SSC CHSL 24 Jan 2017 Morning Shift

English

Instructions

For the following questions answer them individually

Question 1

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.

Who taught you to drive a truck?

A   To drive a truck by whom were you taught?

B   Driving a truck by whom were you taught?

C   Driving a truck by who were you being taught?

D   By whom were you taught to drive a truck?

   Answer: D

Question 2

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

A   A person who keeps giving advice to others for things that they are not responsible

B   The one who is sitting in the back seat behaves like a boss

C   The real power lies in the hands of those who control the strings

D   The puppet dances to the actions of the puppeteer

   Answer: A

Question 3

Rearrange the parts of the sentence in correct order.
A truly free nation will
P-will fail in the marketplace of ideas
Q-destruction as a bad idea that
R-confidently view even its advocated

A   QRP

B QPR

C PRQ

D RQP

    Answer: D

Question 4

Select the synonym of antithesis

A contradictory

B harmony

C affinity

D analogy

    Answer: A

Question 5

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

A Remembering one's past makes one humble

B To be back to where one started, with no progress having been made

C To become friends once again with a person with whom you had a fight

D To apologize for one's past actions

    Answer: B

Question 6

Rearrange the parts of the sentence in correct order.
I am not demanding
P-a set of ethical scripts whose
Q-political possibilities could be played out
R-a census of atrocity but

A RQP

B PQR

C RPQ

D QRP

Answer: C

Question 7

Select the antonym of
to wring

A to gouge

B to untwist

C to extort

D to choke

Answer: B

Question 8

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
The stadium was full(A)/of spectators(B)/from one end to other.(C)/No error(D)

A A

B B

C C

D D

Answer: C

Question 9

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

A gnarly

B bully

C lousy

D rad

Answer: C

Question 10

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
A formal agreement between individuals or parties.

A protocol

B norm

C league

D pact

Answer: D

Question 11

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.
Amit said to the gardener, "Did you find the ring anywhere?"

A Amit asked the gardener that whether he had found the ring anywhere.

B Amit asked the gardener that if he did find the ring anywhere.

C Amit asked the gardener that if he did find the ring somewhere.

D Amit asked the gardener if he had found the ring anywhere.

Answer: D

Question 12

Improve the bracketed part of the sentence.
The (van's doors) are loose.

A van-doors

B door of the van

C doors of the van

D no improvement

   Answer: C

Question 13

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'.
No one knows(A)/how he escaped(B)/being dashed to pieces.(C)/No error(D)

A A

B B

C C

D D

   Answer: D

Question 14

Select the word with the correct spelling.

A ardvark

B cubickles

C jauntier

D celiebate

   Answer: C

Question 15

Select the word with the correct spelling.

A reckliner

B midling

C sledeging

D slimmest

   Answer: D

Question 16

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.
How can any _____ person hope to know what thoughts transpire in so evil a mind?

A   rational

B   sober

C   thinking

D   negligent

   Answer: A

Question 17

Improve the bracketed part of the sentence.
I understood a good deal of (what was going on) about me.

A   that which was going on

B   what has had been going on

C   what that has been going on

D   no improvement

   Answer: D

Question 18

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.
They played with the lambs in the field and saw no human _____ but the shepherd.

A   individual

B   beings

C   person

D   self

Answer: B

Question 19

Select the antonym of
repatriation

A   abolition

B   animation

C   cure

D   invigoration

Answer: A

Question 20

Select the synonym of "ascetic"

A   spree

B   austere

C   bacchanal

D   binge

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.

The very _____(1)_____ of apologizing and forgiveness ـــــــــ(2)_____ the importance of memory and the vitality of the community as a link between
past, present and future. It _____(3)_____ the question of the responsibility ـــــــ(4)_____ the past and its injustices. Somehow for many politicians, the past
is a different country for _____(5)_____ they have no responsibility.

Question 21

The very _____ of apologizing

A   act

B stand

C behaviour

D attitude

Answer: A

Question 22

forgiveness _____ the importance of memory and the vitality of the community

A repeats

B rectifies

C replays

D reiterates

Answer: D

Question 23

It _____ the question

A hikes

B raises

C ups

D boosts

Answer: B

Question 24

the responsibility _____ the past and its injustices.

A of

B about

C for

D to

Answer: C

Question 25

The past is a different country for _____ they have no responsibility.

A that

B those

C which

D whom

Answer: C

Mathematics

Instructions
For the following questions answer them individually

Question 26

Which of the following is correct?

A $(4x + 5y)(5x - 4y) = 20x^2 + 9xy - 20y^2$

B $(4x + 5y)(5x - 4y) = 20x^2 + 41xy - 20y^2$

C $(4x + 5y)(5x - 4y) = 20x^2 - 9xy + 20y^2$

D $(4x + 5y)(5x - 4y) = 20x^2 - 41xy + 20y^2$

Answer: A

Explanation:
Expression : $(4x + 5y)(5x - 4y)$

$= 4x(5x - 4y) + 5y(5x - 4y)$

$= 20x^2 - 16xy + 25xy - 20y^2$

$= 20x^2 + 9xy - 20y^2$

=> Ans - (A)

Question 27

Ticket for an adult is Rs 1200 and a child is Rs 800 respectively. One child goes free with two adults. If a group has 25 adults and 5 children what is the discount the group gets?

A   17.24 percent

B   24. percent

C   24.41 percent

D   11.76 percent

   Answer: D

Explanation:

Cost price of adult ticket = Rs. 1200 and child ticket = Rs. 800

For 25 adults and 5 children, total cost = $(25 \times 1200) + (5 \times 800)$

= Rs. (30,000 + 4,000) = Rs. 34,000

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 25 adults = $25 \times 1200 = Rs.30,000$

Discount % = $\frac{34000-30000}{34000} \times 100$

= 11.76 %

Question 28

When 0.363636.....is converted into a fraction, then the result is _____.

A   7/11

B   4/11

C   14/33

D   8/33

   Answer: B

Explanation:

Let x = 0.363636.... ------------(i)

Multiplying both sides by 100

=> $100x$ = 36.363636.... -----------(ii)

Subtracting equation (i) from (ii)

=> $100x - x$ = (36.363636....) - (0.363636....)

=> $99x = 36$

=> $x = \frac{36}{99} = \frac{4}{11}$

So, 0.363636....written in the form p/q is 4/11

Question 29

Rajan sells a machine for Rs 52 lakhs at a loss. Had he sold it for Rs 62 lakh, his gain would have been 9 times the former loss. What is the cost price of the machine?

A Rs 61 lakhs

B Rs 53 lakhs

C Rs 67.77 lakhs

D Rs 45 lakhs

Answer: B

Explanation:

Let cost price of the machine = Rs. x lakhs

Selling price = Rs. 52 lakhs

=> Loss = Rs. $(x - 52)$ lakhs

If he sold it for Rs 62 lakh, his gain = Rs. $(62 - x)$ lakhs

According to ques, => $(62 - x) = 9 \times (x - 52)$

=> $62 - x = 9x - 468$

=> $9x + x = 62 + 468 = 530$

=> $x = \frac{530}{10}$ = Rs. 53 lakhs

Question 30

If 25% of an electricity bill is deducted, Rs 1788 is still to be paid. How much was the bill?

A Rs 1430

B Rs 2420

C Rs 1466

D Rs 2384

Answer: D

Explanation:

Let the bill = Rs. x

If 25% of bill is deducted, => Electricity bill = $\frac{75}{100} \times x$

According to question, => $\frac{3x}{4} = 1788$

=> $x = \frac{1788}{3} \times 4$

=> $x = 596 \times 4 = Rs.2,384$

=> Ans - (D)

Question 31

The sum of the ages of husband and wife at present is 60. Four years ago the ratio of their ages was 7:6. What is the age of the husband?

A 28 years

B 32 years

C 42 years

D 38 years

Answer: B

Explanation:

Let present age of husband = x years

=> Present age of wife = $(60 - x)$ years

Ratio of their ages 4 years ago = $\frac{x-4}{(60-x)-4} = \frac{7}{6}$

= $\frac{x-4}{56-x} = \frac{7}{6}$

= $6x - 24 = 392 - 7x$

=> $6x + 7x = 392 + 24 = 416$

=> $x = \frac{416}{13} = 32$ years

Question 32

If 5x - 1 < 3x + 2 and 5x + 5 > 6 - 2x; then x can take which of the following values?

A 0

B 1

C -1

D 2

Answer: B

Explanation:

Expression 1 : 5x - 1 < 3x + 2

=> $5x - 3x < 2 + 1$ => $2x < 3$

=> $x < \frac{3}{2}$ ------------(i)

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

=> $5x + 2x > 6 - 5$ => $7x > 1$

=> $x > \frac{1}{7}$ -------------(ii)

Combining above 2 inequalities, we get : $\frac{1}{7} < x < \frac{3}{2}$

Thus, the only integer value that x can take = 1

Question 33

In an arithmetic progression, if 9 is the 5th term, -26 is the 12th term, then -6 is which term?

A 11

B 8

C 10

D 7

Answer: B

Explanation:
The nth term of an A.P. = $a + (n - 1)d$, where 'a' is the first term , 'n' is the number of terms and 'd' is the common difference.

