SSC CHSL 23 Jan 2017 Morning Shift

General Awareness

Instructions

For the following questions answer them individually

Question 1

Moti Masjid is situated in which of these World Heritage Sites?

A   Humayun's Tomb

B   Mahabodhi Temple Complex

C   Qutub Minar

D   Red Fort Complex

Answer: D

Question 2

Kailash Satyarthi won Nobel Prize for?

A   Literature

B   Physics

C   Peace

D   Economic Studies

Answer: C

Question 3

Which of the following is the largest part of the human brain?

A   Ribs

B   Cerebrum

C   Pons

D   Thalamus

Answer: B

Question 4

The auxiliary buds ....

A   grow endogenously from the pericycle

B   arise endogenously from the main growing point

C   is an embryonic shoot located in the axil of a leaf

D   arise exogenously from the epidermis

Answer: C

Question 5

Which of the following is a viral disease?

A   Polio

B   Tetanus

C   Leprosy

D   Plague

Answer: A

Question 6

The Chemical formula of Ammonium dichromate is ....

A $(NHF_4)_2Cr_2O_7$

B $(NH_4)CrO_3$

C $(NH_4)Cr_2O_3$

D $(NH_4)_2Cr_2O_3$

Answer: A

Question 7

The residual attractive or repulsive forces between molecules or atomic groups that do not arise from a covalent bond, or ionic bonds is called ....

A   Neutral Bond

B   Non Polar Bond

C   Electro Valence bond

D   Van der Walls bond

   Answer: D

Question 8

Two versions of the Internet Protocol (IP) are in use

A   IP Version 4 & IP Version 6

B   IP Version 2 & IP Version 3

C   IP Version 4 & IP Version 8

D   IP Version 2 & IP Version 4

   Answer: A

Question 9

The Indian musical instrument 'Samvadini' is which type?

A   String

B   Wind

C   Percussion

D   Impact

   Answer: B

Question 10

Calculate the accounting profits for a firm, if its economic profits for the year are Rs 60 crores, total implicit costs are Rs 18.5 crores and total explicit costs are Rs 35 crores

A   Rs 113.5 crores

B   Rs 43.5 crores

C   Rs 76.5 crores

D   Rs 78.5 crores

    Answer: D

Question 11

If tea companies start using mechanised tea leave pickers

A   more people would want to work as tea leave pickers

B   unemployment of tea leave pickers will decrease

C   more tea will be produced per acre

D   then wages for manual tea leave pickers will fall

    Answer: D

Question 12

Ozone is represented as ....

A O_3

B H_2O_2

C Cl_2O

D N_2O

    Answer: A

Question 13

Which organisms can help to carry out Vermicomposting?

A   Nitrifying Bacteria

B   Earthworms

C   Algae

D   Fungus

    Answer: B

Question 14

The SLR is determined by the RBI. SLR stands for

A   States Leverage Return

B   Savings Lease Rate

C   Statutory Liquidity Ratio

D   Safe Legal Range

   Answer: C

Question 15

Which planet has the maximum number of satellites?

A   Jupiter

B   Earth

C   Neptune

D   Saturn

   Answer: A

Question 16

What is the capital of Norway?

A   Buenos Aires

B   Rome

C   Ottawa

D   Oslo

   Answer: D

Question 17

Which country was a part of the Axis Powers during World War 2?

A Yugoslavia

B Poland

C Belgium

D Hungary

Answer: D

Question 18

Who was the trusted General of the Mughal emperor Akbar?

A Raja Todar Mal

B Man Singh I

C Birbal

D Tansen

Answer: B

Question 19

Who Invented Neon Lamp?

A Vint Cerf

B David Chaum

C Georges Claude

D Josephine Cochrane

Answer: C

Question 20

Instrument for measuring time is called ....

A Diagometer

B Anemometer

C Durometer

D Chronometer

Answer: D

Question 21

If the radius of the earth decreases and its mass remains the same, then the value of "acceleration due to gravity" will ....

A decrease

B increase

C remain the same

D become zero

Answer: B

Question 22

The number of parliamentary seats (Rajya Sabha) of Uttar Pradesh is

A 12

B 16

C 18

D 31

Answer: D

Question 23

Article 222 of the Indian Constitution "Transfer of a Judge from one High Court to another" deals with?

A the directive principles of state policy

B the Union Government

C the State Government

D the fundamental rights of the Indian Citizen

Answer: C

Question 24

Inderjeet Singh is related to ....

A   Shot put

B   Hockey

C   Lawn Tennis

D   Swimming

   Answer: A

Question 25

Who is the author of "It's All in the Planets"?

A   Preeti Shenoy

B   Ravinder Singh

C   Keshav Aneel

D   Durjoy Datta

   Answer: A

Mathematics

Instructions
For the following questions answer them individually

Question 26

Point P is the midpoint of segment AB. Co-ordinates of P are (5,-4) and A are (7,0). What will be the co-ordinates of point B?

A   (3, -8)

B   (-3, -8)

C   (3, 8)

D   (-3, 8)

   Answer: A

Explanation:

Coordinates of midpoint of line joining A = (x_1, y_1) and B = (x_2, y_2) is $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

P (5,-4) is mid point of A (7,0) and B (x,y)

=> $5 = \frac{x+7}{2}$

=> $x = 10 - 7 = 3$

Similarly, $-4 = \frac{y+0}{2}$

=> $y = -8$

∴ Coordinates of B = (3,-8)

Question 27

What is the value of 299996 x 300004?

A 89999999984

B 89999699984

C 89999999884

D 89999999974

Answer: A

Explanation:

Expression : 299996 x 300004

= (300000 - 4) x (300000 + 4)

= $(300000)^2 - (4)^2$

= 90000000000 - 16 = 89999999984

=> Ans - (A)

Question 28

The mean of marks secured by 35 students in division A of class X is 65, 45 students of division B is 61 and that of 70 students of division C is 59. What is the mean of marks of the students of three divisions of Class X?

A 60.3

B 59.6

C 61

D 62.4

Answer: C

Explanation:

Total marks secured by 35 students in division A = 35 $\times$ 65 = 2275

Total marks secured by 45 students in division B = 45 $\times$ 61 = 2745

Total marks secured by 70 students in division C = 70 $\times$ 59 = 4130

=> Mean of marks of the students of three divisions of Class X = $\frac{(2275+2745+4130)}{(35+45+70)}$

= $\frac{9150}{150} = 61$

=> Ans - (C)

Question 29

If $5(4-x)-4 > 5x-2 > 2x-6$, then the value of x is

A -2

B 2

C -1

D 3

Answer: C

Explanation:

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

=> $20-5x-4$ > $5x-2$

=> $5x+5x$ < $16+2$

=> x < $\frac{18}{10}$ ----------(i)

Expression 2 : $5x-2$ > $2x-6$

=> $5x-2x$ > $2-6$

=> x > $\frac{-4}{3}$ ---------(ii)

Combining inequalities (i) and (ii),we get : $\frac{-4}{3}$ < x < $\frac{18}{10}$

Thus, x can take values = **-1** , 0 , 1

=> Ans - (C)

Question 30

Slope of the side DA of the rectangle ABCD is 5/3. What is the slope of the side AB?

A 3/5

B -5/3

C 5/3

D -3/5

Answer: D

Explanation:

Sides DA and AB are perpendicular to each other and product of slopes of two perpendicular lines = -1

Let slope of side AB = m an slope of side DA = $\frac{5}{3}$

=> $m \times \frac{5}{3} = -1$

=> $m = \frac{-3}{5}$

=> Ans - (D)

Question 31

If cos -225° = x, then the value of x is

A $\frac{1}{2}$

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

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

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

Answer: D

Explanation:

Expression : $cos(-225°)$

Since, $cos(-\theta) = cos\theta$

= $cos(225°) = cos(180°+45°)$

= $-cos(45°) = \frac{-1}{\sqrt{2}}$

Question 32

If 2x - 3 = 3x - 5, then the numerical value of $(x-3)^2$ is

A 5

B 1

C -1

D -5

Answer: B

Explanation:

Expression : $2x - 3 = 3x - 5$

=> $3x - 2x = -3 + 5$

=> $x = 2$

$\therefore (x - 1)^2 = (2 - 1)^2 = 1$

=> Ans - (B)

Question 33

ΔABC is right angled at B. BD is the altitude. AD is 18 cm and DC is 50 cm. Find length of BD?
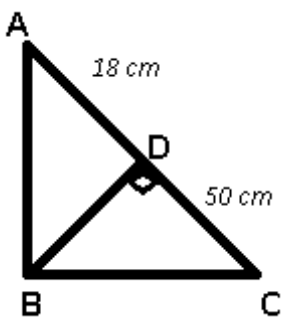
A 30 cm

B 25 cm

C 35 cm

D 15 cm

Answer: A

Explanation:

Let BD = x cm

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

=> $(x)^2 = 18 \times 50 = 900$

=> $x = \sqrt{900} = 30$ cm

=> Ans - (A)

Question 34

There is 40% increase in an amount in 10 years at simple interest. What will be the compound interest of Rs 25000 after 2 years at the same rate?

A   Rs 4080

B   Rs 5100

C   Rs 3060

D   Rs 2040

Answer: D

Explanation:

Let the principal = $Rs.100x$

=> Amount after simple interest = $Rs.140x$

=> Simple interest = $140x - 100x = Rs.40x$

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

=> $40x = \frac{100x \times 10 \times R}{100}$

=> $R = \frac{40}{10} = 4\%$

Compound interest of Rs. 25,000 for 2 years = $P[(1 + \frac{R}{100})^T - 1]$

= $25,000[(1 + \frac{4}{100})^2 - 1]$

= $25,000[(\frac{26}{25})^2 - 1]$

= $25,000 \times \frac{676-625}{676} = 25,000 \times \frac{51}{625}$

= $40 \times 51 = Rs.2,040$

Question 35

If $\frac{\sqrt{(1+cot^2 A)}}{Cot A} = x$, then the value of x is

A   sinA

B   cosecA

C   secA

D   cosA

Answer: C

Explanation:

Expression : $\frac{\sqrt{1+cot^2 A}}{cot A}$

$= \sqrt{1 + \frac{cos^2 A}{sin^2 A}} \times \frac{1}{cotA}$

$= \sqrt{\frac{sin^2 A + cos^2 A}{sin^2 A}} \times \frac{1}{cotA}$

$= \sqrt{\frac{1}{sin^2 A}} \times \frac{1}{cotA}$

$= \frac{1}{sinA} \times \frac{sinA}{cosA}$

$= \frac{1}{cosA} = secA$

Question 36

What is the value of (cosecA - cotA) / (secA + tanA)?

A $(secA + tanA)/(cosecA - cotA)$

B $\sqrt{\frac{[(secA - tanA)}{(cosecA + cotA)]}}$

C $(secA - tanA)/(cosecA + cotA)$

D $\sqrt{\frac{[(secA + tanA)}{(cosecA - cotA)]}}$

Answer: C

Explanation:

Expression : (cosecA - cotA) / (secA + tanA)

Multiplying numerator and denominator by $(secA - tanA)$

$= \frac{cosecA - cotA}{secA + tanA} \times \frac{secA - tanA}{secA - tanA}$

$= \frac{(cosecA - cotA) \times (secA - tanA)}{sec^2 A - tan^2 A}$

Now, $(sec^2 A - tan^2 A) = (cosec^2 A - cot^2 A) = 1$

$= \frac{(cosecA - cotA) \times (secA - tanA)}{cosec^2 A - cot^2 A}$

$= \frac{(cosecA - cotA) \times (secA - tanA)}{(cosecA - cotA) \times (cosecA + cotA)}$

$= \frac{secA - tanA}{cosecA + cotA}$

Question 37

An engineering student has to secure 45% marks to pass. He gets 54 and fails by 36 marks. Find the maximum marks.

A   200 marks

B   225 marks

C 250 marks

D 275 marks

Answer: A

Explanation:
Let maximum marks = $100x$

=> Passing marks = $\frac{45}{100} \times 100x = 45x$

According to ques,

=> $45x - 36 = 54$

=> $45x = 54 + 36 = 90$

=> $x = \frac{90}{45} = 2$

∴ Maximum marks = $100 \times 2 = 200$

=> Ans - (A)

Question 38

When a discount of 25% is given on a box of popcorn, the profit is 25%. If the discount is 10%, then the profit is

A 35 percent

B 50 percent

C 20 percent

D 65 percent

Answer: B

Explanation:
Let marked price = Rs. $100x$

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

Let Cost price = Rs. y

=> Profit % = $\frac{75x-y}{y} \times 100 = 25$

=> $\frac{75x-y}{y} = \frac{25}{100} = \frac{1}{4}$

=> $300x - 4y = y$

=> $y = \frac{300x}{5} = Rs.60x$

If, discount = 10%, => Selling price = $\frac{90}{100} \times 100x = Rs.90x$

∴ Profit % = $\frac{90x-60x}{60x} \times 100$

= $\frac{1}{2} \times 100 = 50\%$

Question 39

A cylindrical vessel of height 9 cm and radius 7 cm is completely filled with sand. When this sand is poured out it forms a right circular cone of radius 10 cm what will be the height of this cone?

A 26.46 cm

B 39.69 cm

C 13.23 cm

D 52.92 cm

Answer: C

Explanation:

Let height of cone = h cm and radius, r = 10 cm

Height of cylinder, H = 9 cm and Radius, R = 7 cm

Volume of cylinder = Volume of cone

=> $\pi R^2 H = \frac{1}{3}\pi r^2 h$

=> $(7)^2 \times 9 = \frac{1}{3} \times (10)^2 \times h$

=> $h = \frac{49 \times 9 \times 3}{100} = \frac{1323}{100}$

=> $h = 13.23$ cm

Question 40

Munni can bake 70 cakes in 7 hours, Munni and Guddi together can bake 90 cakes in 6 hours. How many cakes Guddi can bake in 10 hours?

