 3 years = $P[(1 + \frac{R}{100})^T - 1]$

$$= 10,000[(1 + \frac{5}{100})^3 - 1]$$

$$= 10,000[(\frac{21}{20})^3 - 1]$$

$$= 10,000 \times \frac{9261 - 8000}{8000} = 10 \times \frac{1261}{8}$$

$$= \frac{12610}{8} = Rs\ 1576.25$$

\Rightarrow Ans - (A)

Question 94

If $\tan \pi/3 + \operatorname{cosec} \pi/6 = x$, then x is

A $(1-\sqrt{2})/\sqrt{2}$

B $(\sqrt{3}+4)/2\sqrt{3}$

C $\sqrt{3}+2$

D $(2\sqrt{2}-1)/2$

Answer: C

Explanation:

Expression : $\tan \pi/3 + \operatorname{cosec} \pi/6 = x$

$$= \tan(60) + \operatorname{cosec}(30)$$

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

\Rightarrow Ans - (C)

Question 95

If $4x - 7y = 3$ and $2x - y = 9$, then $x - y$ is.

A 3

B 4

C 5

D 6

Answer: A

Explanation:

Equation 1 : $4x - 7y = 3$

Equation 2 : $2x - y = 9$

Multiplying equation (ii) by 2 and subtracting equation (i) from it

$$\Rightarrow (-2y + 7y) = (18 - 3)$$

$$\Rightarrow 5y = 15$$

$$\Rightarrow y = \frac{15}{5} = 3$$

Substituting it in equation (ii), $\Rightarrow 2x = 9 + 3 = 12$

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

$$\therefore (x - y) = 6 - 3 = 3$$

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

Question 96

If the length of the side of an equilateral triangle is 6 cm, what is its area?

A $18\sqrt{3}$ sq cm

B $36\sqrt{3}$ sq cm

C $27\sqrt{3}$ sq cm

D $9\sqrt{3}$ sq cm

Answer: D

Explanation:

Side of an equilateral triangle, $a = 6$ cm

$$\text{Area} = \frac{\sqrt{3}}{4}(a)^2$$

$$= \frac{\sqrt{3}}{4} \times (6)^2 = \frac{36\sqrt{3}}{4}$$

$$= 9\sqrt{3} \text{ cm}^2$$

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

Question 97

Read the table and answer the given questions

	Quantity of cost	Average cost(RS)
MOBILES	99	15000
CAMERAS	53	13000
TVs	29	59000
REFRIGERATOR	21	56000
AC	97	25000

What is the value of the total cost in lakhs ?

- A 748.6
- B 74.86
- C 168
- D 299

Answer: B

Explanation:

Total cost of mobiles = $99 \times 15000 = \text{Rs. } 14,85,000$

Total cost of Cameras = $53 \times 13000 = \text{Rs. } 6,89,000$

Total cost of TVs = $29 \times 59000 = \text{Rs. } 17,11,000$

Total cost of Refrigerator = $21 \times 56000 = \text{Rs. } 11,76,000$

Total cost of AC = $97 \times 25000 = \text{Rs. } 24,25,000$

\therefore Total cost = $14,85,000 + 6,89,000 + 17,11,000 + 11,76,000 + 24,25,000 = \text{Rs. } 74,86,000$

Total cost in lakhs = Rs 74.86 lakhs

=> Ans - (B)

Question 98

Read the table and answer the given questions

Years	Ratio of Import /Export
2011	0.8
2012	1.3
2013	1
2014	1.5
2015	0.8

If the imports in 2012 was Rs. 600 crores and the total exports in the years 2012 and 2013 together was Rs. 4400 crores, then the imports in 2013 was?

- A 3232
- B 4622
- C 3666
- D 3938

Answer: D

Explanation:

Imports in 2012 = Rs. 600 crores

Let Exports in 2012 = Rs. y crores

Ratio of imports and exports in 2012 = 1.3

$$\Rightarrow \frac{600}{y} = 1.3$$

$$\Rightarrow y = \frac{600}{1.3} = 461.53$$

Total exports In the years 2012 and 2013 together = Rs. 4400 crores

\Rightarrow Exports in 2013 = Rs. (4400 - 461.53) crores = Rs. 3938.47 crores

Let imports in 2013 = Rs. x crores

Ratio of imports and exports in 2013 = $\frac{x}{3938.47} = 1$

$$\Rightarrow x = 3938.47 \approx 3938$$

\therefore Imports in 2013 was Rs. 3938 crores

\Rightarrow Ans - (D)

Question 99

Read the data in table and answer the given question

Measured On Birthday	Hieght of Children in CMs
4	100
5	105
6	115
7	125
8	130
9	140
10	145
11	155
12	160
13	170
14	175
15	180
16	190

What is the increase in height of child from 10th birthday to 13th birthday?

- A 30 cms
- B 25 cms
- C 20 cms
- D 35 cms

Answer: B

Explanation:

Height on 10th birthday = 145 cm

Height on 13th birthday = 170 cm

Increase in height = $170 - 145 = 25$ cm

=> Ans - (B)

Question 100

Read the data in the table and answer the questions

Deep Sleep	20
Dreaming	20
Light Sleep	30
Exreamly Sleep	25
Awake	5

Between 10pm to 6am, a fitness band records the following data. How long was the user in Light sleep or in Extreme sleep ?

A 4.4 hours

B 3.9 hours

C 2.9 hours

D 4.9 hours

Answer: A

Explanation:

Total time between 10 pm to 6 am = 8 hours

% time spent in Light sleep or in Extreme sleep = $30 + 25 = 55\%$

=> Time spent in Light sleep or in Extreme sleep = $\frac{55}{100} \times 8$

= $\frac{22}{5} = 4.4$ hours

=> Ans - (A)