5th term, $A_5 = a + (5 - 1)d = 9$

=> $a + 4d = 9$ ---------------(i)

Similarly, 12th term, $A_{12} = a + 11d = -26$ ----------------(ii)

Subtracting equation (i) from (ii), we get :

=> $(11d - 4d) = -26 - 9$

=> $d = \frac{-35}{7} = -5$

Substituting it in equation (i), => $a - 20 = 9$

=> $a = 9 + 20 = 29$

Let n^{th} term = -6

=> $a + (n - 1)d = -6$

=> $29 + (n - 1)(-5) = -6$

=> $(n - 1)(-5) = -6 - 29 = -35$

$$\Rightarrow (n - 1) = \frac{-35}{-5} = 7$$

$$\Rightarrow n = 7 + 1 = 8$$

Question 34

What is the distance between the points (11,-5) and (-1,0)?

A 169 units

B 12 units

C 13 units

D 144 units

Answer: C

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 (-1,0)

= $\sqrt{(-1 - 11)^2 + (0 + 5)^2} = \sqrt{(-12)^2 + (5)^2}$

= $\sqrt{144 + 25} = \sqrt{169}$

= 13 units

=> Ans - (C)

Question 35

What is the equation of the line if its slope is 4/3 and it passes through the point (-7 , 2)?

A 4x - 3y = -22

B 4x + 3y = -34

C 4x + 3y = -22

D 4x - 3y = -34

Answer: D

Explanation:

Equation of line with slope $m = \frac{4}{3}$ and passing through $(x_1, y_1) = (-7, 2)$

= $(y - y_1) = m(x - x_1)$

= $(y - 2) = \frac{4}{3}(x + 7)$

= $3y - 6 = 4x + 28$

= $4x - 3y = -34$

Question 36

In ΔPQR, S and T are points on side PQ and PR respectively. ST is parallel to QR. If S divides PQ in the ratio 1:5 and length of QR is 15 cm, find ST?
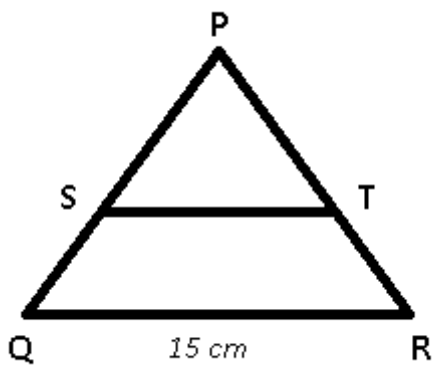
A   2.4 cm

B   3.6 cm

C   2.5 cm

D   5.6 cm

   Answer: C

Explanation:

ST is parallel to QR

Let PS = x and SQ = $5x$

=> $\frac{PS}{PQ} = \frac{ST}{QR}$

=> $\frac{x}{x+5x} = \frac{ST}{15}$

=> $\frac{1}{6} = \frac{ST}{15}$

=> $ST = \frac{15}{6} = 2.5$ cm

Question 37

If the amount received at the end of 2nd and 3rd year at Compound Interest on a certain Principal is Rs 16854, and Rs 17865.24 respectively, what is the rate of interest?

A   3 percent

B   12 percent

C   6 percent

D 10 percent

Answer: C

Explanation:

Compound interest at the end of 2nd year = Rs. 16,854

Compound interest at the end of 3rd year = Rs. 17,865.24

=> Difference = 17865.24 - 16854 = Rs. 1011.24

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

$\therefore$ Rate of interest, $r = \frac{1011.24}{16854} \times 100 = 6\%$

=> Ans - (C)

Question 38

Meghnad can do a piece of work in 45 hours. If he is joined by Jayshri, who is 50% more efficient, in what time will they together finish the work?

A 9 hours

B 6 hours

C 12 hours

D 18 hours

Answer: D

Explanation:

Let total work to be done = 90 units

Meghnad's efficiency = $\frac{90}{45} = 2$ units/hr

Jayshri is 50% more efficient than Meghnad, => Jayshri's efficiency = $\frac{150}{100} \times 2 = 3$ units/hr

=> Meghnad and Jayshri 1 day's work = 2 + 3 = 5 units/hr

$\therefore$ Time taken by them to finish the work together = $\frac{90}{5} = 18$ hours

Question 39

The average revenues of 11 consecutive years of a company is Rs 77 lakhs. If the average of first 6 years is Rs 72 lakhs and that of last 6 years is Rs 84 lakhs, What is the revenue for the Sixth year.

A Rs 91 lakhs

B Rs 87 lakhs

C Rs 85 lakhs

D   Rs 89 lakhs

    Answer: D

Explanation:

Total revenues of 11 years of the company = 77×11 = Rs. 847 lakhs

Total revenue of first 6 years = 72×6 = Rs. 432 lakhs

Total revenue of last 6 years = 84×6 = Rs. 504 lakhs

$\therefore$ Revenue of 6th year = (432 + 504) - 847 = 936 - 847

= Rs. 89 lakhs

Question 40

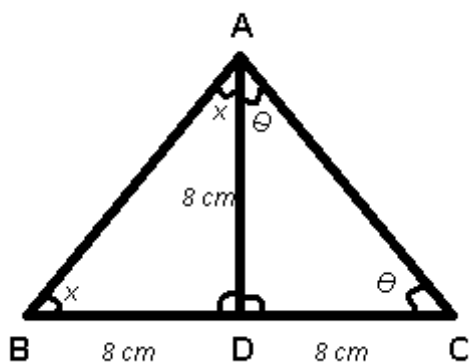**In Δ ABC, the median AD is 8 cm and CB is 16 cm, measure of angle CAB is_____ .**

A   90°

B   30°

C   60°

D   120°

    Answer: A

Explanation:

BC = 16 cm and AD is the median which bisects BC at D, => BD = DC = 8 cm

=> $\triangle$ ADC and $\triangle$ ABD are isosceles triangles.

Let $\angle$ ACD = $\angle$ CAD = θ

=> $\angle$ ADC = $(180° - 2\theta)$

Now, $\angle$ ADB and $\angle$ ADC are supplementary

=> $\angle$ ADB + $\angle$ ADC = 180°

=> $\angle$ ADB = $180° - (180° - 2\theta) = 2\theta$

Also, $\angle$ ABD = $\angle$ BAD = x

In $\triangle$ ABD, => $\angle$ ABD + $\angle$ BAD + $\angle$ ADB = 180°

=> $x + x + 2\theta = 180°$

=> $2(x + \theta) = 180°$

=> $(x + \theta) = \frac{180}{2}$

=> $\angle$ CAB = 90°

Question 41

The third proportional of two numbers 12 and 48 is

A 84

B 96

C 192

D 144

 Answer: C

Explanation:

Three numbers a,b,c are in proportion iff $b^2 = ac$

Here, a = 12 and b = 48

=> $(48)^2 = 12 \times c$

=> $c = \frac{48 \times 48}{12} = 4 \times 48$

=> $c = 192$

=> Ans - (C)

Question 42

If curved surface area of a cylinder is 616 sq cm and height is 14 cm, find its radius?

A 14 cm

B 7 cm

C 21 cm

D 3.5 cm

 Answer: B

Explanation:

Let radius of cylinder = r cm and height = 14 cm

Curved surface area of cylinder = $2\pi r h = 616$

$$\Rightarrow 2 \times \frac{22}{7} \times r \times 14 = 616$$

$$\Rightarrow 4 \times 22 \times r = 616$$

$$\Rightarrow r = \frac{616}{88} = 7 \text{ cm}$$

Question 43

Two students appeared for an examination. One of them secured 22 marks more than the other and his marks were 55% of the sum of their marks. The marks obtained by them are _____.

A 121 and 99

B 43 and 21

C 58 and 36

D 86 and 64

Answer: A

Explanation:

Let marks scored by 1st student = x

$\Rightarrow$ Marks scored by another student = $(x + 22)$

According to question, $\Rightarrow (x + 22) = \frac{55}{100} \times (x + x + 22)$

$\Rightarrow x + 22 = \frac{11}{10} \times (x + 11)$

$\Rightarrow 10x + 220 = 11x + 121$

$\Rightarrow x = 220 - 121 = 99$

$\therefore$ Marks scored by other student = 99 + 22 = 121

Question 44

What is the value of cot 11π/6?

A -√3

B -1

C √3

D -1/2

Answer: A

Explanation:

Expression : cot 11π/6

= $cot\left(2\pi - \frac{\pi}{6}\right)$

= $-cot\frac{\pi}{6} = -\sqrt{3}$

Question 45

2cos[(C+D)/2]sin[(C-D)/2] is equal to

A sinC + sinD

B sinC - sinD

C cosC - cosD

D cosC + cosD

   Answer: B

Explanation:
Expression : 2cos[(C+D)/2]sin[(C-D)/2]

Using the formula : $sinx.cosy = \frac{1}{2}[sin(x + y) + sin(x - y)]$ ------------(i)

Substituting $(x + y) = C$ and $(x - y) = D$

=> $x = \frac{C+D}{2}$ and $y = \frac{C-D}{2}$ in equation (i),

=> $sin(\frac{C+D}{2}).cos(\frac{C-D}{2}) = \frac{1}{2}[sinC + sinD]$

=> $2.cos(\frac{C-D}{2}).sin(\frac{C+D}{2}) = sinC + sinD$

Replacing D by -D, we get :

=> $2.cos(\frac{C-(-D)}{2}).sin(\frac{C+(-D)}{2}) = sinC + sin(-D)$

=> $2.cos(\frac{C+D}{2}).sin(\frac{C-D}{2}) = sinC - sinD$

Question 46

$tan^2 A sin^2 A$ **is equal to**

A $tan^2 A - sin^2 A$

B $tan^2 A + sin^2 A$

C $cot^2 A - sin^2 A$

D $cot^2 A + sin^2 A$

   Answer: A

Explanation:
Expression : $tan^2 A sin^2 A$

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

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

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

$= tan^2 A - sin^2 A$

=> Ans - (A)

Question 47

Read the data in the table and answer the Given questions?