A 100

B 50

C 125

D 25

Answer: B

Explanation:

Cakes baked by Munni in 1 hour = $\frac{70}{7} = 10$

Cakes baked by Munni and Guddi together in 1 hour = $\frac{90}{6} = 15$

=> Cakes baked by Guddi in 1 hour = 15 - 10 = 5

∴ Cakes baked by Guddi in 10 hours = 10 × 5 = 50

=> Ans - (B)

Question 41

In a rectangle ....

A   Diagonals are perpendicular to each other

B   Diagonals are not equal

C   Diagonals bisect each other

D   Diagonals bisect opposite angles

Answer: C

Explanation:

In a rectangle, diagonals are of equal length. They bisect each other but not at 90 degree.

Thus, only third option is correct about properties of rectangle

=> Ans - (C)

Question 42

The bus fare between two cities is increased in the ratio 25:29. Find the increase in the fare, if the original fare is Rs. 625

A   Rs 725

B   Rs 145

C   Rs 290

D   Rs 100

Answer: D

Explanation:

Let original fare = Rs. $25x$

=> New fare = Rs. $29x$

Also, original fare = $625 = 25x$

=> $x = \frac{625}{25} = 25$

∴ Increase in fare = $29x - 25x = 4x$

= $4 \times 25 = Rs.100$

Question 43

If $x - y = -6$ and $x + y = 16$, then $x^2 - y^2$ is?

A 96

B -96

C 22

D -22

Answer: B

Explanation:

Equation (i) : $x - y = -6$

Equation (ii) : $x + y = 16$

Adding above equations, we get : $2x = -6 + 16 = 10$

=> $x = \frac{10}{2} = 5$

Substituting value of x in equation (ii), => $y = 16 - 5 = 11$

$\therefore x^2 - y^2 = (5)^2 - (11)^2$

= $25 - 121 = -96$

Question 44

Three consecutive natural numbers are such that the square of the greatest is greater than the product of the other two by 16. The smallest of these numbers is

A 5

B 6

C 7

D 4

Answer: D

Explanation:

Let the three consecutive natural numbers be $(x - 1), (x), (x + 1)$ where $x \geq 2$

Acc. to ques, => $(x + 1)^2 - [x \times (x - 1)] = 16$

=> $(x^2 + 2x + 1) - (x^2 - x) = 16$

=> $3x + 1 = 16$

=> $x = \frac{15}{3} = 5$

$\therefore$ Smallest number = 5 - 1 = 4

Question 45

Daily local train ticket costs Rs 60 and Monthly Pass costs Rs 1566. If I buy the Monthly Pass and travel for 29 days in a month than I save?

A 10 percent

B 14 percent

C 15 percent

D 12 percent

Answer: A

Explanation:

Train ticket cost for 1 day = Rs. 60

=> Cost for 29 days = 29 $\times$ 60 = Rs. 1,740

Cost of monthly pass = Rs. 1,566

=> Money saved = 1740 - 1566 = Rs. 174

$\therefore$ Required % = $\frac{174}{1740} \times 100 = 10\%$

Question 46

A missile travels at 1206 km/h. How many metres does it travel in one second?

A 355 metres

B 318 metres

C 302 metres

D 335 metres

Answer: D

Explanation:

Speed of missile = 1206 km/hr

=> Speed in m/s = $1206 \times \frac{5}{18}$

= $5 \times 67 = 335$ m/s

$\therefore$ In 1 second, it travels 335 metres

=> Ans - (D)

Question 47

Refer the below data table and answer the following Question.

	Quantity of Stock	Average Cost (Rs)
Mobile Phones	61	18000
Cameras	42	11000
TVs	26	47000
Refrigirators	96	49000
ACs	84	23000

What is the value of the total stock (in lakh rupees)?

A   94.18

B   941.8

C   148

D   309

Answer: A

Explanation:

Total cost of mobiles = 61 × 18000 = Rs. 10,98,000

Total cost of Cameras = 42 × 11000 = Rs. 4,62,000

Total cost of TVs = 26 × 47000 = Rs. 12,22,000

Total cost of Refrigerator = 96 × 49000 = Rs. 47,04,000

Total cost of AC = 84 × 23000 = Rs. 19,32,000

∴ Total cost = 10,98,000 + 4,62,000 + 12,22,000 + 47,04,000 + 19,32,000 = Rs. 94,18,000

Total cost in lakhs = Rs 94.18 lakhs

=> Ans - (A)

Question 48

Refer the below data table and answer the following Question.

Year	Ratio : Import / Export
2011	0.8
2012	0.7
2013	0.8
2014	1.4
2015	0.9

If the imports In 2012 was Rs. 600 crores and the total exports in the years 2012 and 2013 together was Rs. 2800 crores, then the imports in 2013 was?

A 1554

B 1943

C 857

D 2429

Answer: A

Explanation:

Imports in 2012 = Rs. 600 crores

Let Exports in 2012 = Rs. y crores

Ratio of imports and exports in 2012 = 0.7

=> $\frac{600}{y} = 0.7$

=> $y = \frac{600}{0.7} = 857.14$

Total exports In the years 2012 and 2013 together = Rs. 2800 crores

=> Exports in 2013 = Rs. (2800 - 857.14) crores = Rs. 1942.86 crores

Let imports in 2013 = Rs. x crores

Ratio of imports and exports in 2013 = $\frac{x}{1942.86} = 0.8$

=> $x = 1942.86 \times 0.8 = 1554.288 \approx 1554$

∴ Imports in 2013 was Rs. 1554 crores

=> Ans - (A)

Question 49

Refer the below data table and answer the following Question.

Measured on Birthday	Height of the child (in cms)
4	100
5	110
6	120
7	125
8	135
9	140
10	150
11	155
12	165
13	175
14	185
15	190
16	200

What was the increase in the height of the child from the 8th Birthday to the 16th Birthday?

A 70 cms

B 75 cms

C 60 cms

D 65 cms

Answer: D

Explanation:

Height on 8th birthday = 135 cm

Height on 16th birthday = 200 cm

Increase in height = 200 - 135 = 65 cm

=> Ans - (D)

Question 50

Refer the below data table and answer the following Question.

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

A 4.4 hours

B 3 hours

C   2.9 hours

D   4 hours

   Answer: A

Reasoning

Instructions

For the following questions answer them individually

Question 51

Select the related word/letters/number from the given alternatives.
Sparrow : Chirp : : Cat : ?

A   Hiss

B   Mew

C   Caw

D   Grunt

   Answer: B

Explanation:

Expression = Sparrow : Chirp : : Cat : ?

The second is the sounds made by the first. Sparrow chirps, similarly a cat mew.

=> Ans - (B)

Question 52

Select the related word/letters/number from the given alternatives.
IJKL: PQRS : : EFGH : ?

A   LONM

B   LOPQ

C   LMNO
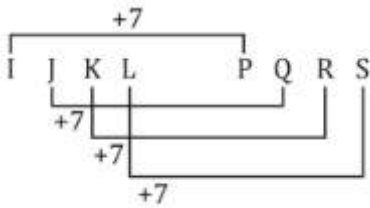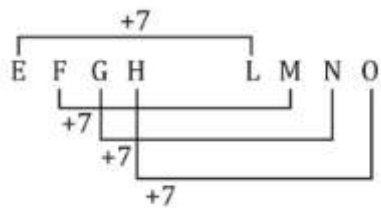
D   LMOR

   Answer: C

Explanation:

Expression = IJKL: PQRS : : EFGH : ?

The pattern followed is :

Similarly, for EFGH :

=> Ans - (C)

Question 53

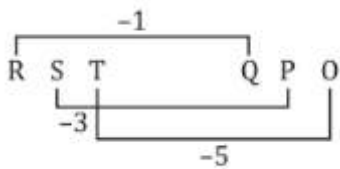**Select the related word/letters/number from the given alternatives.**
RST:QPO:: MNO:: ?

A YZA

B GHI

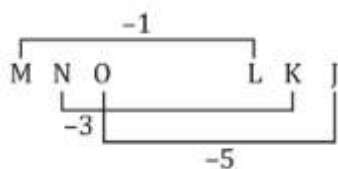**C** BAC

D LKJ

   Answer: D

Explanation:

Expression = RST:QPO:: MNO:: ?

The pattern followed is :

Similarly, for MNO :

=> Ans - (D)

Question 54

Select the related word/letters/number from the given alternatives.
6 : 48 : : 8 : ?

A 65

B 80

C 70

D 85

   Answer: B

Explanation:
Expression = 6 : 48 : : 8 : ?

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

Eg :- $6 : 6 \times 8 = 6 : 48$

Similarly, $8 \times (8+2) = 8 \times 10 = 80$

=> Ans - (B)

Question 55

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

A White

B Yellow

C Violet

D Red

   Answer: A

Explanation:
Violet, yellow and red are colours of the rainbow, hence white is the odd one out.

=> Ans - (A)

Question 56

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

A CEF

B   GIJ

C   LNO

D   STW

   Answer: D

Explanation:
(A) : C (+2 letters) = E (+1 letter) = F

(B) : G (+2 letters) = I (+1 letter) = J

(C) : L (+2 letters) = N (+1 letter) = O

(D) : S (**+1** letter) = T (**+3** letter) = W

=> Ans - (D)

Question 57

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

A   21

B   27

C   28

D   30

   Answer: C

Explanation:
Except 28, other three are divisible by 3, hence it is the odd one out.

=> Ans - (C)

Question 58

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

A   10

B   14

C   28

D   25

   Answer: D

Explanation:
Among the given numbers, only 25 is odd, hence it is the odd one out.

=> Ans - (D)

Question 59

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
L, Q, X, G, R, ?

A   G

B   F

C   E

D   S

   Answer: C

Explanation:
The pattern followed is :

L (+5 letters) = Q

Q (+7 letters) = X

X (+9 letters) = G

G (+11 letters) = R

R (+13 letters) = **E**

=> Ans - (C)

Question 60

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
ELFA, GLHA, ILJA, ?, MLNA

A   OLPA

B   KLMA

C   LLMA

D   KLLA

   Answer: D

Explanation:
Expression : ELFA, GLHA, ILJA, ?, MLNA

The pattern followed in each letter of the terms is :

1st letter : E (+2 letters) = G (+2 letters) = I (+2 letters) = K (+2 letters) = M

2nd letter : This is 'L' in each term

3rd letter : F (+2 letters) = H (+2 letters) = J (+2 letters) = L (+2 letters) = N

4th letter : This is 'A' in each term

Thus, missing term = **KLLA**

=> Ans - (D)

Question 61

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
15, 26, 48, 81, 125, ?

A   160

B   150

C   170

D   180

Answer: D

Explanation:
Multiples of 11 are added.

15 + 11 = 26

26 + 22 = 48

48 + 33 = 81

81 + 44 = 125

125 + 55 = **180**

=> Ans - (D)

Question 62

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
9, 17, 44, 108, 233, ?

A   449

B   442

C 439

D 469

  Answer: A

Explanation:
Cubes of natural numbers are added.

$9 + 2^3$ = 17

$17 + 3^3$ = 44

$44 + 4^3$ = 108

$108 + 5^3$ = 233

$233 + 6^3$ = **449**

=> Ans - (A)

Question 63

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) Library is a place where one may find any answer to his/her question.
(II) Books in any form whether physical or electronic are advantageous for resolving any kind of query.
Conclusion:
(I) Every question has an answer and one can find it in a book.
(II) Books give all related information pertaining to the title they have.

A Only conclusion II follows

B Conclusion I and II both follow

C Neither I nor II follow

D Only conclusion I follows

  Answer: B

Question 64

Six girls are sitting in a row facing north. Garima is between Reena and Amita, Amita is on the immediate left of Pooja and Arpita is to the left of Rekha. Who is at the extreme left end?

A Reena

B Arpita

C Amita

D Cannot be determined

Answer: D

Explanation:
Garima is between Reena and Amita, Amita is on the immediate left of Pooja.

=> Garima is sitting to the immediate right of Reena, and Amita is second to the right of Reena.

Also, Arpita is to the left of Rekha.

=> Arpita and Rekha can be either to the left of Reena or to the right of Pooja.

Thus, two arrangements are possible, Arrangement 1 :

Arpita	Rekha	Reena	Garima	Amita	Pooja

Arrangement 2 :

Reena	Garima	Amita	Pooja	Arpita	Rekha

Thus, we cannot determine the person sitting at extreme left end.

=> Ans - (D)

Question 65

Arrange the given words in the sequence in which they occur in the dictionary.
i. Motives
ii. Meaning
iii. Medieval
iv. Maritime
v. Manufacture

A iii, i, ii, v, iv

B i, iii, iv, v, ii

C iii, ii, i, iv, v

D v, iv, ii, iii, i

Answer: D

Explanation:
As per the order of dictionary :

= Manufacture -> Maritime -> Meaning -> Medieval -> Motives

≡ v, iv, ii, iii, i

=> Ans - (D)

Question 66

In a certain code language, "LIAR" is written as "5782" and "RANGE" is written as "28641". How is "ARRANGE" written in that code language?

A 8288641

B 8222641

C 8228641

D 8228614

Answer: C

Explanation:
The codes for each letter is given :

A -> 8
R -> 2
R -> 2
A -> 8
N -> 6
G -> 4
E -> 1

Thus, ARRANGE : **8228641**

=> Ans - (C)

Question 67

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

14	20	16
2	2	?
3	6	5
4	4	3

A 1

B 2

C 3

D 4

Answer: B

Explanation:

In each column, for the numbers a, b, c and d, pattern is : $a = b \times (c + d)$

Eg :- $2 \times (3 + 4) = 2 \times 7 = 14$

$2 \times (6 + 4) = 2 \times 10 = 20$

Similarly, $x \times (5 + 3) = 16$

=> $x = \frac{16}{8} = 2$

=> Ans - (B)

Question 68

If "-" stands for division, "+" stands for multiplication, "÷" stands for subtraction and "×" stands for addition, which of the following equations is correct?