	No of Employees	Annual salary	Bonus Percent of salary
Mnager	1	36	60%
Executive	6	8	30%
Trainee	2	2	20%

What is the average bonus in rupees?

A 3680001

B 153333

C 408889

D 244000

Answer: C

Explanation:
Total bonus of managers (in lakh) = $1 \times 36 \times \frac{60}{100} = 21.6$ lakhs

Total bonus of executive (in lakh) = $6 \times 8 \times \frac{30}{100} = 14.4$ lakhs

Total bonus of trainee (in lakh) = $2 \times 2 \times \frac{20}{100} = 0.8$ lakhs

=> Average bonus in rupees = $\frac{(21.6+14.4+0.8)}{(1+6+2)}$

= $\frac{36.8}{9} = 4.08889$ lakhs = 4,08,889

=> Ans - (C)

Question 48

Read the data and answer the given questions

	2011	2012	2013	20114	2015
Company A	5000	5000	1000	1000	3000
Company B	5000	4000	2000	5000	5000
Company C	5000	4000	2000	5000	3000

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   2011 & 2013

B   2013 & 2015

C   2011 & 2012

D   2014 & 2015

Answer: D

Explanation:

Total exports from the three companies together in :

2011 = 5000 + 5000 + 5000 = 15000

2012 = 5000 + 4000 + 4000 = 13000

2013 = 1000 + 2000 + 2000 = 5000

2014 = 1000 + 5000 + 5000 = 11000

2015 = 3000 + 5000 + 3000 = 11000

Clearly, total exports in 2014 and 2015 are equal to 11000

=> Ans - (D)

Question 49

Read the table data answer the given questions?

Years	Profit/(-loss) in crores
2011	-20
2012	-20
2013	-5
2014	10
2015	-10

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

A   Loss of Rs 55 crores

B   Loss of Rs 45 crores

C Profit of Rs 45 crores

D Profit of Rs 55 crores

Answer: B

Explanation:

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

= - 20 - 20 - 5 + 10 - 10

= -45

Since, it is negative, thus loss of Rs. 45 crore

=> Ans - (B)

Question 50

Read the data and answer the given Questions ?

India's Exports in 2015	Value in Million US $
Jewellery	950
Softyware	525
Cotton	725
Steel	525
Electronics	950

Electronics was what percent of the total Exports?

A 30.85 percent

B 28.35 percent

C 25.85 percent

D 23.35 percent

Answer: C

Explanation:

Value in millions of Electronics = 950

Total exports = 950 + 525 + 725 + 525 + 950 = 3675

=> % of Electronics in total exports = $\frac{950}{3675} \times 100$

= $\frac{3800}{147} \approx 25.85\%$

=> Ans - (C)

Reasoning

Instructions

For the following questions answer them individually

Question 51

Select the related word/letters/number from the given alternatives.
Snooker : Stick : : Cricket : ?

A Ball

B Bat

C Pad

D Helmet

   Answer: B

Explanation:

Expression = Snooker : Stick : : Cricket : ?

Snooker is played by using a stick, similarly the game of cricket is played by using a *bat*.

=> Ans - (B)

Question 52

Select the related word/letters/number from the given alternatives.
MT : JW : : RP : ?

A LM

B OS

C KL

D NR

   Answer: B

Explanation:

Expression = MT : JW : : RP : ?

The pattern followed is :

M	T
(-3)	(+3)
J	W

Similarly, RP : OS

R	P
(-3)	(+3)
O	S

=> Ans - (B)

Question 53

Select the related word/letters/number from the given alternatives.
TZ : W : : NT : ?

A P

B K

C R

D Q

Answer: D

Explanation:

Expression = TZ : W : : NT : ?

The pattern followed is that when numerical values are assigned to the alphabets, then the alphabet in the right side is the average of first set of alphabets.

Eg :- T=20 , Z=26 $\equiv \frac{(20+26)}{2} = \frac{46}{2} = 23 \equiv W$

Similarly, N=14 , T=20 $\equiv \frac{(14+20)}{2} = \frac{34}{2} = 17 \equiv Q$

=> Ans - (D)

Question 54

Select the related word/letters/number from the given alternatives.
23 : 6 : : 43 : ?

A 10

B 9

C 18

D 12

Answer: D

Explanation:

Expression = 23 : 6 : : 43 : ?

The second number is the result of product of digits of first number.

Eg :- $2 \times 3 = 6$

Similarly, $4 \times 3 = 12$

=> Ans - (D)

Question 55

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

A   Sagarmatha

B   Mount Everest

C   Kanchenjunga

D   Chomolungma

   Answer: C

Explanation:
Mount Everest is known in Nepali as Sagarmatha and in Tibetan as Chomolungma, hence Kanchenjunga is the odd one out.

=> Ans - (C)

Question 56

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

A   MNO

B   LSS

C   PQR

D   TUV

   Answer: B

Explanation:
Except for LSS, all other letters are consecutive alphabets according to the English alphabetical order, hence LSS is the odd one out.

=> Ans - (B)

Question 57

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

A   222

B 2222

C 2332

D 10648

Answer: A

Explanation:

Except for 222, all other numbers are divisible by 11, hence 222 is the odd one out.

=> Ans - (A)

Question 58

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

A 5687

B 4267

C 5789

D 4977

Answer: C

Explanation:

The pattern followed is that the product of last two digits is equal to the first two digits, but $8 \times 9 \neq 57$, hence 5789 is the odd one out.

=> Ans - (C)

Question 59

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
Telephone, Radio, ? , Laptop

A Telescope

B Bulb

C Pen

D Mobile

Answer: D

Explanation:

List of electronic devices is given.

= Telephone, Radio, Mobile , Laptop

=> Ans - (D)

Question 60

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. AB, FG, KL, PQ, ?

A ST

B UV

C QS

D FO

    Answer: B

Explanation:

Expression : AB, FG, KL, PQ, ?

The pattern followed in each letter of the terms is :

1st letter : A (+5 letters) = F (+5 letters) = K (+5 letters) = P (+5 letters) = U

2nd letter : B (+5 letters) = G (+5 letters) = L (+5 letters) = Q (+5 letters) = V

Thus, missing term = **UV**

=> Ans - (B)

Question 61

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
KRK, LTN, MVQ, ?

A OXT

B NYT

C NXT

D NYU

    Answer: C

Explanation:

Expression : KRK, LTN, MVQ, ?

The pattern followed in each letter of the terms is :

1st letter : K (+1 letter) = L (+1 letter) = M (+1 letter) = N

2nd letter : R (+2 letters) = T (+2 letters) = V (+2 letters) = X

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

Thus, missing term = **NXT**

=> Ans - (C)

Question 62

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.11, 121, 1331, 14641, ?

A   16051

B   161051

C   131769

D   29282

Answer: B

Explanation:
The pattern followed is :

11^1 = 11

11^2 = 121

11^3 = 1331

11^4 = 14641

11^5 = **161051**

=> Ans - (B)

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.
Statement:
(I) Happiness is around everyone, we have to find it.
(II) Happiness is a state of mind. If we can't find it, we should create it.
Conclusions:
(I) Creation of happiness itself makes an individual satisfied and happy because creativity is constructive.
(II) It's all about analyzing the situational factors to understand happiness.

A   Only conclusion II follows

B   Conclusion I and II both follow

C Neither I nor II follow

D Only conclusion I follows

   Answer: C

Question 64

If 5th September 2008 was a Monday, what day of the week was 9th October 2008?

A Saturday

B Friday

C Sunday

D Monday

   Answer: C

Explanation:

According to the question, 5th September is Monday

Number of days left in September = $30 - 5 = 25$

Similarly, odd days from 5th September till 9th October = $(25 + 9)\%7$

= $4 + 2 = 6$

Thus, day on 9th October = Monday (+6) = Sunday

=> Ans - (C)

Question 65

Arrange the given words in the sequence in which they occur in the dictionary.
i. Savage
ii. Sausage
iii. Savour
iv. Saviour

A iii, iv, i, ii

B ii, i, iv, iii

C ii, iii, i, iv

D iii, iv, ii, i

   Answer: B

Explanation:

As per the order of dictionary :

= Sausage -> Savage -> Saviour -> Savour

≡ ii, i, iv, iii

=> Ans - (B)

Question 66

In a certain code language, "RUMOUR" is written as "MURRUO". How is "RACKET" written in that code language?

A TEKCAR
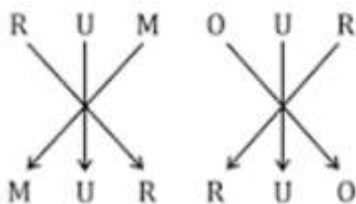
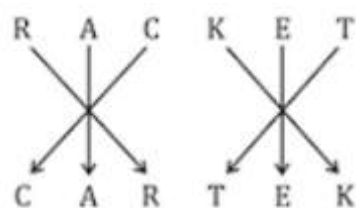**B** CARKET

C CARTEK

D TECAR

Answer: C

Explanation:

"RUMOUR" is written as "MURRUO"

The pattern followed is :

Similarly, for RACKET :

=> Ans - (C)

Question 67

Find the missing number as per given series ?

2	3	6
5	5	7
343	512	?

A 2197

B 729

C 709

D 1000

Answer: A

Explanation:

The number at the end in each column is the cube of the sum of other two numbers.

Eg :- $(5 + 2)^3 = (7)^3 = 343$

$(3 + 5)^3 = (8)^3 = 512$

Similarly, $(6 + 7)^3 = (13)^3 = 2197$

=> Ans - (A)

Question 68

If "A" means "plus", "B" means "divide", "C" means "multiply" and "D" means "minus", then
162 B 27 C 5 A 8 D 35 = ?

A 0

B 3

C 1

D 2

Answer: B

Explanation:

Expression : 162 B 27 C 5 A 8 D 35 = ?

$\equiv 162 \div 27 \times 5 + 8 - 35$

$= (6 \times 5) - 27$

$= 30 - 27 = 3$

=> 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?
K_L_K_LN_M_N

A MNMLK

B NMMLK

C MNMKL

D MLNKM

   Answer: C

Explanation:

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

= K**M**LN K**M**LN **K**MLN

=> Ans - (C)

Question 70

A man is facing towards the west. He turns 45 degrees clockwise and then another 180 degrees anticlockwise. Finally, he turns 90 degrees in the right. Which direction is he facing now?
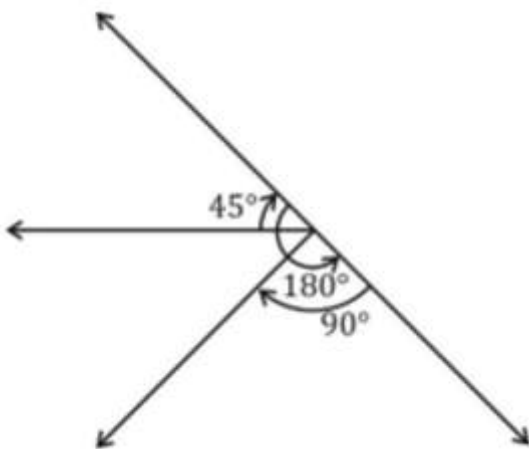
A West

B South-east

C North-east

D South-west

   Answer: D

Explanation:

A man is facing towards the west. He turns 45 degrees clockwise and faces north-west, then turns another 180 degrees anticlockwise and now faces south-east. Finally, he turns 90 degrees in the right.

Thus, he is facing South-west direction in the end.

=> Ans - (D)

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-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 TURN.

MATRIX 1:

	0	1	2	3	4
0	A	N	U	H	E
1	U	A	N	L	L
2	U	G	A	N	E
3	U	L	F	A	U
4	U	L	F	N	E

MATRIX 2:

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

A   67, 20, 76, 43

B   57, 01, 65, 12

C   85, 30, 89, 23

D   97, 02, 78, 22

Answer: C

Explanation:

(A) : 67, 20, 76, 43 = TUSN

(B) : 57, 01, 65, 12 = TNRN

(C) : 85, 30, 89, 23 = **TURN**

(D) : 97, 02, 78, 22 = TURA

=> Ans - (C)

Question 72

Shubham's mother is the sister-in-law of Shashi and Shashi is the only daughter of Parmeshwar. Ravi is Shubham's brother. How is Shashi related to Ravi?

A Grandmother

B Aunt

C Sister

D Cousin

   Answer: B

Explanation:

Shubham's mother is the sister-in-law of Shashi, => Shashi is the aunt of Shubham.

Shashi is the only daughter of Parmeshwar, => Parmeshwar is the grandfather of Shubham.
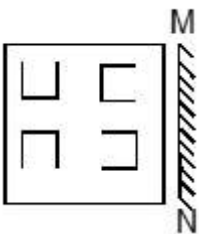
Ravi is Shubham's brother.
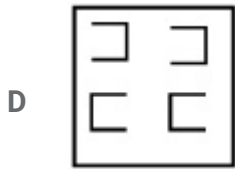
Thus, Shashi is Ravi's aunt.

=> Ans - (B)

Question 73

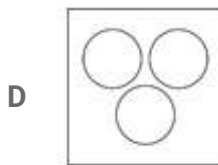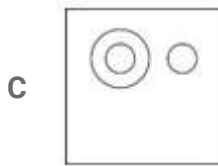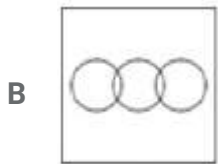**If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?**
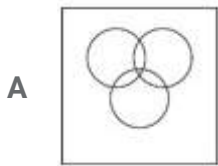

A

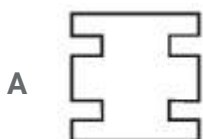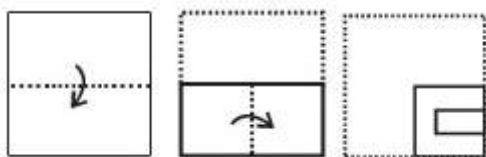
B

C

Answer: D

Question 74

Identify the diagram that best represents the relationship among the given classes.
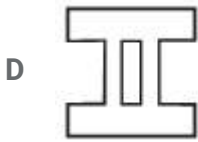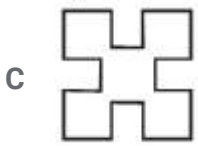Women, Trainer, Pilot

A

B

C

D

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
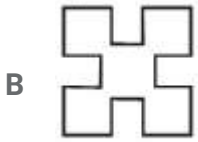
Answer: A

General Awareness

Instructions

For the following questions answer them individually

Question 76

_____ is a collection of architectural astronomical instruments, built by Maharaja Jai Singh II.

A   Jantar Mantar, Delhi

B   Group of Monuments at Hampi

C   Group of Monuments at Pattadakal

D   Nalanda, Bihar

   Answer: A

Question 77

B.D.Goenka Award was established to recognise contributions made by individuals in building and furthering the cause of _____.

A   Science

B   Journalism

C   Technology

D   Sports

   Answer: B

Question 78

The fat digesting enzyme Lipase is secreted by which of the following

A   Kidneys

B   Pancreas

C   Large Intestine

D   Liver

   Answer: B

Question 79

The arrangement of leaves on an axis or stem is called

A   Phyllotaxy

B   vernation

C   venation

D   phytotaxy

   Answer: A

Question 80

The study of Cells is also known as

A   Cytology

B   Physiology

C   Nucleology

D   Cellology

   Answer: A

Question 81

The Chemical formula of Urea is

A (NHd:2CO2

B (NHb:CO

C (NH

D
2CO2
b: (NHb:CO
c: (NHd:2CO
d: (NHb:2CO

Answer: D

Question 82

Atomic number of which of the following elements is greater than that of Magnesium

A Neon

B Fluorine

C Sodium

D Aluminium

Answer: D

Question 83

TCP in computer science stands for?

A Transmission Control Protocol

B Total Control Protocol

C Technology Control Protocol

D Transfer Control Protocol

Answer: A

Question 84

"Ganga Sagar Mela" fair is held in which state?

A Uttarakhand

B Uttar Pradesh

C West Bengal

D Maharashtra

Answer: C

Question 85

If a person's income increases from Rs 20 lakhs per year to Rs 24 lakhs per year and tax increases from Rs 3,50,000 to Rs 4,00,000 the marginal tax rate is

A 8 percent

B 12.5 percent

C 10 percent

D 15 percent

Answer: B

Question 86

If goods A and Z are complements, an increase in the price of good Z will _____.

A increase demand for good A

B decrease demand for good A

C decrease demand for good Z

D increase demand for good Z

Answer: B

Question 87

Which of the following is a renewable source of energy?

A Coal

B Petroleum

C   Plant

D   Natural Gas

Answer: C

Question 88

Dandeli Wildlife Sanctuary is in which state?

A   Orissa

B   Maharashtra

C   Gujarat

D   Karnataka

Answer: D

Question 89

Khangchendzonga National Park, also known as Kanchenjunga Biosphere Reserve, is located in _____.

A   West Bengal

B   Assam

C   Sikkim

D   Meghalaya

Answer: C

Question 90

Shimla is the capital of which Indian State?

A   Chattisgarh

B   Goa

C   Himachal Pradesh

D   Jharkhand

Answer: C

Question 91

What is the capital of Denmark?

A Copenhagen

B Stockholm

C Vienna

D Oslo

   Answer: A

Question 92

Tripitakas are sacred books of _____.

A Sikhs

B Jews

C Buddhists

D Muslims

   Answer: C

Question 93

Bahadur Shah I (1707-1712 AD) was the ruler of which dynasty?

A Nanda

B Maurya

C Mughal

D Haryanka

   Answer: C

Question 94

Who Invented water turbine?

A Enrico Fermi

B Adolf Gaston Eugen Fick

C Sandford Fleming

D Benoit Fourneyron

Answer: D

Question 95

_____ of a wave is the rate of transfer of energy per unit area perpendicular to the direction of travel of the wave.

A Interference

B Rectification

C Intensity

D Diffraction

Answer: C

Question 96

Motion of a train is an example of _____.