A $8 + 6 - 3 \div 4 \times 6 = 16$

B $16 - 4 + 4 \div 2 \times 6 = 20$

C $12 + 3 - 3 \div 5 \times 2 = 4$

D $14 - 2 + 6 \div 5 \times 2 = 32$

Answer: B

Explanation:

If "-" stands for division, "+" stands for multiplication, "÷" stands for subtraction and "×" stands for addition,

(A) : $8 + 6 - 3 \div 4 \times 6 = 16$

$\equiv 8 \times 6 \div 3 - 4 + 6 = 16$

L.H.S. $= \frac{48}{3} + 2 = 16 + 2 = 18 \neq$ R.H.S.

(B) : $16 - 4 + 4 \div 2 \times 6 = 20$

$\equiv 16 \div 4 \times 4 - 2 + 6 = 20$

L.H.S. $= (4 \times 4) + 4 = 16 + 4 = 20 =$ R.H.S.

=> Ans - (B)

Question 69

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

A igihii

B ighiii

C igihhi

D igihih

Answer: A

Explanation:

The pattern followed is that the term 'gh' is repeated and i's in increasing order are appended at the end.

= gh**ii** gh**iii** gh**iiii**

=> Ans - (A)

Question 70

Aryan is facing west. He turns right and walks 20 m, then he turns left and walks 10 m. From there he walks 7 m to the north and then 10 m towards the west. In which direction is he from his original position?
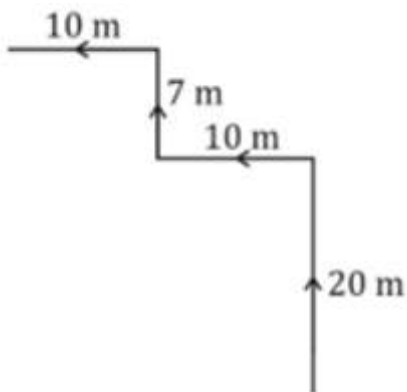
A North-east

B North-west

C South-east

D South-west

Answer: B

Explanation:

Aryan is facing west. He turns right and walks 20 m towards north, then he turns left and walks 10 m westwards. From there he turns left and walks 7 m to the north and finally 10 m towards the west.

Thus, he is north-west of his original position.

=> Ans - (B)

Question 71

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-11 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, 'R' can be represented by 11, 34, etc., and 'E' can be represented by 76, 98, etc. Similarly, you have to identify the set for the word 'COVER'.

Matrix - I					
	0	1	2	3	4
0	O	A	R	C	O
1	D	R	O	A	C
2	R	C	A	D	O
3	A	D	C	O	R
4	C	O	D	R	A

Matrix - II					
	5	6	7	8	9
5	P	T	B	V	E
6	V	P	E	B	T
7	T	E	V	P	B
8	E	B	P	T	V
9	B	V	T	E	P

A   21, 24, 96, 66, 02

B   40, 12, 95, 85, 43

C   03, 33, 89, 59, 11

D   01, 33, 65, 76, 34

Answer: C

Explanation:
(A) : 21, 24, 96, 66, 02 = COVPR

(B) : 40, 12, 95, 85, 43 = COBER

(C) : 03, 33, 89, 59, 11 = **COVER**

(D) : 01, 33, 65, 76, 34 = AOVER

=> Ans - (C)

Question 72

Introducing a man, a woman says, "His son's mother is the only daughter of my mother". How is the man related to the woman?

A   Nephew

B   Maternal uncle

C   Husband

D   Father

Answer: C

Explanation:
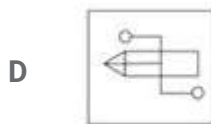
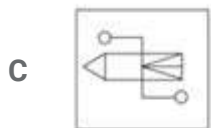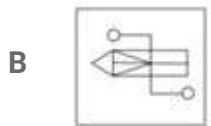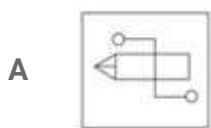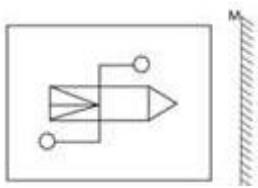Only daughter of the woman's mother = woman herself

Now, the man's son's mother = man's wife

Thus, the man is her husband.

=> Ans - (C)

Question 73

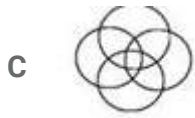**If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?**

A

B

C

D

Answer: C

Question 74

Identify the diagram that best represents the relationship among the given classes. Environment, Nitrogen, Oxygen, Weather

A

B OOOO

C

D ODOD
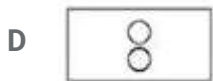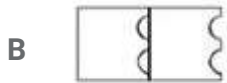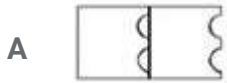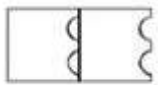
Answer: A

Question 75

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.

A

B

C

D

Answer: D

English

Instructions

For the following questions answer them individually

Question 76

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.
Rupa said to the driver, "Can you take me to the doctor now?"

A Rupa asked the driver if he could take her to the doctor then.

B Rupa asked the driver that if he could take her to the doctor than.

C Rupa asked the driver that if he would take her to the doctor at once.

D Rupa asked the driver that if he can take her to the doctor than at once.

Answer: A

Question 77

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'.
"If I can see you(A)/I am sure you would(B)/be looking beautiful,"Naina said.(C)/No error(D)

A A

B B

C C

D D

Answer: A

Question 78

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
He is now very old, yet grandfather still is the ....head of my extended family.

A absolute

B complete

C overall

D undisputed

Answer: D

Question 79

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

A One should ignore those who keep harassing them

B To say something wrong to a person who has always been kind to you

C Scolding a thick skinned person will cause no improvement

D To be pursuing a misguided line of course of action

Answer: D

Question 80

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

A To solve a problem one has to go back to the root cause

B An inventive person will find fresh ways to solve a problem

C An idea has been unsuccessful and that a new one must be devised

D An artist is always happy if he gets a chance to go back to painting

Answer: C

Question 81

Select the word with the correct spelling.

A bulfrog

B assemble

C paraket

D colandeer

Answer: B

Question 82

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
to pilfer or steal (something, especially an item of small value) in a casual way.

A to loot

B to filch

C to rip off

D to plunder

Answer: B

Question 83

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.
At the same ....the bell struck and school was dismissed.

A occasion

B jiffy

C moment

D period

Answer: C

Question 84

Rearrange the parts of the sentence in correct order.

This means that for
P-making a significant dent
Q-have to grow at a faster rate
R-in poverty, rural incomes

A PRQ

B PQR

C QPR

D RPQ

Answer: A

Question 85

Rearrange the parts of the sentence in correct order.

To have succumbed to their
P-blackmail was not an instance of
Q-making pragmatic political
R-concessions; it was one of capitulation

A   QRP

B   PQR

C   RPQ

D   QPR

   Answer: B

Question 86

Select the antonym of conception

A   clue

B   cognition

C   fact

D   notion

   Answer: C

Question 87

Improve the bracketed part of the sentence.
People in some rural areas don't get water to drink, (besides) many people in urban areas have water even for their pools.

A   and

B   whereas

C   where

D   no improvement

   Answer: B

Question 88

Improve the bracketed part of the sentence.
Ajay told the manager that he would not mind (standing and eat) the lunch.

A   standing and eating

B stand and eating

C to stand and eat

D no improvement

Answer: A

Question 89

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've been trying(A)/to catch you as(B)/ you left college.(C) No error(D)

A A

B B

C C

D D

Answer: B

Question 90

Select the word with the correct spelling.

A reverent

B tumberils

C grambled

D sitation

Answer: A

Question 91

Select the synonym of to reiterate

A to hark

B to drawl

C to halt

D to recur

Answer: D

Question 92

Select the synonym of hypnotist

A rookie

B novice

C conjurer

D amateur

Answer: C

Question 93

Select the antonym of to expunge

A to gut

B to omit

C to zap

D to insert

Answer: D

Question 94

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
An achievement or something desired fail to be attained by someone

A to elude

B to eschew

C to shirk

D to devoid

Answer: A

Question 95

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 flood destroyed the whole town.

A The whole town was destroyed by the flood.

B The whole town had been destroyed by the flood.

C The whole town has been destroyed by the flood.

D The whole town has had been destroyed by the flood.

   Answer: A

Instructions

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

.......(1).......some respects, this is unsurprising. Many of these laws do not have an ....(2).......political flavour. The rule against admitting ......(3)........ evidence, for instance, is a result of simple good sense and a keen awareness of human ....(4)......., independent of the relationship between the ruler and the ruled. The same ......(5)........for the laws of property and contract.

Question 96

.......some respects

A Into

B About

C In

D On

   Answer: C

Question 97

Many of these laws do not have an ....political flavour.

A overtly

B adequately

C averagely

D abundantly

   Answer: A

Question 98

The rule against admitting ....evidence

A gossip

B rumour

C scandal

D hearsay

   Answer: D

Question 99

a keen awareness of human ....,

A biology

B nature

C personality

D quality

   Answer: B

Question 100

The same ....for the laws of property and contract.

A comes

B goes

C pushes

D pulls

   Answer: B

SSC CHSL 23 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.

V. V. S. Laxman : Cricket : : Dhyan Chand : ?

A Hockey

B Football

C Basketball

D Volleyball

Answer: A

Explanation:

Expression = V. V. S. Laxman : Cricket : : Dhyan Chand : ?

V. V. S. Laxman was a cricket player, similarly Dhyan Chand was a hockey player.

=> Ans - (A)

Question 2

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

TN : WQ : : BV : ?

A QT

B LK

C EY

D EZ

Answer: C

Explanation:

Expression = TN : WQ : : BV : ?

The pattern followed is :

T	N
(+3)	(+3)
W	Q

Similarly, BV : EY

B	V
(+3)	(+3)
E	Y

=> Ans - (C)

Question 3

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

Convenient: Inconvenient :: Reveal: ?

A Outspoken

B Disclose

C Conceal

D Communicate

Answer: C

Explanation:

Expression = Convenient: Inconvenient :: Reveal: ?

Convenient and Inconvenient are antonyms, similarly opposite of reveal is conceal.

=> Ans - (C)

Question 4

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

6 : 108 : : 11 : ?

A 363

B 333

C 253

D 340

Answer: A

Explanation:

Expression = 6 : 108 : : 11 : ?

The pattern followed is = $n : 3n^2$

Eg :- $6 : 3 \times (6)^2 = 6 : 108$

Similarly, $3 \times (11)^2 = 3 \times 121 = 363$

=> Ans - (A)

Question 5

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

A Ethical

B Genuine

C Prejudiced

D Reliable

Answer: C

Explanation:
Except prejudiced other three denote a positive meaning, hence it is the odd one out.

=> Ans - (C)

Question 6

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

A TSP

B IHE

C MLI

D POM

Answer: D

Explanation:
(A) : T (-1 letter) = S (-3 letters) = P

(B) : I (-1 letter) = H (-3 letters) = E

(C) : M (-1 letter) = L (-3 letters) = I

(D) : P (-1 letter) = O (**-2** letters) = M

=> Ans - (D)

Question 7

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

A 176

B 263

C 132

D 297

    Answer: B

Explanation:
The positive difference between the first two digits is equal to the last digit, but $6 - 2 \neq 3$, hence 263 is the odd one out.

=> Ans - (B)

Question 8

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

A 2437

B 9118

C 8548

D 7649

    Answer: A

Explanation:
The pattern followed is :

$9 \times (1 + 1) = 18$

$8 \times (5 + 1) = 48$

$7 \times (6 + 1) = 49$

But, $2 \times (4 + 1) = 10 \neq 37$

=> 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.

Hut, Cottage, Bungalow, ?

A Palace

B   House

C   Mall

D   Hotel

   Answer: A

Explanation:

The given order is of residential places in increasing order of size.

= Hut, Cottage, Bungalow, Palace

=> 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.

NR, SW, WA, ZD, ?

A   BF

B   BE

C   CF

D   DE

   Answer: A

Explanation:

Expression : NR, SW, WA, ZD, ?

The pattern followed in each letter of the terms is :

1st letter : N (+5 letters) = S (+4 letters) = W (+3 letters) = Z (+2 letters) = B

2nd letter : R (+5 letters) = W (+4 letters) = A (+3 letters) = D (+2 letters) = F

Thus, missing term = **BF**

=> 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.

EF, K, JK, U, OP, ?

A   Q

B   G

C   F

D   E

   Answer: D

Explanation:

Expression : EF, K, JK, U, OP, ?

Odd terms : Consecutive pairs of alphabets after a gap of three letters are written.

Eg :- EF (+4 letters) = JK (+4 letters) = OP

Even terms : K (+10 letters) = U (+10 letters) = **E**

=> 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.

14, 19, 29, 44, ?

A   50

B   52

C   43

D   64

   Answer: D

Explanation:

Multiples of 5 are added.

14 + 5 = 19

19 + 10 = 29

29 + 15 = 44

44 + 20 = **64**

=> Ans - (D)

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) Empty set is a subset of any set.
(II) A set is a subset of power set.

Conclusion:
(I) Empty set is a power set.
(II) A set is a subset of power set.

A   Conclusion I follows

B   Conclusion II follows

C   Neither I nor II follows

D   Both I and II follows

Answer: A

Question 14

If 18th October 2011 was a Sunday, then what day of the week was it on 19th September 2012?

A   Thursday

B   Friday

C   Sunday

D   Monday

Answer: D

Explanation:
According to the question, 18th October 2011 is Sunday

Number of days left in October = $31 - 18 = 13$

Similarly, odd days from 18th October 2011 till 19th September 2012

= $(13 + 30 + 31 + 31 + 29 + 31 + 30 + 31 + 30 + 31 + 31 + 19)\%7$ (February has 29 days in a leap year)

= $6 + 2 + 3 + 3 + 1 + 3 + 2 + 3 + 2 + 3 + 3 + 5 = 36$

Now, dividing 36 by 7, remainder = 1

Thus, day on 19th September 2012 = Sunday (+1) = Monday

=> Ans - (D)

Question 15

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

**i. Treasure
ii. Treat
iii. Tremor
iv. Trestle**

A   i, ii, iii, iv

B   iv, iii, i, ii

C   ii, iii, i, iv

D   iv, iii, ii, i

   Answer: A

Explanation:

As per the order of dictionary :

= Treasure -> Treat -> Tremor -> Trestle

≡ i, ii, iii, iv

=> Ans - (A)

Question 16

In a certain code language, "EXCITED" is written as "DETICXE". How is "KINLEY" written in that code language?

A   YELNIK

B   NIKLEY

C   NIKYEL

D   LJOMFZ

   Answer: A

Explanation:

"EXCITED" is written as "DETICXE"

The word is written in reverse order i.e., the first letter is written at the end, second at second last and so on.

Similarly, KINLEY is written as **YELNIK**

=> Ans - (A)

Question 17

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

7	6	9
7	8	11
94	84	?

A 81

B 45

C 99

D 28

Answer: C

Explanation:

In each column, the number at the end is reverse of the product of other two.

Eg :- $7 \times 7 = 49 \equiv 94$

$6 \times 8 = 48 \equiv 84$

Similarly, $9 \times 11 = 99 \equiv 99$

=> Ans - (C)

Question 18

If "$" means "added to", "@" means "divided by", "#" means "multiplied by" and "%" means "subtracted from", then

136 @ 17 # 0 $ 19 % 5 = ?

A 67

B 24

C 14

D 23

Answer: C

Explanation:

Expression = 136 @ 17 # 0 $ 19 % 5 = ?

$\equiv 136 \div 17 \times 0 + 19 - 5$

= $(17 \times 0) + 14$

= 0 + 14 = 14

=> Ans - (C)

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?

S_RTR_ST_T_S

A   TRSR

B   RTSS

C   TSRR

D   TSRS

Answer: C

Explanation:

The pattern followed is that in groups of 3, the term 'STR' is alternatively repeated in this and reverse order.

= ST R TR**S** ST**R** TR S

=> Ans - (C)

Question 20

You go in the south direction, then turn left, then again take a left and then go to the right. Which direction are you facing now?

A   East

B   North

C   West

D   South

Answer: A

Explanation:
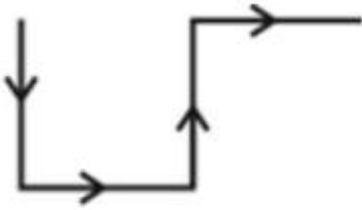
We go in the south direction, then turn left walk towards east, then again take a left to walk northwards, and finally go to the right.

Thus, we are facing east at the end.

=> 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, F can be represented by 32, 42 etc., and M can be represented by 88, 68 etc. Similarly, you have to identify the set for the word MOVIE.

Matrix - I

	0	1	2	3	4
0	I	N	U	H	E
1	U	I	E	L	L
2	V	G	I	N	E
3	V	W	F	I	U
4	V	V	F	N	E

Matrix - II

	5	6	7	8	9
5	I	S	D	R	O
6	O	I	I	M	S
7	O	S	G	I	O
8	D	M	T	M	I
9	S	D	D	M	S

A   98, 59, 42, 33, 44

B   86, 79, 40, 22, 43

C   88, 65, 20, 11, 24

D   68, 75, 30, 00, 13

Answer: C

Explanation:

(A) : 98, 59, 42, 33, 44 = MOFIE

(B) : 86, 79, 40, 22, 43 = MOVIN

(C) : 88, 65, 20, 11, 24 = **MOVIE**

(D) : 68, 75, 30, 00, 13 = MOVIL

=> Ans - (C)

Question 22

Sourabh's mother is the daughter of Ajeet's only sister. Ritik is the grandson of Ajeet. How is Ritik related to Sourabh?

A   Cousin

B   Brother

C   Uncle

D   Maternal uncle

    Answer: A

Explanation:

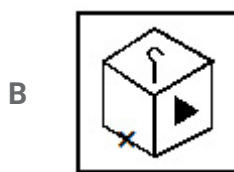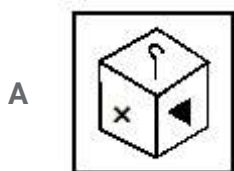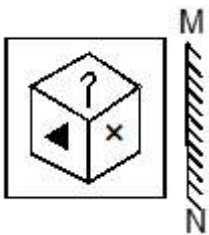Sourabh's mother is the daughter of Ajeet's only sister, => Sourabh is the grandson of Ajeet.

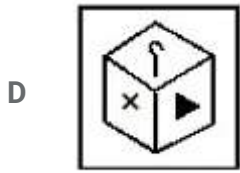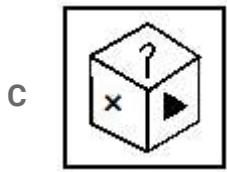Ritik is the grandson of Ajeet.

=> Ritik and Sourabh are cousins.

=> 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?
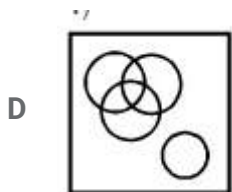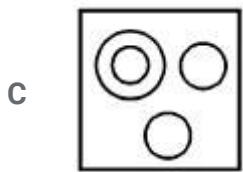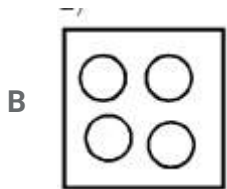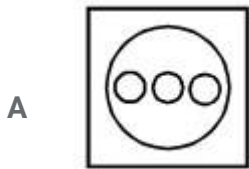

A

B

C

D

Answer: D

Question 24

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

French, German, Spanish, Languages
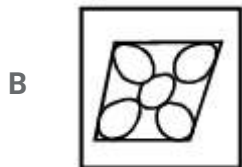

A

B

C

D

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.   a

A

B

C

D
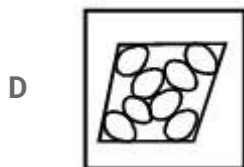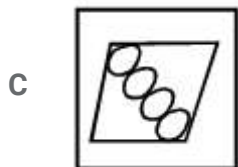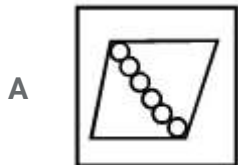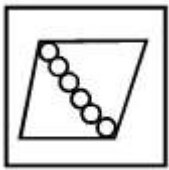
Answer: A

General Awareness

Instructions

For the following questions answer them individually

Question 26

Who built the Group of Monuments at Mahabalipuram?

A   Chola Kings

B   Pallava Kings

C Chera Kings

D Chalukya Kings

Answer: B

Question 27

Who has won maximum Filmfare Awards as a Music Director?

A Laxmikant Pyarelal

B A. R. Rahman

C Anu Malik

D Jatin Lalit

Answer: B

Question 28

Contraction of heart is also known as

A Systole

B Aristotle

C Diastole

D Lub

Answer: A

Question 29

Azadirachta indica is the botanical name of which of the following?

A Rose plant

B Apple tree

C Neem

D Mango

Answer: C

Question 30

Which of the following is the main end product of carbohydrate digestion?

A   Fats

B   Lipids

C   Glucose

D   Cellulose

   Answer: C

Question 31

Which of the following elements has the lowest melting point?

A   Titanium

B   Tungsten

C   Argon

D   Nickel

   Answer: C

Question 32

The common name of sulphur is

A   Freon

B   galena

C   lime

D   brimstone

   Answer: D

Question 33

HTML in computer science stands for?

A   HyperText Markup Language

B   HyperText Main Language

C   HyperText Memory Language

D   HyperText Mandatory Language

   Answer: A

Question 34

Kala Ghoda Arts festival is held in which city?

A   New Delhi

B   Hyderabad

C   Pune

D   Mumbai

   Answer: D

Question 35

If for a perfectly competitive firm, price is Rs 7.2, output is 4500 units, average variable costs are Rs 1.2, and average total costs are Rs 4. The firm's profits are equal to

A   Rs 7200

B   Rs 9000

C   Rs 14400

D   Rs 19800

   Answer: C

Question 36

A minimum wage _____.

A   is the price floor below which workers may not sell their labor

B   is set at a price below the equilibrium wage

C creates a price ceiling below which the wage cannot legally go

D decreases unemployment

Answer: A

Question 37

Which rays cause skin damage?

A X-Rays

B UV Rays

C Infra red rays

D Yellow Rays

Answer: B

Question 38

The Great Himalayan National Park is in which state?

A Jammu & Kashmir

B Arunachal Pradesh

C Himachal Pradesh

D Sikkim

Answer: C

Question 39

_____ is an Indian Government Savings Bond, primarily used for small savings and income tax saving investments in India.

A Provident Fund

B Life Insurance Policies

C National Saving Certificate

D Long term government bonds

Answer: C

Question 40

Mercury is the _____ planet from the Sun.

A 1st

B 3rd

C 5th

D 7th

   Answer: A

Question 41

Raipur is the Capital City of

A Assam

B Chhattisgarh

C Dadra and Nagar Haveli

D Telangana

   Answer: B

Question 42

Bimbisara was the king of which dynasty?

A Haryanka

B Maurya

C Shunga

D Nanda

   Answer: A

Question 43

World War I started in the year?

A 1914

B 1919

C 1939

D 1945

Answer: A

Question 44

India's famous Mars -Mission was called?

A BRO

B SIS

C MOM

D DAD

Answer: C

Question 45

In a projectile motion, a large angle with the horizontal produces _____.

A flat trajectory

B curve trajectory

C straight trajectory

D high trajectory

Answer: D

Question 46

What is the unit of the physical quantity, Electrical conductance?

A lux

B ohm

C farad

D siemens

Answer: D

Question 47

What is the full form of the Indian Political Party, "CPI"?

A   Common Party of India

B   Commonly Party of India

C   Communist Party of India

D   Community Party of India

   Answer: C

Question 48

How many members can be nominated by the President of India in the Rajya Sabha?

A   4

B   8

C   12

D   16

   Answer: C

Question 49

Which state won the Ranji trophy in 2015-2016?

A   Railways

B   Mumbai

C   Karnataka

D   Bengal

   Answer: B

Question 50

Who is the author of "Everyone Has A Story"?

A   Durjoy Datta

B   Savi Sharma

C   Ajay K Pandey

D   Preeti Shenoy

   Answer: B

English

Instructions
For the following questions answer them individually

Question 51

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

I wish you(A)/can hear(B)/yourself talking.(C)/No error(D)

A   A

B   B

C   C

D   D

   Answer: B

Question 52

Improve the bracketed part of the sentence.

I took for a ride the motorcycle (which Rohit has) bought yesterday.

A   that Rohit

B   that which Rohit has

C   that Rohit had

D   no improvement

Answer: A

Question 53

Rearrange the parts of the sentence in correct order.

Whether the emergence
P-will change the ugly dynamic
Q-of these popular protests
R-in Brazil is to be seen

A QPR

B RQP

C PQR

D PRQ

Answer: A

Question 54

Select the antonym of taciturn

A reticent

B curt

C laconic

D verbose

Answer: D

Question 55

Select the word with the correct spelling.

A snoping

B leniency

C bivoacs

D kerbsid

Answer: B

Question 56

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.

No one responded to Rahul's query.

A   Rahul's query was not responded to by anyone.

B   Rahul's query is not being responded to by anyone.

C   Rahul's query has not been responded to by anyone.

D   Rahul's query had not been responded to by anyone.

   Answer: A

Question 57

Select the antonym of to jostle

A   to scramble

B   to shove

C   to eschew

D   to hustle

   Answer: C

Question 58

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

a person involved in a lawsuit.

A   pseudo

B   litigant

C   suspect

D   appelant

   Answer: B

Question 59

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

blood is thicker than water

A relations are more important than merit

B all crimes are not equal so punishment for murder is not same as that of theft

C family relationships and loyalties are the strongest and most important ones

D deceit from a family member hurts more than being cheated by strangers

Answer: C

Question 60

Rearrange the parts of the sentence in correct order.

After walking around
P-to quench their thirst
Q-a bit, the women searched
R-for a hand pump

A RQP

B QRP

C PRQ

D PQR

Answer: B

Question 61

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'll never be marrying(A)/anyone, but(B)/will be a dancer.(C)/No error(D)

A A

B B

C C

D D

Answer: A

Question 62

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 princess asked, 'What is it that makes you stronger and braver than other men?'

A The princess asked him what was it that made him stronger and braver than other men.

B The princess asked him that, what was it that made him stronger and braver than other men.

C The princess asked him that, what was making him stronger and braver than other men.

D The princess asked him, what has made him stronger and braver than other men.

Answer: A

Question 63

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

He had never been of a _____ constitution, and after a little more than a week's illness he died.

A superb

B energetic

C dynamic

D robust

Answer: D

Question 64

Select the synonym of Panorama

A puny

B wee

C diminutive

D spectacle

Question 65

Improve the bracketed part of the sentence.

Corruption has become (the day's order).

A   today's order

B   the order of the day

C   the order of today

D   no improvement

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.

It doesn't look like you're all that _____ at singing either.

A   ignorance

B   skilled

C   adept

D   adapt

Question 67

Select the word with the correct spelling.

A   clinched

B   manteling

C   vivicity

D   alergic

Question 68

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

Either of two parallels of latitude on the earth, one 23°27' north of the equator and the other 23°27' south of the equator

A   tropic

B   torrid

C   arctic

D   frigid

  Answer: A

Question 69

Select the synonym of initiative

A   apathy

B   cowardice

C   dynamism

D   lethargy

  Answer: C

Question 70

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

once in a blue moon

A   an imaginary situation

B   feeling sad

C   a beautiful sight

D   to happen very rarely

  Answer: D

Explanation:

Start Group:

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.