A Rotatory motion

B Spin motion

C Projectile motion

D Translatory motion

Answer: D

Question 97

What is the full form of the Indian Political Party "BSP"?

A Bharatiya Samaj Party

B Bahujan Samaj Party

C Bharatiya Sangh Party

D Bahujan Sangh Party

Answer: B

Question 98

The number of parliamentary seats (Rajya Sabha) of Tamil Nadu is

A 12

B 16

C 18

D 31

Answer: C

Question 99

Santosh Trophy is related to which sports?

A Boxing

B Kabaddi

C Football

D Basketball

Answer: C

Question 100

Who is the author of "Midnight's Children"?

A Jhumpa Lahiri

B Amish Tripathi

C Ravinder Singh

D Salman Rushdie

Answer: D

SSC CHSL 24 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.
Rajasthan: Jaipur: : Meghalaya : ?

A Mizoram

B Shillong

C Gangtok

D Shimla

Answer: B

Explanation:

Expression : Rajasthan: Jaipur: : Meghalaya : ?

Jaipur is the capital of Rajasthan, similarly Shillong is the capital of Meghalaya.

=> Ans - (B)

Question 2

Select the related word/letters/number from the given alternatives.
DHL : WSO : : CFI : ?

A YWU

B ZXV

C LOR

D XUR

Answer: D

Explanation:

Expression = DHL : WSO : : CFI : ?

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

ABCDEFGHIJKLMNOPQRSTUVWXYZ

↓↓...   ...↓

ZYXWVUTSRQPONMLKJIHGFEDCBA

Similarly, C -> X , F -> U , -> I -> R

=> CFI : **XUR**

=> Ans - (D)

Question 3

Select the related word/letters/number from the given alternatives.
EJO : FKP : : KPU : ?

A   JOT

B   LQV

C   QRS

D   RPN

   Answer: B

Explanation:
Expression = EJO : FKP : : KPU : ?

The pattern followed is :

E (+1 letter) = F , J (+1 letter) = K , O (+1 letter) = P

Similarly, K (+1 letter) = L , P (+1 letter) = Q , U (+1 letter) = V

=> KPU : **LQV**

=> Ans - (B)

Question 4

Select the related word/letters/number from the given alternatives.
13 : 48 : : 17 : ?

A   68

B   63

C   64

D   59

   Answer: C

Explanation:
Expression = 13 : 48 : : 17 : ?

The pattern followed is = $x : 4(x - 1)$

Eg :- $13 : 4(13 - 1) = 13 : 48$

Similarly, $4(17 - 1) = 4 \times 16 = 64$

=> Ans - (C)

Question 5

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

A Meghalaya

B Shillong

C Dispur

D Gangtok

 Answer: A

Explanation:
Meghalaya is a state, others are capital cities, hence Meghalaya is the odd one out.

=> Ans - (A)

Question 6

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

A HOC

B IKB

C FSA

D PDW

 Answer: D

Explanation:
Except PDW, all others have one vowel, hence PDW is the odd one out.

=> Ans - (D)

Question 7

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

A 343

B 357

C 352

D 371

    Answer: C

Explanation:

Except for 352, other numbers are divisible by 7, hence 352 is the odd one out.

=> Ans - (C)

Question 8

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

A 2356

B 1232

C 4268

D 2270

    Answer: D

Explanation:

Except 2270 other three are divisible by 4, hence 2270 is the odd one out.

=> Ans - (D)

Question 9

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
Universe, Galaxy, Solar system, ?

A World

B India

C Continent

D Sub-continent

    Answer: A

Explanation:

The series is given in decreasing order of size.

= Universe -> Galaxy -> Solar system -> World

=> Ans - (A)

Question 10

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
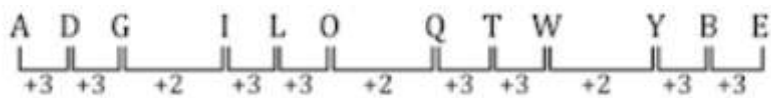**ADG, ILO, QTW, ?**

A YBE

B ZBD

C PRT

D BCD

Answer: A

Explanation:
Expression : ADG, ILO, QTW, ?

The pattern followed is :

Thus, missing term = **YBE**

=> Ans - (A)

Question 11

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
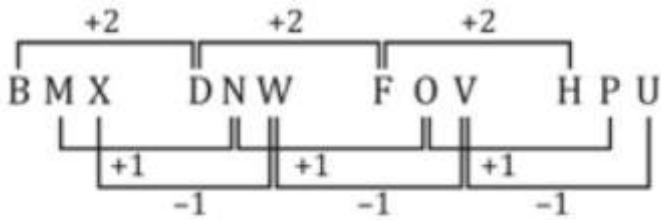**BMX, DNW, FOV, ?**

A HPU

B HPV

C HIV

D TPU

Answer: A

Explanation:
Expression : BMX, DNW, FOV, ?

The pattern followed is :

Thus, missing term = **HPU**

=> Ans - (A)

Question 12

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
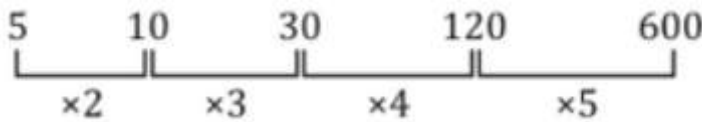5, 10, 30, 120, ?

A 624

B 600

C 626

D 670

   Answer: B

Explanation:
The pattern followed is that consecutive natural numbers are added.

Thus, missing term = **600**

=> Ans - (B)

Question 13

In the following question, two statements are given each followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.
Statement:
(I) Petrol prices are increasing in the economy.
(II) The price of crude oil in international market has not shown reasonable increase.
Conclusions:
(I) The inflation has hit various commodities like petrol in the country.
(II) Demand for petrol is increasing but supply has not picked up with the same rate, hence resulting into hike in prices.

A Only conclusion II follows

B Conclusion I and II both follow

C   Neither I nor II follow

D   Only conclusion I follows

   Answer: D

Question 14

A has more money than E but less than that of B. C has more money than D but less than that of E. Who among them is the richest?

A   B

B   C

C   D

D   A

   Answer: A

Explanation:

A has more money than E but less than that of B, => B > A > E.

C has more money than D but less than that of E, => E > C > D.

Combining above statements, we get : **B > A > E > C > D**

Thus, B is the richest.

=> Ans - (A)

Question 15

Arrange the given words in the sequence in which they occur in the dictionary.
i. Serious
ii. Senior
iii. Senate
iv. Statesman

A   iii, ii, i, iv

B   i, ii, iii, iv

C   iv, i, ii, iii

D   i, iii, ii, iv

   Answer: A

Explanation:

As per the order of dictionary :

= Senate -> Senior -> Serious -> Statesman

≡ iii, ii, i, iv

=> Ans - (A)

Question 16

In a certain code language, "OCEAN" is written as "PEHES". How is "RIVER" written in that code language?

A SKIYW

B SKYIW

C SKYIV

D SKYEV

   Answer: B

Explanation:

"OCEAN" is written as "PEHES"

The pattern followed is :

O	C	E	A	N
(+1)	(+2)	(+3)	(+4)	(+5)
P	E	H	E	S

Similarly, for RIVER :

R	I	V	E	R
(+1)	(+2)	(+3)	(+4)	(+5)
S	K	Y	I	W

=> Ans - (B)

Question 17

If "+" means "minus", "x" means "divided by", "÷" means "plus" and "-" means "multiplied by", then 240 x 12 - 6 + 29 ÷ 42 = ?

A 133

B 147

C 154

D 176

Answer: A

Explanation:
Expression = 240 x 12 - 6 + 29 ÷ 42 = ?

$$\equiv 240 \div 12 \times 6 - 29 + 42$$

= $(20 \times 6) + 13$

= $120 + 13 = 133$

=> Ans - (A)

Question 18

If "S" denotes "multiplied by", "V" denotes "subtracted from", "M" denotes "added to" and "L" denotes "divided by", then 36 L 9 S 8 V 7 M 5 = ?

A   32

B   25

C   37

D   30

   Answer: D

Explanation:
Expression = 36 L 9 S 8 V 7 M 5 = ?

$$\equiv 36 \div 9 \times 8 - 7 + 5$$

= $(4 \times 8) - 2$

= $32 - 2 = 30$

=> 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?
b_a_c_bc_b_ a

A   baacc

B   ababc

C   cbaac

D   cbaab

   Answer: C

Explanation:

The pattern followed is that in groups of 3, the term 'bca' is repeated.
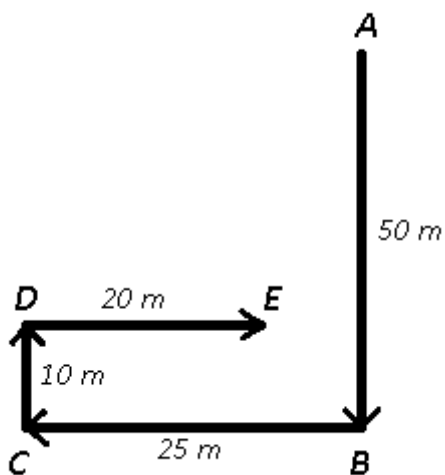
= bca **bca** bc**a** bca

=> Ans - (C)

Question 20

Vedit is facing the east. He turns right and walks for 50 m, then he again turns right and walks for 25 m, then walks 10 m to the north and from there again 20 m to the east. In which direction is he from his original position?