Decisions that profoundly _____(1)_____ not only the present _____(2)_____ succeeding generations, should not be taken in a _____(3)_____, or through one-time referendums. This is basic political common _____(4)_____. But in a voter turnout of 72.2 per cent, 51.9 per cent decided that Britain should exit the European Union (EU). The _____(5)_____ of the Brexit vote are painfully clear.

Question 71

(1)

A effect

B affect

C are effecting

D are affecting

   Answer: B

Question 72

(2)

A even the

B but even the

C however also

D but also

   Answer: D

Question 73

(3)

A speed

B rush

C   fast

D   race

   Answer: B

Question 74

(4)

A   sense

B   feeling

C   attitude

D   philosophy

   Answer: A

Question 75

(5)

A   residue

B   corollary

C   consequences

D   sequel

   Answer: C

Explanation:
End Group:

Mathematics

Instructions
For the following questions answer them individually

Question 76

If (6x - 1) - (8x - 5) = 7, then the value of x is _____ .

A   -3/2

B   3/2

C   11/2

D   -11/2

   Answer: A

Explanation:
Expression : $(6x - 1) - (8x - 5) = 7$

=> $-2x + 4 = 7$

=> $-2x = 7 - 4 = 3$

=> $x = \frac{-3}{2}$

=> Ans - (A)

Question 77

If 7/8th of 5/4th of a number is 315, then 5/9th of that number is _____ .

A   123

B   81

C   140

D   160

   Answer: D

Explanation:
Let the number be x

=> $\frac{7}{8} \times \frac{5}{4} \times x = 315$

=> $x = 9 \times 8 \times 4 = 32 \times 9$

$\therefore$ 5/9th of the number = $\frac{5}{9} \times 32 \times 9$

= 160

Question 78

The average marks of 56 students is shown as 60. It includes a wrong entry of 92 marks instead of 29 marks. The correct average is _____ .

A   58.875 marks

B   61.125 marks

C 63.375 marks

D 56.625 marks

Answer: A

Explanation:
Total marks of 56 students = 56 $\times$ 60 = 3360

Replacing 92 by 29 in the data, => Total marks = 3360 - 92 + 29 = 3297

=> Correct average = $\frac{3297}{56} = 58.875$

=> Ans - (A)

Question 79

If $13x^2 = 17^2 - 9^2$, find the value of x?

A 16

B 12

C 8

D 4

Answer: D

Explanation:
Expression : $13x^2 = 17^2 - 9^2$

=> $13x^2 = (17 - 9)(17 + 9)$

=> $13x^2 = 8 \times 26$

=> $x^2 = 8 \times 2 = 16$

=> $x = \sqrt{16} = 4$

Question 80

If $2 + 2x < 3 + 5x$ and $3(x - 2)2 < 5 - x$; then x can take which of the following values?

A 1

B 3

C -1

D -2

Answer: A

Explanation:
Expression 1 : $2 + 2x < 3 + 5x$

=> $5x - 2x > 2 - 3$

=> $x > \frac{-1}{3}$ ---------(i)

Expression 2 : $3(x - 2)2 < 5 - x$

=> $6x - 12 < 5 - x$

=> $6x + x < 5 + 12$

=> $x < \frac{17}{7}$ ------(ii)

Combining inequalities (i) and (ii), we get : $\frac{-1}{3} < x < \frac{17}{7}$

Thus, x can take values = 0 , **1** , 2

=> Ans - (A)

Question 81

If the radius of a circle is increased by 17% its area increases by _____.

A 34 percent

B 36.89 percent

C 17 percent

D 18.445 percent

Answer: B

Explanation:
Let radius = 10 cm

=> Area of circle = $\pi(10)^2 = 100\pi$ sq. cm

If radius is increased by 17%, => New radius = 11.7 cm

New area = $\pi(11.7)^2 = 136.89\pi$ sq. cm

=> % increase in area = $\frac{136.89 - 100}{100} \times 100$

= 36.89 %

Question 82

A bank offers 20% compound interest per half year. A customer deposits Rs 2800 each on 1st January and 1st July of a year. At the end of the year, the amount he would have gained by way of interest is _____.

A Rs 3584

B Rs 868

C Rs 1792

D Rs 448

Answer: B

Explanation:

Principal = Rs. 2800 and Rate = 20%

Amount on half yearly basis= $P(1 + \frac{R}{2 \times 100})^{2 \times T}$

= $[2800(1 + \frac{20}{2 \times 100})^{2 \times 1}] + [2800(1 + \frac{20}{2 \times 100})^{2 \times \frac{1}{2}}]$

= $[2800 \times (\frac{11}{10})^2] + [2800 \times \frac{11}{10}]$

= $[28 \times 121] + [280 \times 11]$

= $(28 \times 11) \times (11 + 10)$

= $28 \times 11 \times 21 = Rs.6,468$

∴ Compound Interest = Rs.(6468 - 5600) = Rs. 868

Question 83

4 hrs after a goods train passed a station, another train travelling at a speed of 60 km/hr following that goods train passed through that station. If after passing the station the train overtakes the goods train in 8 hours. What is the speed of the goods train?

A 40 km/hr

B 48 km/hr

C 60 km/hr

D 32 km/hr

Answer: A

Explanation:

Let the speed of goods train = x km/hr

Speed of another train = 60 km/hr

Distance between the two trains = $60 \times 4 = 240$ km

The trains are moving in same direction, => Relative speed = $(60 - x)$ km/hr

Time = 4 + 8 = 12 hours

=> speed = distance/time

$\Rightarrow 60 - x = \frac{240}{12} = 20$

$\Rightarrow x = 60 - 20 = 40$ km/hr

$\Rightarrow$ Ans - (A)

Question 84

Ticket for an adult is Rs 1000 and a child is Rs 500. One child goes free with two adults. If a group has 17 adults and 5 children what is the discount the group gets?

A 14.7 percent

B 32 percent

C 12.82 percent

D 22 percent

Answer: C

Explanation:

Cost price of adult ticket = Rs. 1000 and child ticket = Rs. 500

For 17 adults and 5 children, total cost = $(17 \times 1000) + (5 \times 500) = Rs.19,500$

If one child goes free with two adults, => 5 children will go with 10 adults, thus all the children will go for free.

Cost of 17 adults = $17 \times 1000 = Rs.17,000$

Discount % = $\frac{19500 - 17000}{19500} \times 100$

= 12.82%

Question 85

Find the value of p if -3x - 11, x + p and 5x + 7 are in arithmetic progression.

A 9

B 2

C -9

D -2

Answer: D

Explanation:

Terms in arithmetic progression : $(-3x - 11), (x + p), (5x + 7)$

=> Difference between first two terms is equal to the difference between last two terms

=> $(x + p) - (-3x - 11) = (5x + 7) - (x + p)$

=> $4x + p + 11 = 4x + 7 - p$

=> $2p = 7 - 11 = -4$

=> $p = \frac{-4}{2} = -2$

=> Ans - (D)

Question 86

The point P(-4,1) divides the segment joining the points (x,0) and (0,y) in the ratio 3:2. Find x and y?

A   x = -10; y = 5/3

B   x = -10; y = -5/3

C   x = 10; y = 5/3

D   x = 10; y = -5/3

   Answer: A

Explanation:

Using section formula, the coordinates of point that divides line joining A = (x_1, y_1) and B = (x_2, y_2) in the ratio a : b

= $\left(\frac{ax_2 + bx_1}{a+b}, \frac{ay_2 + by_1}{a+b} \right)$

Now, point P (-4,1) divides (x,0) and (0,y) in ratio = 3 : 2

=> $-4 = \frac{(3 \times 0) + (2 \times x)}{3+2}$

=> $x = \frac{-4 \times 5}{2} = -10$

Similarly, $1 = \frac{(3 \times y) + (2 \times 0)}{3+2}$

=> $3y = 5$, => $y = \frac{5}{3}$

=> Ans - (A)

Question 87

A shopkeeper, sold walnuts at the rate Rs 1,190 a kg and bears a loss of 10%. Now if he decides to sell it at Rs 1,249.5 per kg, what will be the result?

A   11 percent loss

B   5.5 percent loss

C   5.5 percent gain

D   11 percent gain

   Answer: B

Explanation:

Let Cost price = Rs. x

Selling price = Rs. 1190

=> Loss % = $\frac{x-1190}{x} \times 100 = 10$

=> $\frac{x-1190}{x} = \frac{10}{100} = \frac{1}{10}$

=> $10x - 11900 = x$

=> $x = \frac{11900}{9} = 1322.22$

If selling price = Rs. 1249.5

=> Loss % = $\frac{1322.22-1249.5}{1322.22} \times 100 \approx 5.5\%$

Question 88

What is the equation of the line if its slope is -2/5 and y-intercept is 6?

A 2x + 5y = 6

B 2x + 5y = 30

C 2x - 5y = 6

D 2x + 5y = -30

Answer: B

Explanation:
Slope, $m = \frac{-2}{5}$ and y-intercept, $c = 6$

Equation of line = $y = mx + c$

=> $y = \frac{-2}{5}x + 6$

=> $y = \frac{-2x+30}{5}$

=> $5y = -2x + 30$

=> $2x + 5y = 30$

=> Ans - (B)

Question 89

Amal is 5 times as good a workman as Bhairav and therefore is able to finish a job in 48 days less than Bhairav. Working together, they can do it in

A 20 days

B 5 days

C 25 days

D 10 days

   Answer: D

Explanation:

Ratio of times taken by Amal and Bhairav = 1 : 5

The time difference is (5 - 1) = 4 days while Bhairav takes 5 days and Amal takes 1 day.

If difference of time is 4 days, Bhairav takes 5 days.

If difference of time is 48 days, Bhairav takes = $\frac{5}{4} \times 48 = 60$ days

=> Amal takes 12 days

Amal's 1 day's work = $\frac{1}{12}$

Bhairav's 1 day's work = $\frac{1}{60}$

=> (Amal + Bhairav)'s 1 day's work = $\frac{1}{12} + \frac{1}{60} = \frac{6}{60} = \frac{1}{10}$

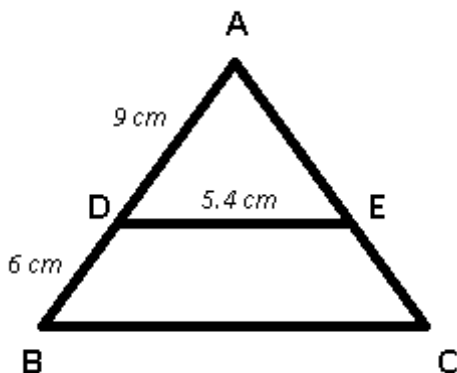∴ Amal and Bhairav together can do the work in 10 days.

Question 90

In ΔABC, D and E are points on side AB and AC respectively. DE is parallel to BC. If lengths of AD, DB and DE are 9 cm, 6 cm and 5.4 cm respectively find length of BC?

A 3.6 cm

B 4.8 cm

C 11.2 cm

D 9 cm

   Answer: D

Explanation:

DE is parallel to BC

=> $\frac{AD}{AB} = \frac{DE}{BC}$

=> $\frac{9}{9+6} = \frac{5.4}{BC}$

=> $\frac{9}{15} = \frac{5.4}{BC}$

=> $BC = 15 \times 0.6 = 9$ cm

Question 91

In an army selection process, the ratio of selected to unselected was 6:1. If 90 less had applied and 30 less selected, the ratio of selected to unselected would have been 8:1. How many candidates had applied for the process?

A 3150

B 6300

C 4725

D 1575

Answer: D

Explanation:

Let $7x$ candidates applied for the process.

Candidates selected = $6x$ and candidates not selected = x

If candidates applied = $7x - 90$

Candidates selected = $6x - 30$

=> Candidates not selected = $(7x - 90) - (6x - 30) = x - 60$

According to ques,

=> $\frac{6x-30}{x-60} = \frac{8}{1}$

=> $6x - 30 = 8x - 480$

=> $2x = 480 - 30 = 450$

=> $x = \frac{450}{2} = 225$

$\therefore$ Number of candidates who applied for the process = $7 \times 225 = 1575$

Question 92

In a triangle the length of the side opposite the angle which measures 30 degree is 12 cm, what is the length of the side opposite to the angle which measures 60 degree?

A 9 cm

B $12\sqrt{3}$

C $\frac{(15\sqrt{3})}{2}$

D $\frac{(9\sqrt{3})}{2}$

Answer: B

Explanation:

In the given triangle, two angles are 30° and 60°, => Third angle = 90°

In a 30-60-90 triangle, the hypotenuse is always twice as long as the side opposite the 30° angle and the side opposite the 60° angle is √3 times as long as the side opposite the 30° angle.

The ratio of sides opposite 30°, 60° and 90° angles =1 : $\sqrt{3}$: 2

Length of the side opposite the 30° angle = 12 cm

=> Length of side opposite the 60° angle = $12\sqrt{3}$ cm

=> Ans - (B)

Question 93

Volume of a cylinder is 13860 cubic cm. If circumference of its base is 132 cm, find the curved surface area of the cylinder?

A   2640 sq cm

B   3960 sq cm

C   1320 sq cm

D   660 sq cm

Answer: C

Explanation:

Let radius of cylinder = r cm and height = h cm

Circumference of base = $2\pi r = 132$

=> $2 \times \frac{22}{7} \times r = 132$

=> $r = \frac{132}{44} \times 7 = 21$ cm

Volume of cylinder = $\pi r^2 h = 13860$

=> $\frac{22}{7} \times (21)^2 \times h = 13860$

=> $22 \times 3 \times 21 \times h = 13860$

=> $h = \frac{13860}{66 \times 21} = 10$

∴ Curved surface area of cylinder = $2\pi r h$

= $2 \times \frac{22}{7} \times 21 \times 10$

= $44 \times 30 = 1320 cm^2$

Question 94

What is the value of tan 4π/3?

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

B $\sqrt{3}$

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

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

Answer: B

Explanation:

Expression : $tan(\frac{4\pi}{3})$

= $tan(\pi + \frac{\pi}{3})$

= $tan\frac{\pi}{3} = \sqrt{3}$

=> Ans = (B)

Question 95

$cot^3 A$ **is equal to**

A $3cotA - cot^3 A/(1 - 3cot^2 A)$

B $3cotA + cot^3 A/(1 - 3cot^2 A)$

C $3cotA - cot^3 A/(1 + 3cot^2 A)$

D $3cotA + cot^3 A/(1 + 3cot^2 A)$

Answer: A

Explanation:

We know that $cot2A = \frac{cot^2 A - 1}{2cotA}$

and $cot(A + B) = \frac{(cotA.cotB - 1)}{cotA + cotB}$

Expression : $cot3A = cot(2A + A)$

= $\frac{(cotA.cot2A - 1)}{cotA + cot2A}$

Now, $(cotA.cot2A - 1) = cotA(\frac{cot^2 A - 1}{2cotA}) - 1$

= $\frac{cot^3 A - cotA - 2cotA}{2cotA} = \frac{cot^3 A - 3cotA}{2cotA}$ ------------(i)

And, $(cotA + cot2A) = cotA + \left(\frac{cot^2 A-1}{2cotA}\right)$

$= \frac{2cot^2 A+cot^2 A-1}{2cotA} = \frac{3cot^2 A-1}{2cotA}$ --------------(ii)

Dividing eqn(i) by (ii), we get :

$= \frac{cot^3 A-3cotA}{3cot^2 A-1}$

$= \frac{3cotA-cot^3 A}{1-cot^2 A}$

Question 96

$sec^2 A cosec^2 A$ **is equal to**

A $sec^2 A - cosec^2 A$

B $\sqrt{[sec^2 A + cosec^2 A]}$

C $sec^2 A + cosec^2 A$

D $\sqrt{[sec^2 A - cosec^2 A]}$

Answer: C

Explanation:
Expression : $sec^2 A cosec^2 A$

$= \frac{1}{cos^2 A} \times \frac{1}{sin^2 A} = \frac{1}{cos^2 A sin^2 A}$

Using, $(sin^2 A + cos^2 A = 1)$

$= \frac{sin^2 A+cos^2 A}{cos^2 A sin^2 A}$

$= \frac{sin^2 A}{sin^2 A cos^2 A} + \frac{cos^2 A}{sin^2 A cos^2 A}$

$= \frac{1}{cos^2 A} + \frac{1}{sin^2 A} = sec^2 A + cosec^2 A$

=> Ans - (C)

Question 97

Refer the below data table and answer the following Question.

	Quantity of Stock	Average Cost (Rs)
Mobile Phones	97	5000
Cameras	28	20000
TVs	80	33000
Refrigirators	79	29000
ACs	94	27000

What is the value of the total stock (in lakh rupees)?

A 851.4

B 114

C 378

D 85.14

Answer: D

Explanation:
Total cost of mobiles = 97 × 5000 = Rs. 4,85,000

Total cost of Cameras = 28 × 20000 = Rs. 5,60,000

Total cost of TVs = 80 × 33000 = Rs. 26,40,000

Total cost of Refrigerator = 79 × 29000 = Rs. 22,91,000

Total cost of AC = 94 × 27000 = Rs. 25,38,000

∴ Total cost = 4,85,000 + 5,60,000 + 26,40,000 + 22,91,000 + 25,38,000 = Rs. 85,14,000

Total cost in lakhs = Rs 85.14 lakhs

=> Ans - (D)

Question 98

Refer the below data table and answer the following Question.

Year	Ratio : Import / Export
2011	0.9
2012	0.9
2013	1
2014	0.8
2015	1.5

If the imports in 2012 was Rs. 500 crores and the total exports in the years 2012 and 2013 together was Rs. 3200 crores, then the imports in 2013 was?

A 556

B 2111

C 2644

D 2020

Answer: C

Explanation:
Imports in 2012 = Rs. 500 crores

Let Exports in 2012 = Rs. y crores

Ratio of imports and exports in 2012 = 0.9

$$\Rightarrow \frac{500}{y} = 0.9$$

$$\Rightarrow y = \frac{500}{0.9} = 555.56$$

Total exports In the years 2012 and 2013 together = Rs. 3200 crores

=> Exports in 2013 = Rs. (3200 - 555.56) crores = Rs. 2644.44 crores

Let imports in 2013 = Rs. x crores

Ratio of imports and exports in 2013 = $\frac{x}{2644.44} = 1$

$$\Rightarrow x = 2644.44 \approx 2644$$

∴ Imports in 2013 was Rs. 2644 crores

=> Ans - (C)

Question 99

Refer the below data table and answer the following Question.

Measured on Birthday	Height of the child (in cms)
4	100
5	110
6	120
7	130
8	135
9	140
10	145
11	155
12	165
13	170
14	180
15	185
16	195

What was the increase in the height of the child from the 10th Birthday to the 15th Birthday?

A 50 cm

B 45 cm

C 40 cm

D 35 cm

Answer: C

Explanation:
Height on 10th birthday = 145 cm

Height on 15th birthday = 185 cm

Increase in height = 185 - 145 = 40 cm

=> Ans - (C)

Question 100

Refer the below data table and answer the following Question.

Deep Sleep	20
Dreaming	25
Light Sleep	5
Extremely Light Sleep	10
Awake	40

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

A   4.3 hours

B   4.8 hours

C   3.3 hours

D   5.3 hours

Answer: B

Explanation:

Total time between 10 pm to 6 am = 8 hours

% time spent in deep sleep and awake = 20 + 40 = 60%

=> Time spent in deep sleep and awake = $\frac{60}{100} \times 8$

= $\frac{48}{10} = 4.8$ hours

=> Ans - (B)

SSC CHSL 23 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.
Brave : Coward : : Culprit : ?

A Hungry

B Innocent

C Accused

D Indicted

Answer: B

Explanation:

Expression = Brave : Coward : : Culprit : ?

Brave and Coward are antonyms, similarly opposite of culprit is innocent.

=> Ans - (B)

Question 2

Select the related word/letters/number from the given alternatives.
LOGIC : OLTRX : : SOUND : ?

A HOFMW

B HLFWM

C HFLMW

D HLFMW

Answer: D

Explanation:

Expression = LOGIC : OLTRX : : SOUND : ?

The pattern followed is that the letters at the corresponding end are written.

ABCDEFGHIJKLMNOPQRSTUVWXYZ

ZYXWVUTSRQPONMLKJIHGFEDCBA

Similarly, SOUND : **HLFMW**

=> Ans - (D)

Question 3

Select the related word/letters/number from the given alternatives.
BOTTOM : 85 : : DRUM : ?

A 58

B 54

C 56

D 59

   Answer: C

Explanation:
Expression = BOTTOM : 85 : : DRUM : ?

The pattern followed is that the numerical values of the alphabets are added.

Eg :- BOTTOM = $2 + 15 + 20 + 20 + 15 + 13 = 85$

Similarly, DRUM = $4 + 18 + 21 + 13 = 56$

=> Ans - (C)

Question 4

Select the related word/letters/number from the given alternatives.
523 : 325 : : 603 : ?

A 415

B 426

C 306

D 436

   Answer: C

Explanation:
Expression = 523 : 325 : : 603 : ?

The pattern followed is that the second number is *reverse* of first number.

Similarly, reverse of 603 : **306**

=> Ans - (C)

Question 5

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

A Night blindness

B Scurvy

C Beriberi

D AIDS

Answer: D

Explanation:
Except AIDS, other three are caused due to vitamin deficiency, hence it is the odd one out.

=> Ans - (D)

Question 6

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

A DEF

B GJM

C NQT

D BEH

Answer: A

Explanation:
(A) : D (**+1** letter) = E (**+1** letter) = F

(B) : G (+3 letters) = J (+3 letters) = M

(C) : N (+3 letters) = Q (+3 letters) = T

(D) : B (+3 letters) = E (+3 letters) = H

=> Ans - (A)

Question 7

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

A 636

B 525

C 416

D 327

   Answer: D

Explanation:
The last two digits is the square of the first digit.

$6^2 = 36, 5^2 = 25, 4^2 = 16$

But $3^2 = 9 \neq 27$

=> Ans - (D)

Question 8

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

A 6735

B 1983

C 1875

D 7361

   Answer: D

Explanation:
The sum of digits of first three numbers is 21, hence 7361 is the odd one out.

=> 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.
West Indies (CWC 1979), India (CWC 1983), Australia (CWC 1987), ? , Sri Lanka (CWC 1996) [Note: CWC - Cricket World Cup]

A Australia (CWC 1992)

B Australia (CWC 1999)

C England (CWC 1992)

D Pakistan (CWC 1992)

Answer: D

Explanation:
The winners of Cricket World Cup in chronological order are given.

Thus, after 1987, Pakistan won in 1992

=> 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.
RS, WX, BC, ?

A MO

B IJ

C GH

D TU

Answer: C

Explanation:
Expression : RS, WX, BC, ?

The pattern followed in each letter of the terms is :

1st letter : R (+5 letters) = W (+5 letters) = B (+5 letters) = G

2nd letter : S (+5 letters) = X (+5 letters) = C (+5 letters) = H

Thus, missing term = **GH**

=> 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.
AB, JH, RM, YQ, ?

A YZ

B ZA

C DE

D ET

Answer: D

Explanation:
Expression : AB, JH, RM, YQ, ?

The pattern followed in each letter of the terms is :

1st letter : A (+9 letters) = J (+8 letters) = R (+7 letters) = Y (+6 letters) = E

2nd letter : B (+6 letters) = H (+5 letters) = M (+4 letters) = Q (+3 letters) = T

Thus, missing term = **ET**

=> 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.
2, 3, 5, 9, 17, ?

A 33

B 11

C 32

D 27

Answer: A

Explanation:
The pattern followed is :

$2 + 2^0 = 3$

$3 + 2^1 = 5$

$5 + 2^2 = 9$

$9 + 2^3 = 17$

$17 + 2^4 = $ **33**

=> Ans - (A)

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.
Statements:
(I) Some books are toys.
(II) No toy is red.
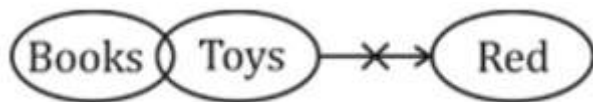**Conclusion:**
(I) Some books are red.
(II) Some toys are books.

A   Conclusion I follows

B   Conclusion II follows

C   Neither I nor II follows

D   Both I and II follows

   Answer: B

Explanation:

The venn diagram for above statements is :

Conclusion:

(I) Some books are red = false
(II) Some toys are books = true

Thus, only conclusion II follows

=> Ans - (B)

Question 14

Farhan scored more runs than Raju. Simran scored more runs than Nitu but lesser runs than Raju. Who scored the highest runs?

A   Nitu

B   Farhan

C   Simran

D   Raju

   Answer: B

Explanation:

Farhan scored more runs than Raju, => Farhan > Raju

Simran scored more runs than Nitu but lesser runs than Raju, => Raju > Simran > Nitu

Combining above statements, we get : **Farhan > Raju > Simran > Nitu**

∴ Farhan scored the highest runs.

=> Ans - (B)

Question 15

Arrange the given words in the sequence in which they occur in the dictionary.
i. Cease
ii. Consecutive
iii. Constructive
iv. Cement

A iii, i, iv, ii

B i, iv, ii, iii

C i, iv, iii, ii

D iv, i, ii, iii

   Answer: B

Explanation:
As per the order of dictionary :

= Cease -> Cement -> Consecutive -> Constructive

≡ i, iv, ii, iii

=> Ans - (B)

Question 16

In a certain code language, "DIAMOND" is written as "4895064" and "GAME" is written as "7953". How is "MANGO" written in that code language?

A 59670

B 59607

C 56970

D 59671

   Answer: A

Explanation:
The codes for each letter is given :

M -> 5
A -> 9
N -> 6
G -> 7
O -> 0

Thus, MANGO : **59670**

=> Ans - (A)

Question 17

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

13	17	20
5	9	10
174	298	?

A 410

B 402

C 526

D 625

Answer: A

Explanation:

In each column the number at the end is obtained by adding the square of the first number to the second number.

Eg :- $(13)^2 + 5 = 169 + 5 = 174$

$(17)^2 + 9 = 289 + 9 = 298$

Similarly, $(20)^2 + 10 = 400 + 10 = 410$

=> Ans - (A)

Question 18

If "#" means "subtraction", "&" means "division", "@" means "addition" and "%" means "multiplication" then 516 & 6 # 11 @ 50 % 4 = ?

A 210

B 274

C 250

D 275

Answer: D

Explanation:

Expression : 516 & 6 # 11 @ 50 % 4 = ?

$\equiv 516 \div 6 - 11 + 50 \times 4$

$= \left(\frac{516}{6} \right) + (-11) + (50 \times 4)$

$= 86 - 11 + 200 = 275$

=> 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? P_QR_QQ_PQ_R

A   TERT

B   STTT

C   QPRQ

D   PQRS

Answer: C

Explanation:

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

= P**Q**QR **P**QQ**R** PQ**Q**R

=> Ans - (C)

Question 20

Riya travels 5 km in the east direction, takes a right turn and travels another 8 km. Next, she turns left to travel 4 km and then takes another left turn to travel 8 km more. Finally, she turns towards the east and travels 5 km. How far is she now from her original position?
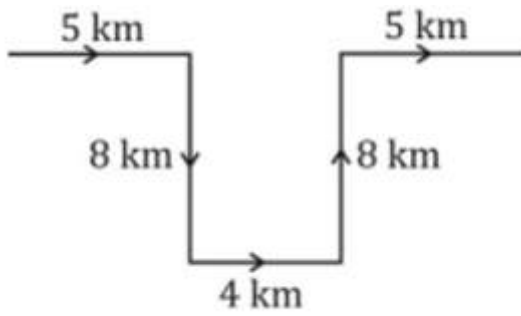
A   20 km

B   14 km

C   15 km

D   16 km

Answer: B

Explanation:

Riya travels 5 km in the east direction, takes a right turn and travels another 8 km towards south. Then, she turns left to travel 4 km eastwards and then takes another left turn to travel 8 km more towards north. Finally, she turns towards the east and travels 5 km.