A Southeast

B Southwest

C East

D West

Answer: B

Explanation:

Let Vedit is at point A initially facing the east. He turns right and walks for 50 m southwards, then he again turns right and walks for 25 m towards west to reach C, then walks 10 m to the north and from D, 20 m to the east and finally stop at point E.

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

=> 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, 'G' can be represented by 76, 67 etc. and 'S' can be represented by 21, 32 etc. Similarly, you have to Identify the set for the word 'BOARD'.

MATRIX 1:

	0	1	2	3	4
0	E	D	T	U	O
1	A	E	T	O	U
2	A	S	O	D	V
3	P	A	S	O	V
4	P	A	T	S	O

MATRIX 2:

	5	6	7	8	9
5	Q	Q	R	Y	Y
6	J	B	G	R	C
7	I	G	B	C	R
8	D	I	F	B	C
9	H	H	H	F	B

A   66, 04, 12, 85, 23

B   77, 13, 20, 57, 85

C   89, 44, 31, 57, 01

D   98, 44, 41, 68, 85

Answer: B

Explanation:
(A) : 66, 04, 12, 85, 23 = BOTDD

(B) : 77, 13, 20, 57, 85 = **BOARD**

(C) : 89, 44, 31, 57, 01 = COARD

(D) : 98, 44, 41, 68, 85 = FOARD

=> Ans - (B)

Question 22

Pointing to a photograph of a girl Rajesh says, "She is the only daughter of my father." How is Rajesh related to the girl?

A   Son

B   Brother

C   Father

D   Uncle

    Answer: B

Explanation:

Only daughter of Rajesh's father = Rajesh's sister

=> Rajesh is that girl's brother.

=> Ans - (B)

Question 23

image

A   image 1

B   image 2

C   image 3

D   image 4

    Answer: B

Question 24

Identify the diagram that best represents the relationship among the given classes. Sports, Football, Baseball

A   image 1

B   image 2

C   image 3

D   image 4

    Answer: A

Question 25

A   image 1

B   image 2

C   image 3

D   image 4

   Answer: C

General Awareness

Instructions

For the following questions answer them individually

Question 26

Khas Mahal and the Shish Mahal are built in which World Heritage Monument?

A   Humayun's Tomb

B   Mahabodhi Temple Complex

C   Qutub Minar

D   Agra Fort

   Answer: D

Question 27

Bhalchandra Nemade won Jnanpith Award for work in which language?

A   Gujarati

B   Marathi

C   Hindi

D   Telugu

   Answer: B

Question 28

Which of the following scientists is also known as the Father of Biology?

A   Herbert Spencer

B   Aristotle

C   Lamarck

D   Darwin

Answer: B

Question 29

Which cells give rise to various organs of the plant and keep the plant growing?

A   Permanent

B   Dermal

C   Meristematic

D   Mature

Answer: C

Question 30

Rodentia Muridae is the scientific name of

A   Mouse

B   Squirrel

C   Monkey

D   Lizard

Answer: A

Question 31

The Chemical formula of Aluminium Chloride is ....

A   AlCl

B AlCl2

C AlCl3

D Al2Cl3

Answer: C

Question 32

Plastic bottles are made of a polymer called PET. The expanded form of PET is

A Polyethylene terephthalate

B Polyethyl terelene

C Polyethylene triphosphate

D Polyethyl tetrachloride

Answer: A

Question 33

HTTP in computer science stands for?

A HyperText Transmission Protocol

B HyperText Transfer Protocol

C HyperText Technology Protocol

D HyperText Total Protocol

Answer: B

Question 34

The leaning temple of Huma is dedicated to ....

A Hanuman

B Shiva

C Rama

D Krishna

Answer: B

Question 35

If the average total cost are Rs 2400, average variable cost is Rs 1700 and quantity produced is 75 units, find the total fixed costs of the firm?

A   Rs 52500

B   Rs 127500

C   Rs 180000

D   Rs 60000

Answer: A

Question 36

Which of following is true if the Government monetized part of its deficit?

A   Money supply in the economy will increase.

B   Interest rate will increase.

C   Government revenue will decrease.

D   Government expenditure will increase.

Answer: A

Question 37

Nongreen plants lack which of the following?

A   Chlorophyll

B   Lycophyll

C   Cyanophyll

D   Phototropism

Answer: A

Question 38

Melghat Tiger Reserve is in which state?

A   Maharashtra

B   Rajasthan

C   Arunachal Pradesh

D   Uttarakhand

   Answer: A

Question 39

Which institution in India acts as 'lender of the last resort'?

A   Finance Ministry

B   Reserve Bank of India

C   Treasury

D   Currency Printing Presses

   Answer: B

Question 40

Name the international treaty designed to protect the ozone layer from CFCs.

A   Sigma protocol

B   Montreal protocol

C   Ozone protocol

D   Green protocol

   Answer: B

Question 41

.... is the time taken by the earth to return to a given point in its orbit with reference to a fixed star.

A   Lunar year

B   Sidereal year

C   Solar year

D Tropical year

Answer: B

SSC CHSL Syllabus

Question 42

Who were the first among the following to establish trade relations with India?

A Dutch

B French

C English

D Portuguese

Answer: D

Question 43

Kargil War against Pakistan started in the year?

A 1961

B 1965

C 1972

D 1999

Answer: D

Question 44

Who Invented FM Radio?

A Edwin Howard Armstrong

B John Barber

C Edwin Beard Budding

D Nicholas Callan

Answer: A

Question 45

.... refers to the superposing of two or more coherent waves to produce regions of maxima and minima in space, according to the principle of superposition.

A   Interference

B   Rectification

C   Intensity

D   Diffraction

   Answer: A

Question 46

What is the value of acceleration due to gravity at the centre of earth?

A   1

B   0

C   1

D   Infinity

   Answer: B

Question 47

What is the full form of the Indian Political Party "CPIM"?

A   Common Party of India (Marxist)

B   Common Party of India (Movement)

C   Communist Party of India (Movement)

D   Communist Party of India (Marxist)

   Answer: D

Question 48

Rajya Sabha is assisted by the SecretaryGeneral, who holds the rank equivalent to?

A   Cabinet Minister of the Government of India

B   Member of Parliament

C   Member of Legislature

D   Cabinet Secretary to the Government of India

   Answer: D

Question 49

.... won the 2016 Formula One Rolex Australian Grand Prix.

A   Michael Phelps

B   Lewis Hamilton

C   Novak Djokovic

D   Nico Rosberg

   Answer: D

Question 50

Who is the Author of the book "You are the Best Wife: A True Love Story"?

A   Durjoy Datta

B   Savi Sharma

C   Ajay K Pandey

D   Preeti Shenoy

   Answer: C

English

Instructions
For the following questions answer them individually

Question 51

Select the synonym of "meadow"

A   metro

B   pasture

C   borough

D   civic

   Answer: B

Question 52

Select the word with the correct spelling.

A   paginat

B   carosel

C   escalate

D   skewwered

   Answer: C

Question 53

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

A   burst

B   heated

C   burnt

D   ignited

   Answer: A

Question 54

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 could scarcely think(A)/ what I was saying,(B)or what was being said to me.(C)/No error(D)

A   A

B   B

C   C

D   D

   Answer: D

Question 55

Rearrange the parts of the sentence in correct order.
However the major drawback
P -of this process is that
Q -there is no legally binding
R -outcome at the end of six years

A   QRP

B   RPQ

C   PRQ

D   PQR

   Answer: D

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'.
When you have(A)/gone through my notes, (B)/give the same to me.(C)/No error(D)

A   A

B   B

C   C

D   D

Question 57

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.
I don't have a big budget, I just need a place which provides bed and ....

A   drinks

B   breakfast

C   food

D   eatables

Question 58

Improve the bracketed part of the sentence. What time are we (going to leave) tomorrow?

A   going to go to leave

B   going to be leaving

C   going to have left

D   no improvement

Question 59

Select the synonym of "to superimpose"

A   to overlap

B   to adjoin

C   to juxtapose

D   to continue

Question 60

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
an arm and a leg

A   a large, possibly exorbitant, amount of money

B   a highly motivated person can succeed even with few resources

C   one loves a person so much that one is willing to sacrifice his most precious things for them

D   all children are equal for a mother. She can't sacrifice anyone.

    Answer: A

Question 61

Select the word with the correct spelling.

A   tusocky

B   lampereys

C   rebeled

D   atrocity

    Answer: D

Question 62

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

A   My questions were always answered by the professor.

B   My questions are always answered by the professor.

C   My questions were always being answered by the professor.

D   My questions had always been answered by the professor.

    Answer: B

Question 63

Select the antonym of "to inundate"

A   to underwhelm

B   to glut

C   to deluge

D   to engulf

   Answer: A

Question 64

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

A   preparing for a fight

B   to have a problem with something or someone

C   some important task to do

D   one's skill should always be practiced or their edge becomes blunt

   Answer: B

Question 65

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
a piece of living tissue that is transplanted surgically.

A   hybrid

B   bud

C   scion

D   graft

   Answer: D

Question 66

Improve the bracketed part of the sentence.
When he arrived at the party, he (had been dressed) in a black suit.