Thus, distance between her initial and final position = 5 + 4 + 5 = 14 km

=> Ans - (B)

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, 'E' can be represented by 68, 99 etc., and 'C' can be represented by 20, 31 etc. Similarly, you have to identify the set for the word 'CRAB'.

Matrix - I

	0	1	2	3	4
0	G	B	G	D	O
1	A	G	L	B	A
2	G	B	A	G	F
3	R	G	V	S	E
4	O	B	A	B	L

Matrix - II

	5	6	7	8	9
5	C	G	L	R	S
6	O	N	C	E	O
7	G	R	S	J	C
8	R	L	C	O	Y
9	A	A	E	C	E

A 55, 58, 10, 13

B 67, 30, 14, 22

C 87, 85, 23, 41

D 98, 77, 42, 43

Answer: A

Explanation:
(A) : 55, 58, 10, 13 = **CRAB**

(B) : 67, 30, 14, 22 = CRAA

(C) : 87, 85, 23, 41 = CRGB

(D) : 98, 77, 42, 43 = CSAB

=> Ans - (A)

Question 22

Introducing a girl, a man says, "She is the daughter of my father's daughter". How is the girl related to the man?

A Niece

B Daughter

C Sister

D Cousin

Answer: A
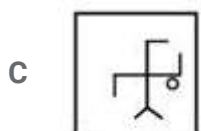
Explanation:
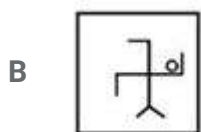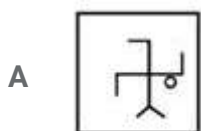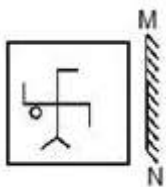The man's father's daughter = man's sister
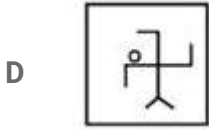
Now, daughter of her sister = man's niece

Thus, the girl is that man's niece.

=> 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?
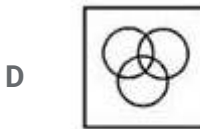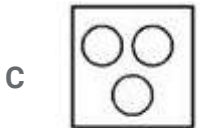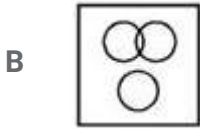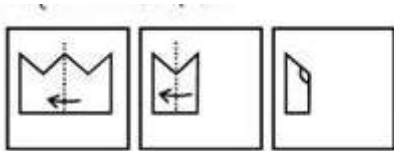

A

B

C

D

Answer: A

Question 24

Identify the diagram that best represents the relationship among the given classes. Food, Vegetables, Apples

A

B

C

D

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.

A

B

C

D
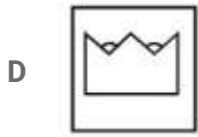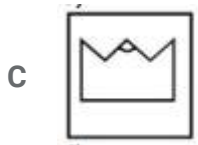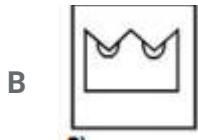
Answer: B

General Awareness

Instructions

For the following questions answer them individually

Question 26

Mausoleum (Dargah) of Salim Chishti is situated in?

A   Humayun's Tomb

B   Fatehpur Sikri

C   Gwalior Fort

D   Agra Fort

   Answer: B

Question 27

Who has won the maximum number of Filmfare awards till now?

A   Shahrukh Khan

B   Amitabh Bachchan

C   Aamir Khan

D   Akshay Kumar

Answer: A

Question 28

Which of the following glands is a source of the enzyme Ptyalin?

A   Pancreas

B   Thyroid Gland

C   Pituitary Gland

D   Salivary Glands

Answer: D

Question 29

Which of the following is not true about Pteridophyta?

A   Dominant phase is saprophytes

B   Main plant body is diploid

C   Seeds are present

D   Flowers are absent

Answer: C

Question 30

The largest dolphin species is the orca, also called as ....

A   Bottle Nose

B   Baiji

C   Killer whale

D   Tucuxi

Answer: C

Question 31

Atomic Number of Hydrogen is ....

A 4

B 3

C 2

D 1

Answer: D

Question 32

What is the net charge on Calcium fluoride?

A 1+

B 0

C 1

D 2

Answer: B

Question 33

..............is an object model language standard.

A Data definition language

B Data manipulation language

C Query language

D OQL

Answer: D

Question 34

Tertali is a folk dance of ....

A Chhattisgarh

B Madhya Pradesh

C Manipur

D   Karnataka

    Answer: B

Question 35

If quantity of good X demanded increases from 4000 units to 5000 units when price of good Y increases from Rs 75 to Rs 90, find Arc Cross elasticity of demand?

A   0.55

B   1.66

C   0.25

D   1.22

    Answer: D

Question 36

During a recession ....

A   Producers will be cautiously optimistic.

B   there will be decrease in inventory

C   There will be capacity under utilization.

D   there will be expansion in bank credit

    Answer: C

Question 37

Dudhwa Tiger Reserve is in which state?

A   Karnataka

B   Uttar Pradesh

C   Chhattisgarh

D   West Bengal

    Answer: B

Question 38

Which of the following is a greenhouse gas or a gas which can deplete the ozone layer?

A   B2H6

B   NF3

C   CCl3F

D   C6H6

Answer: C

Question 39

Renowned Businessmen, Mr. Deepak Parekh is primarily associated in the ....sector.

A   Telecom

B   Aviation

C   Banking

D   Insurance

Answer: C

Question 40

Uranus is the ....planet from the Sun.

A   First

B   Third

C   Fifth

D   Seventh

Answer: D

Question 41

For what is Mohs scale used?

A   To measure brightness of a substance

B To measure viscosity of a liquid

C To measure elasticity of a material

D To measure hardness of minerals

Answer: D

Question 42

Qutub Minar is located in ....

A Delhi

B Ghaziabad

C Noida

D Gurugram

Answer: A

Question 43

Bajirao I (1720-1740 AD) was the ruler of which dynasty?

A Nanda

B Peshwas

C Haryanka

D Maurya

Answer: B

Question 44

Who Invented PlayStation?

A Wright brothers

B Reynold B. Johnson

C Assen Jordanoff

D Ken Kutaragi

Answer: D

Question 45

Instrument for measuring light intensity is called

A Lucimeter

B Cryometer

C Cyanometer

D Barometer

Answer: A

Question 46

With reference to gravity, what is G called?

A Gravitational constant

B Gravitational attraction

C Gravitational force

D Acceleration due to gravity

Answer: A

Question 47

Indian Constitution is made up of how many words?

A 40000

B 60000

C 80000

D 120000

Answer: C

Question 48

Article 43A of the Indian Constitution "Participation of workers in management of industries" deals with?

A the State Government

B the Union Government

C the directive principles of state policy

D the fundamental rights of the Indian Citizen

Answer: C

Question 49

Which team won the 2016 UEFA football championship?

A Portugal

B USA

C Germany

D Brazil

Answer: A

Question 50

Who is the author of "The Oath of the Vayuputras (Shiva Trilogy)"?

A Amish Tripathi

B Chitra Banerjee Divakaruni

C Ruskin Bond

D Ashwin Sanghi

Answer: A

English

Instructions

For the following questions answer them individually

Question 51

Improve the bracketed part of the sentence.
When the prodigal son returned home, his father welcomed him (with open hands).

A   with open hearts

B   with open mind

C   with open arms

D   no improvement

   Answer: C

Question 52

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.
"I don't know the way. Do you?" Vipul asked.

A   Vipul said he didn't know the way and asked her if she did.

B   Vipul said he didn't knew the way and asked her if she did.

C   Vipul said he didn't knew the way and asked her whether she did.

D   Vipul said that he didn't know the way and asked her if she did.

   Answer: D

Question 53

Rearrange the parts of the sentence in correct order.
It is hard to
Pof some
Qmiss the political significance
Rof these beneficiaries

A   PQR

B   RQP

C   QPR

D   RPQ

   Answer: C

Question 54

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
to have a strong emotional effect on.

A   to smother

B   to yield

C   to overwhelm

D   to forfeit

   Answer: C

Question 55

Select the synonym of objectionable

A   aperitif

B   abhorrent

C   savory

D   saporus

   Answer: B

Question 56

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'.
Grandfather along (A)/with the children(B)/have gone to Chennai.(C)/No error(D)

A   A

B   B

C   C

D   D

   Answer: C

Question 57

Improve the bracketed part of the sentence.
You can play video games and paint or (draw) from anywhere.

A   be drawing

B   can draw

C   could draw

D   no improvement

Answer: D

Question 58

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
A fool and his money are easily parted

A   a foolish person spends money carelessly and will soon be penniless

B   a miser will eventually lose all his money due to one foolish mistake

C   a foolish person will never be able to get rich

D   a rich person should be smart enough to avoid people who will fool him for his wealth

Answer: A

Question 59

Select the word with the correct spelling.

A   holgram

B   comerce

C   bluffers

D   cluters

Answer: C

Question 60

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
All bark and no bite

A Children should only be scolded but never beaten

B To be full of big talk but lacking action

C The person who appears most scary will help you the most

D A person who talks a lot will never harm you

Answer: B

Question 61

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 well know scientist,(A)/he was invited to deliver(B)/a lecture on artificial intelligence.(C)/No error(D)

A A

B B

C C

D D

Answer: D

Question 62

Select the word with the correct spelling.

A hyginic

B emmigrant

C anteirior

D quarrels

Answer: D

Question 63

Select the synonym of to recline

A   to lounge

B   to rewind

C   to sheer

D   to plump

  Answer: A

Question 64

Select the antonym of to placate

A   to provoke

B   to propitiate

C   to tranquilize

D   to mollify

  Answer: A

Question 65

Rearrange the parts of the sentence in correct order.
But while the defeat made
Pas it was no longer in currency.
Qnews, the issue on which
Rit was based failed to resonate

A   RPQ

B   RQP

C   PQR

D   QRP

  Answer: D

Question 66

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.
Saima mailed her application for a new job.

A   The application for a new job had been mailed by Saima.

B   The application for a new job has been mailed by Saima.

C   The application for her new job has been mailed by Saima.

D   The application for a new job was mailed by Saima.

   Answer: D

Question 67

Select the antonym of Content

A   ease

B   depressed

C   gratified

D   smug

   Answer: B

Question 68

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

A   to attenuate

B   to enfeeble

C   prostrate

D   to flop

   Answer: D

Question 69

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.
Possessing even a single nuclear weapon acts as a ....

A   deterrent

B   detriment

C   boundary

D   excuse

   Answer: A

Question 70

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.
As global temperatures rise, an untreatable new strain of the flu might ....up at any moment.

A   fill

B   crop

C   bring

D   chop

   Answer: B

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.

Once ...., (1) it is that time of the year when the examination results season may be just ending and the admissions season is in progress, and marked by a ....(2) of two contradictory voices — often from the same people — that rose to deafening..............(3) from April to May when the results of various school boards .... (4) The first voice ....(5) those who succeeded and did wondrously well.

Question 71

Once ....,

A   upon a time

B   only

C again

D more

Answer: C

Question 72

marked by a ....of two contradictory voices

A cacophony

B high decibel

C whisper

D silence

Answer: A

Question 73

rose to deafening ....from April to May

A level

B levels

C height

D crescendos

Answer: B

Question 74

the results of various school boards ....

A are declaring

B declare

C were being declared

D were declared

Answer: D

Question 75

The first voice ....those who succeeded and did wondrously well.

A   congratulates

B   applaud

C   celebrated

D   recommended

   Answer: C

Mathematics

Instructions

For the following questions answer them individually

Question 76

If (6 -18x) - (x -7) = 8, then the value of x is ....

A   -5/19

B   -2/13

C   2/13

D   5/19

   Answer: D

Explanation:

Expression : (6 -18x) - (x -7) = 8

=> $(-18x - x) + (6 + 7) = 8$

=> $-19x + 13 = 8$

=> $-19x = 8 - 13 = -5$

=> $x = \frac{5}{19}$

=> Ans - (D)

Question 77

If the shopkeeper sells an item at Rs 450 which is marked as Rs 600, then what is the discount he is offering?

A 33.33 percent

B 25 percent

C 20 percent

D 30 percent

Answer: B

Explanation:

Marked Price = Rs. 600

Selling price = Rs. 450

=> Discount % = $\frac{(600-450)}{600} \times 100 = \frac{150}{6} = 25\%$

=> Ans - (B)

Question 78

Find the roots of the quadratic equation : $27x^2 + 57x - 14 = 0$

A 2/9, 7/3

B 2/9, -7/3

C 9/2, 3/7

D 9/2, 3/7

Answer: B

Explanation:

Expression : $27x^2 + 57x - 14 = 0$

=> $27x^2 - 6x + 63x - 14 = 0$

=> $3x(9x - 2) + 7(9x - 2) = 0$

=> $(3x + 7)(9x - 2) = 0$

=> $x = \frac{2}{9}, \frac{-7}{3}$

Question 79

A bank offers 20% compound interest calculated on half year basis. A customer deposits Rs 9200 each on 1st January and 1st July of a year. At the end of the year, the amount he would have gained by way of interest is

A Rs 11776

B Rs 2944

C Rs 1472

D Rs 2852

Answer: D

Explanation:

Principal = Rs. 9,200 and Rate = 20%

Amount on half yearly basis= $P(1 + \frac{R}{2 \times 100})^{2 \times T}$

= $[9200(1 + \frac{20}{2 \times 100})^{2 \times 1}] + [9200(1 + \frac{20}{2 \times 100})^{2 \times \frac{1}{2}}]$

= $[9200 \times (\frac{11}{10})^2] + [9200 \times \frac{11}{10}]$

= $[92 \times 121] + [920 \times 11]$

= $(92 \times 11) \times (11 + 10)$

= $92 \times 11 \times 21 = Rs.21,252$

∴ Compound Interest = Rs.(21,252 - 18,400) = Rs. 2,852

Question 80

Which of the following numbers is not a prime number?

A 197

B 313

C 439

D 391

Answer: D

Explanation:

Among the given numbers, there are no factors of 197, 313, 439 other than 1 and the numbers themselves.

391 = 23 × 17

=> 391 is not a prime number.

=> Ans - (D)

Question 81

A carpenter can build a cupboard in 64 hours. After 16 hours he takes a break. What fraction of the cupboard is yet to be built?

A   0.6

B   0.75

C   0.2

D   0.8

Answer: B

Explanation:

Time taken to build the cupboard = 64 hours

Time spent = 16 hours

=> Fraction of the cupboard yet to be built = $\frac{(64-16)}{64} = \frac{48}{64}$

= $\frac{3}{4} = 0.75$

=> Ans - (B)

Question 82

The bus fare between two cities is increased in the ratio 29:31. What is the increase in the fare, if the original fare is Rs 725

A   Rs 50

B   Rs 775

C   Rs 155

D   Rs 310

Answer: A

Explanation:

Let original fare = Rs. $29x$

=> New fare = Rs. $31x$

Also, original fare = $725 = 29x$

=> $x = \frac{725}{29} = 25$

$\therefore$ Increase in fare = $31x - 29x = 2x$

= $2 \times 25 = Rs.50$

Question 83

Two numbers are 35% and 40% lesser than a third number. By how much percent is the second number to be enhanced to make it equal to the first number?

A 7.69 percent

B 5 percent

C 8.33 percent

D 12.5 percent

　　Answer: C

Explanation:

Let third number = $100x$

First number is 35% less than $100x$ and second number is 40% less than $100x$

=> First number = $65x$ and Second number = $60x$

To make second number equal to first number, it should be enhanced by = $65x - 60x = 5x$

=> Required % = $\frac{5x}{60x} \times 100 = \frac{100}{12} = 8.33\%$

Question 84

If 3x + 2 < 2x + 1 and x - 4 ≤ 2x - 1; then x can take which of the following values?

A -2

B 0

C 2

D 4

　　Answer: A

Explanation:

Expression 1 : 3x + 2 < 2x + 1

=> $3x - 2x < 1 - 2$

=> $x < -1$ -----------(i)

Expression 2 : x - 4 ≤ 2x - 1

=> $2x - x \geq -4 + 1$

=> $x \geq -3$ -----------(ii)

Thus, combining inequalities (i) and (ii), we get : $-3 \leq x < -1$

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

=> Ans - (A)

Question 85

Between 50 and 150 how many numbers are divisible by 7?

A 15

B 16

C 17

D 14

Answer: D

Explanation:

Numbers which are divisible by 7 between 50 and 150 are : 56,63,70,........,147

These numbers form an arithmetic progression with first term, a = 56 and last term, l = 147

Common difference, d = 7

Using, $l = a + [(n-1) \times d]$

=> $147 = 56 + (n-1) \times 7$

=> $(n-1) = \frac{(147-56)}{7} = 21 - 8 = 13$

=> $n = 13 + 1 = 14$

=> Ans - (D)

Question 86

The distance between the points (11,5) and (k,0) is 13. Find k.

A k = 1 or 23

B k = -1 or 23

C k = 1 or -23

D k = -1 or -23

Answer: B

Explanation:

Distance between two points (x_1, y_1) and (x_2, y_2) = $\sqrt{(y_2 - y_1)^2 + (x_2 - x_1)^2}$

Now, distance between points (11,5) and (k,0) = 13

=> $\sqrt{(0-5)^2 + (k-11)^2} = 13$

=> $25 + (k^2 - 22k + 121) = (13)^2 = 169$

=> $k^2 - 22k = 169 - 25 - 121$

=> $k^2 - 22k - 23 = 0$

=> $k^2 + k - 23k - 23 = 0$

=> $k(k+1) - 23(k+1) = 0$

=> $(k+1)(k-23) = 0$

=> $k = -1, 23$

Question 87

What is the equation of the line which passes through the points (3,2) and (5,-3)?

A   5x - 2y = 19

B   5x + 2y = 19

C   5x + 2y = 31

D   5x - 2y = 31

Answer: B

Explanation:

Equation of line passing thorough points (x_1, y_1) and (x_2, y_2) = $(y - y_1) = \frac{(y_2 - y_1)}{(x_2 - x_1)}(x - x_1)$

Points given = (3,2) and (5,-3)

=> Equation of line = $(y - 2) = \frac{(-3-2)}{(5-3)}(x - 3)$

=> $(y - 2) = \frac{-5}{2}(x - 3)$

=> $2y - 4 = -5x + 15$

=> $5x + 2y = 19$

Question 88

A thief is stopped by a policeman from a distance of 200 metres. When the policeman starts the chase, the thief also starts running. Assuming the speed of the thief as 8 km/hr and that of police man as 10 km/hr. How far the thief would have run, before he is overtaken?

A   640 metres

B   800 metres

Answer: B

Explanation:

Since the thief is escaping from the police man, thus they both are running in same direction.

Speed of thief = 8 km/hr and speed of policeman = 10 km/hr

=> Relative speed = 10 - 8 = 2 km/hr

Distance between them = 200 metres = 0.2 km

=> Time taken = $\frac{distance}{speed}$

= $\frac{0.2}{2}$ = $\frac{1}{10}$ hr

∴ Distance covered by thief before he was caught = $8 \times \frac{1}{10}$

= 0.8 km = 800 metres

Question 89

In ΔABC, the angle bisector of ∠A cuts BC at E. Find the length of AC if lengths of AB, BE and EC are 9.6 cm, 4 cm and 3 cm?
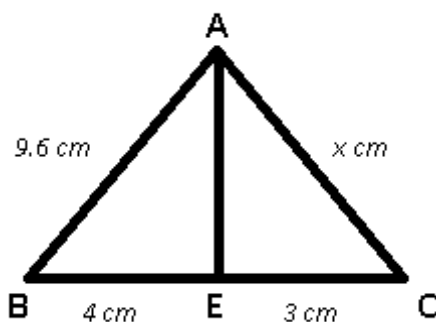
A 4.8 cm

B 9.8 cm

C 7.8 cm

D 7.2 cm

Answer: D

Explanation:

AE is the angle bisector and let AC = x cm

Using angle bisector theorem,

=> $\frac{AB}{BE} = \frac{AC}{CE}$

=> $\frac{9.6}{4} = \frac{x}{3}$

=> $x = 2.4 \times 3 = 7.2$ cm

Question 90

In a triangle, the length of the side opposite the angle which measures 45° is 16 cm, what is the length of the side opposite to the angle which measures 90°?

A $8\sqrt{3}$ cm

B $16\sqrt{2}$ cm

C 8 cm

D $16\sqrt{3}$ cm

Answer: B

Explanation:

In the given triangle, two angles are 90° and 45°, => Third angle = 45°

=> The given triangle is isosceles right angled triangle with measure of equal sides = 16 cm

Let length of hypotenuse = h cm

=> $h^2 = (16)^2 + (16)^2$

=> $h = \sqrt{2 \times (16)^2}$

=> $h = 16\sqrt{2}$ cm

Question 91

If the volume of a cylinder is 385 cubic cm and height is 10 cm, find its radius?

A 7 cm

B 10.5 cm

C 3.5 cm

D 1.75 cm

Answer: C

Explanation:

Let radius of cylinder = r cm and height = 10 cm

Volume of cylinder = 385 cm^3

=> $\pi r^2 h = 385$

=> $\frac{22}{7} \times (r^2) \times 10 = 385$

=> $r^2 = \frac{385 \times 7}{22 \times 10} = \frac{7 \times 7}{2 \times 2}$

$=> r = \sqrt{\frac{49}{4}} = \frac{7}{2}$

$=> r = 3.5$ cm

Question 92

What is the value of sec 5π/4?

A $\sqrt{3}$

B $-\sqrt{2}$

C $-\sqrt{3}$

D -1

Answer: B

Explanation:

Expression : $sec(\frac{5\pi}{4})$

$= sec(\pi + \frac{\pi}{4}) = -sec(\frac{\pi}{4})$

$= -\sqrt{2}$

Question 93

2sin[(C+D)/2].sin[(DC)/2] is equal to

A cosC + cosD

B cosC cosD

C sinC sinD

D sinC + sinD

Answer: B

Question 94

The total cost of a stove with cooker was Rs 13,125. The cooker was sold at a profit of 30% and the stove at a loss of 20%. If the sale price was the same in both the items, then the cost price of the cheaper item was

A Rs 8125

B Rs 5000

C Rs 6562.5

D Rs 6175

Answer: B

Explanation:

Let cost price of stove = $Rs.100x$

=> Cost price of cooker = $Rs.(13,125 - 100x)$

Selling price of cooker (30% profit) = Selling price of stove (20% loss)

=> $\frac{130}{100} \times (13,125 - 100x) = \frac{80}{100} \times 100x$

=> $17062.5 - 130x = 80x$

=> $x = \frac{17062.5}{210} = 81.25$

=> Cost price of stove = $100 \times 81.25 = Rs.8,125$

=> Cost price of cooker = $13,125 - 8,125 = Rs.5,000$

$\therefore$ Cooker is cheaper with cost price = Rs. 5,000

Question 95

$cot^2 A + cos^2 A$ **is equal to** $cot^2 A + cos^2 A$

A (cosecA sinA)2(cosecA + sinA)

B (cosecA + sinA)(cosecA sinA)

C (secA + sinA)(secA sinA)

D (secA sinA)2(secA + sinA)

Answer: B

Question 96

The average revenues of 7 consecutive years of a company is Rs 71 lakhs. If the average of first 4 years is Rs 66 lakhs and that of last 4 years is Rs 78 lakhs. What is the revenue for the fourth year.

A Rs 81 lakhs

B Rs 77 lakhs

C Rs 79 lakhs

D Rs 75 lakhs

Answer: C

Explanation:

Total revenues of 7 years of the company = 71×7 = Rs. 497 lakhs

Total revenue of first 4 years = 66×4 = Rs. 264 lakhs

Total revenue of last 4 years = 78×4 = Rs. 312 lakhs

$\therefore$ Revenue of 4th year = (264 + 312) - 497 = 576 - 497

= Rs. 79 lakhs

=> Ans - (C)

Question 97

Refer the below data table and answer the following Question.

	Number of employees	Annual salary (in lakhs)	Bonus as percent of annual salary
Manager	3	54	60%
Executive	5	8	30%
Trainee	5	4	10%

What is the average bonus (in rupees)?

A   Rs 855385

B   Rs 1120005

C   Rs 220000

D   Rs 352000

Answer: A

Explanation:

Total bonus of managers (in lakh) = $3 \times 54 \times \frac{60}{100} = 97.2$ lakhs

Total bonus of executive (in lakh) = $5 \times 8 \times \frac{30}{100} = 12$ lakhs

Total bonus of trainee (in lakh) = $5 \times 4 \times \frac{10}{100} = 2$ lakhs

=> Average bonus in rupees = $\frac{(97.2 + 12 + 2)}{(3 + 5 + 5)}$

= $\frac{111.2}{13} = 8.55385$ lakhs = 8,55,385

=> Ans - (A)

Question 98

Refer the below data table and answer the following Question.

	2011	2012	2013	2014	2015
Company A	5000	1000	2000	4000	1000
Company B	5000	3000	4000	5000	2000
Company C	4000	5000	3000	3000	5000

For which of the following pairs of years the total exports from the three Companies together are equal? (Note: Figures given are in lakh rupees)

A   2012 & 2013

B   2013 & 2015

C   2011 & 2012

D   2014 & 2015

   Answer: A

Explanation:
Total exports from the three companies together in :

2011 = 5000 + 5000 + 4000 = 14000

2012 = 1000 + 3000 + 5000 = 9000

2013 = 2000 + 4000 + 3000 = 9000

2014 = 4000 + 5000 + 3000 = 12000

2015 = 1000 + 2000 + 5000 = 8000

Clearly, total exports in 2012 and 2013 are equal to 9000

=> Ans - (A)

Question 99

Refer the below data table and answer the following Question.

Year	Profit or (-Loss) in Rs crore
2011	25
2012	-5
2013	5
2014	-5
2015	25

What was the total Profit or loss of the company in last 5 years?

A   Loss of Rs 45 crores

B   Profit of Rs 55 crores

C   Profit of Rs 45 crores

D   Loss of Rs 55 crores

Answer: C

Explanation:
Total profit or loss in Rs. crore in last 5 years

= 25 - 5 + 5 - 5 + 25

= 50 - 5 = 45

Since, it is positive, thus profit of Rs. 45 crore

=> Ans - (C)

Question 100

Refer the below data table and answer the following Question.

India's Exports in 2015	Value in Million US$
Jewellery	800
Software	775
Cotton	775
Steel	775
Electronics	625

Electronics was what percent of total exports?

A   19.17 percent

B   21.67 percent

C   14.17 percent

D   16.67 percent

Answer: D

Explanation:
Value in millions of Electronics = 625

Total exports = 800 + 775 + 775 + 775 + 625 = 3750

=> % of Electronics in total exports = $\frac{625}{3750} \times 100$

= $\frac{100}{6} = 16.67\%$

=> Ans - (D)