A   dressed

B   had dressed

C   was dressed

D   no improvement

Answer: C

Question 67

Select the antonym of "to reveal"

A   to concede

B   to repudiate

C   to avow

D   to divulge

Answer: B

Question 68

Rearrange the parts of the sentence in correct order.
No democracy
Pcan survive without the Qphilosophical imagination Rroots of such an ethical and

A   RPQ

B   QRP

C   PRQ

D   QPR

Answer: C

Question 69

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.
Anita said, "I bought a phone yesterday".

A   Anita said she had bought a phone the day before.

B   Anita said that she had bought a phone the day before.

C   Anita said she has bought a phone the day before.

D   Anita said she has bought a phone yesterday.

   Answer: B

Question 70

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
to cut up (food, especially meat) into very small pieces

A   to crumble

B   to chop

C   to mince

D   to grind

   Answer: C

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.

In its ....(1)........phase, the big telco monopolies tried to levy a "tax" on all Internet content ....(2)......... The Internet companies were then the new kids on the ....(3)................. They and the Internet user community fought back such attempts. This was the first net neutrality war, and it ....(4)........the principle of ....(5).........on the Internet between different types of content or sites.

Question 71

In its .... phase

A nascent

B potential

C fresh

D promising

Answer: A

Question 72

all Internet content ....

A stakeholders

B providers

C manufacturers

D coders

Answer: B

Question 73

The Internet companies were then the new kids on the ....

A slab

B bar

C block

D square

Answer: C

Question 74

This was the first net neutrality war, and it ....

A established

B establishes

C was establishing

D   were establishing

   Answer: A

Question 75

the principle of .... on the Internet between different types of content or sites.

A   suffarage

B   quota

C   nonalignment

D   nondiscrimination

   Answer: D

Mathematics

Instructions
For the following questions answer them individually

Question 76

A factory buys 8 machines. 3 MachineA, 4 MachineB and rest MachineC. Prices of the machines are Rs 45000, Rs 25000 and Rs 35000 respectively. Calculate the average cost (in Rs) of these machines?

A   33750

B   35000

C   36250

D   32250

   Answer: A

Explanation:
Cost of machines A, B and C respectively are : Rs. 45000 , 25000 and 35000

Number of machines A, B and C respectively are : 3 , 4 , 1

=> Total cost = $(3 \times 45000) + (4 \times 25000) + (1 \times 35000)$

= 135000 + 100000 + 35000 = Rs. 2,70,000

∴ Average cost = $\frac{2,70,000}{8}$ = Rs. 33,750

=> Ans - (A)

Question 77

The ratio of present ages of Rangitha and Shaheen is 6:5. After 12 years the ratio of their ages will be 7:6. What is Rangitha's present age?

A 60

B 55

C 72

D 28

   Answer: C

Explanation:

Let present age of Rangitha = $6x$ years

=> Present age of Shaheen = $5x$ years

According to question, => $\frac{6x+12}{5x+12} = \frac{7}{6}$

=> $36x + 72 = 35x + 84$

=> $x = 84 - 72 = 12$

$\therefore$ Rangitha's present age = $6 \times 12 = 72$ years

Question 78

If cosec 240° = x, then the value of x is

A -√2

B 2

C -2/√3

D √2

   Answer: C

Explanation:

Expression : cosec 240°

= cosec (180° + 60°) = -cosec 60°

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

=> Ans - (C)

Question 79

2*[0.3(1.3 + 3.7)] of 0.8 = ?

A   1.92

B   0.72

C   2.16

D   2.4

Answer: D

Explanation:

Expression : 2*[0.3(1.3 + 3.7)] of 0.8 = ?

= $2 \times (0.3 \times 5) \times 0.8$

= $10 \times 0.24 = 2.4$

=> Ans - (D)

Question 80

9 hrs after a goods train passed a station, another train travelling at a speed of 72 km/hr following that goods train passed through that station. If after passing the station the train overtakes the goods train in 3 hours. What is the speed of the goods train?

A   21.6 km/hr

B   27 km/hr

C   18 km/hr

D   14.4 km/hr

Answer: C

Explanation:

Let the speed of goods train = x km/hr

Speed of another train = 72 km/hr

Distance between the two trains = $72 \times 9 = 648$ km

The trains are moving in same direction, => Relative speed = $(72 - x)$ km/hr

Time = 9 + 3 = 12 hours

=> speed = distance/time

$\Rightarrow 72 - x = \frac{648}{12} = 54$

$\Rightarrow x = 72 - 54 = 18$ km/hr

Question 81

A shopkeeper, sold cocoa seeds at the rate Rs 1,230 a kg and bears a loss of 5%. Now if he decides to sell it at Rs 1,353 per kg, what will be the result?

A 4.5 percent gain

B 9 percent gain

C 4.5 percent loss

D 9 percent loss

   Answer: A

Explanation:

Let Cost price = Rs. x

Selling price = Rs. 1230

$\Rightarrow$ Loss % = $\frac{x - 1230}{x} \times 100 = 5$

$\Rightarrow \frac{x - 1230}{x} = \frac{5}{100} = \frac{1}{20}$

$\Rightarrow 20x - 24600 = x$

$\Rightarrow x = \frac{24600}{19} = 1294.73$

If selling price = Rs. 1353

$\Rightarrow$ Profit % = $\frac{1353 - 1294.73}{1294.73} \times 100 \approx 4.5\%$

Question 82

If 1/√(1 - $sin^2 A$) = x, then the value of x is

A tanA

B cosecA

C secA

D cosA

   Answer: C

Explanation:

Expression : $\frac{1}{\sqrt{1 - sin^2 A}}$

We know that, $(1 - sin^2 A) = cos^2 A$

Taking square root on both sides, $\Rightarrow \sqrt{1 - sin^2 A} = \sqrt{cos^2 A} = cos A$

Substituting it in above equation, we get

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

Question 83

A can do a work in 15 days and B in 20 days. If they work on it together for 6 days, then what fraction of work is left?

A 1/4

B 2/9

C 1/5

D 3/10

Answer: D

Explanation:
Let total work to be done = 60 units

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

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

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

Work done by A and B together in 6 days = $6 \times 7 = 42$ units

=> Work left = 60 - 42 = 18 units

∴ Fraction of work that is left = $\frac{18}{60} = \frac{3}{10}$

Question 84

What is the value of (1+cosA)/(1-cosA)?

A $(cosecA - cotA)^2$

B $(cosecA + cotA)^2$

C $(secA + cotA)^2$

D $(secA - cotA)^2$

Answer: B

Explanation:
Expression : $\frac{1+cosA}{1-cosA}$

Multiplying numerator and denominator by $(1 + cosA)$

$$= \frac{1+\cos A}{1-\cos A} \times \frac{1+\cos A}{1+\cos A}$$

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

$$= \left(\frac{1+\cos A}{\sin A}\right)^2 = \left(\frac{1}{\sin A} + \frac{\cos A}{\sin A}\right)^2$$

$$= (cosec A + \cot A)^2$$

Question 85

What are the coordinates of the mid point of the segment joining points C(5,2) and D(-1,-8).

A (2, 3)

B (2, -3)

C (-2 ,-3)

D (-2, 3)

  Answer: B

Explanation:

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

Thus, coordinates of the mid point of the segment joining points C(5,2) and D(-1,-8)

$$= \left(\frac{5-1}{2}, \frac{2-8}{2}\right)$$

$$= \left(\frac{4}{2}, \frac{-6}{2}\right)$$

$$= (2, -3)$$

=> Ans - (B)

Question 86

The line passing through (3,1) and (0,2) is perpendicular to the line passing through (5,7) and (4,x). What is the value of x?

A 4

B 1

C 2

D 3

  Answer: A

Explanation:

Slope of line passing through (3,1) and (0,2) = $\frac{(2-1)}{(0-3)} = \frac{-1}{3}$

Slope of line passing through (5,7) and (4,x) = $\frac{(x-7)}{(4-5)} = -(x-7)$

Also, product of slopes of line which are perpendicular to each other = -1

=> $-(x-7) \times \frac{-1}{3} = -1$

=> $(x-7) = -3$

=> $x = 7 - 3 = 4$

Question 87

If 2(3x -4) - 2 < 4x -2 ≥ 2x - 4; then the value of x is

A   2

B   5

C   4

D   -5

   Answer: A

Explanation:
Expression 1 : 2(3x -4) - 2 < 4x -2

=> $6x - 8 - 2 < 4x - 2$

=> $6x - 4x < -2 + 10$

=> $2x < 8$

=> $x < 4$ -----------(i)

Expression 2 : 4x -2 ≥ 2x - 4

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

=> $2x \geq -2$

=> $x \geq -1$ -----------(ii)

Combining inequalities (i) and (ii), we get : $-1 \leq x < 4$

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

=> Ans - (A)

Question 88

Expand and simplify expand and simplify : $(3x + 2)^2 \times (4x - 3) - (2x^3 - 9x^2 + 12x - 24)$

A $34x^3 + 30x^2 - 32x - 12$

B $34x^3 + 30x^2 - 32x + 12$

C $34x^3 - 30x^2 - 32x + 12$

D $34x^3 - 30x^2 + 32x - 12$

Answer: B

Explanation:

Expression : $(3x + 2)^2 \times (4x - 3) - (2x^3 - 9x^2 + 12x - 24)$

$= [(9x^2 + 4 + 12x) \times (4x - 3)] + (-2x^3 + 9x^2 - 12x + 24)$

$= (36x^3 - 27x^2) + (16x - 12) + (48x^2 - 36x) + (-2x^3 + 9x^2 - 12x + 24)$

$= (36x^3 - 2x^3) + (-27x^2 + 48x^2 + 9x^2) + (16x - 36x - 12x) + (-12 + 24)$

$= 34x^3 + 30x^2 - 32x + 12$

=> Ans - (B)

Question 89

An angle is smaller than its supplementary angle by 50°. What is the measure of the angle?

A 115°

B 60°

C 30°

D 65°

Answer: D

Explanation:

Let the angle = θ

Its supplementary angle = $(\theta + 50°)$

Sum of an angle and its supplementary angle = 180°

=> $\theta + (\theta + 50°) = 180°$

=> $2\theta = 180° - 50° = 130°$

=> $\theta = \frac{130}{2} = 65°$

Question 90

A bank offers 10% compound interest per half year. A customer deposits Rs. 2000 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 1240

B Rs 310

C Rs 155

D Rs 305

   Answer: D

Explanation:
Principal = Rs. 2000 and Rate = 10 %

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

= $[2000(1 + \frac{10}{2 \times 100})^{2 \times 1}] + [2000(1 + \frac{10}{2 \times 100})^{2 \times \frac{1}{2}}]$

= $[2000 \times (\frac{21}{20})^2] + [2000 \times \frac{21}{20}]$

= $[5 \times 441] + [100 \times 21]$

= $2205 + 2100 = Rs.4,305$

∴ Compound Interest = Rs.(4305 - 4000) = Rs. 305

Question 91

A cylindrical vessel of radius 7 cm is partially filled with water. By how much will the water level rise if a sphere of radius 6 cm is completely immersed in this water?

A 11.76 cm

B 17.64 cm

C 23.52 cm

D 5.88 cm

   Answer: D

Explanation:
Radius of sphere, R = 6 cm

Radius of cylinder, r = 7 cm and height of cylinder = h cm

The rise in water level is equal to the height of cylinder when volumes of both solids is equal.

=> Volume of cylinder = Volume of sphere

=> $\pi r^2 h = \frac{4}{3} \pi R^3$

=> $(7)^2 \times h = \frac{4}{3} \times (6)^3$

=> $h = \frac{4 \times 72}{49} = 5.88$ cm

Question 92

In a rhombus ....

A   Diagonals are equal and perpendicular

B   Consecutive angles are equal

C   Consecutive angles are supplementary

D   Adjacent sides are not equal

  Answer: C

Explanation:
In a rhombus, all sides are equal and diagonals are not equal. Also, opposite angles are equal and thus consecutive angles are supplementary.

=> Ans - (C)

Question 93

If a - b = 3 and ab =28, then $a^3 - b^3$ is

A   279

B   387

C   513

D   91

  Answer: A

Explanation:
Equation 1 : $a - b = 3$

=> $a = 3 + b$

Equation 2 : $a \times b = 28$

Substituting value of 'a' in equation 2, we get :

=> $(3 + b)b = 28$

=> $3b + b^2 = 28$

=> $b^2 + 3b - 28 = 0$

=> $b^2 - 4b + 7b - 28 = 0$

=> $b(b - 4) + 7(b - 4) = 0$

=> $(b - 4)(b + 7) = 0$

=> $b = 4, -7$

=> $a = 7, -4$

$\therefore a^3 - b^3 = (7)^3 - (4)^3$ (or) $(-4)^3 - (-7)^3$

$= 343 - 64 = 279$

Question 94

Daily local train ticket costs Rs 30 and Monthly Pass costs Rs 670.8. If I buy the Monthly Pass and travel for 26 days in a month than I save?

A 12 percent

B 14 percent

C 25 percent

D 10 percent

Answer: B

Explanation:
Train ticket cost for 1 day = Rs. 30

=> Cost for 26 days = 26 $\times$ 30 = Rs. 780

Cost of monthly pass = Rs. 670.8

=> Money saved = 780 - 670.8 = Rs. 109.2

$\therefore$ Required % = $\frac{109.2}{780} \times 100 = 14\%$

Question 95

When a number is increased by 18, it becomes 106% of itself. What is the number?

A 300

B 216

C 270

D 162

Answer: A

Explanation:
Let the number be $100x$

According to ques, => $100x + 18 = \frac{106}{100} \times 100x$

=> $100x + 18 = 106x$

=> $106x - 100x = 18$

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

$\therefore$ Number = $100 \times 3 = 300$

=> Ans - (A)

Question 96

Two fractions are such that their product is 2/5 and sum is 19/15. What are the two fractions.

A 4/3, 3/10

B 2/7, 7/5

C 4/7, 7/10

D 2/3, 3/5

Answer: D

Explanation:
Let the two numbers be x and y

=> $x + y = \frac{19}{15}$ and $x.y = \frac{2}{5}$

=> $x\left(\frac{19}{15} - x\right) = \frac{2}{5}$

=> $x\left(\frac{19-15x}{15}\right) = \frac{2}{5}$

=> $19x - 15x^2 = 6$

=> $15x^2 - 19x + 6 = 0$

=> $15x^2 - 10x - 9x + 6 = 0$

=> $5x(3x - 2) - 3(3x - 2) = 0$

=> $(5x - 3)(3x - 2) = 0$

=> $x = \frac{3}{5}, \frac{2}{3}$

Question 97

Read the table and answer the given question

	No of Employees	Annual salary	Bonus Percent of salary
Mnager	2	60	50%
Executive	8	20	20%
Trainee	4	4	10%

What is the total bonus in rupees ?

A 9359994

B 668571

C 280000

D 344000

Answer: B

Explanation:

Total bonus of managers (in lakh) = $2 \times 60 \times \frac{50}{100} = 60$ lakhs

Total bonus of executive (in lakh) = $8 \times 20 \times \frac{20}{100} = 32$ lakhs

Total bonus of trainee (in lakh) = $4 \times 4 \times \frac{10}{100} = 1.6$ lakhs

=> Average bonus in rupees = $\frac{(60+32+1.6)}{(2+8+4)}$

= $\frac{93.6}{14} = 6.68571$ lakhs = 6,68,571

=> Ans - (B)

Question 98

Read the given data and answer the questions

	2011	2012	2013	20114	2015
Company A	2000	5000	4000	4000	4000
Company B	5000	2000	3000	2000	5000
Company C	1000	4000	3000	4000	4000

For which of the following pairs of years the total exports from the three Companies together are equal?

A 2011 & 2013

B 2013 & 2014

C 2011 & 2012

D 2014 & 2015

Answer: B

Explanation:

Total exports from the three companies together in :

2011 = 2000 + 5000 + 1000 = 8000

2012 = 5000 + 2000 + 4000 = 11000

2013 = 4000 + 3000 + 3000 = 10000

2014 = 4000 + 2000 + 4000 = 10000

2015 = 4000 + 5000 + 4000 = 13000

Clearly, total exports in 2013 and 2014 are equal to 10000

=> Ans - (B)

Question 99

Read the table and answer the Questions

Years	Profit/(-loss) in crores
2011	5
2012	-15
2013	-15
2014	15
2015	-10

What is total loss or profit of company in last 5 years?

A Loss of Rs 30 crores

B Loss of Rs 20 crores

C Profit of Rs 20 crores

D Profit of Rs 30 crores

Answer: B

Explanation:

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

= 5 - 15 - 15 + 15 -10

= 5 - 25 = -20

Since, it is negative, thus loss of Rs. 20 crore

=> Ans - (B)

Question 100

Read the data and answer the given questions

India's Exports in 2015	Value in Million US $
Jewellery	750
Softyware	725
Cotton	700
Steel	700
Electronics	725

Steel was what percent of the exports?

A 24.44 percent

B 21.94 percent

C 19.44 percent

D 16.94 percent

Answer: C

Explanation:

Value in millions of Steel = 700

Total exports = 750 + 725 + 700 + 700 + 725 = 3600

=> % of Steel in total exports = $\frac{700}{3600} \times 100$

= $\frac{700}{36} = 19.44\%$

=> Ans - (C)

SSC CHSL 24 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.

School: Study :: Laboratory: ?

A Play

B Experiment

C Solve

D Pray

   Answer: B

Explanation:

Expression = School: Study :: Laboratory: ?

Schools are used by students to study, similarly a laboratory is used by scientists to experiment.

=> Ans - (B)

Question 2

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

COMMANDER : REDNAMMOC : : MANAGEMENT : ?

A TNEMEGANAM

B TNEMEGAMAN

C TENMEGANAM

D TNEMEPANAM

   Answer: A

Explanation:

Expression = COMMANDER : REDNAMMOC : : MANAGEMENT : ?

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

Thus, reverse order of MANAGEMENT : **TNEMEGANAM**

=> Ans - (A)

Question 3

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

WEFHY : DVUSB : : SFCLD : ?

A HUXOW

B SUSWL

C SUSLW

D SUSCL

Answer: A

Explanation:
Expression = WEFHY : DVUSB : : SFCLD : ?

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

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
↓↓ ...   ... ↓
Z Y X W V U T S R Q P O N M L K J I H G F E D C B A

Similarly, SFCLD : **HUXOW**

=> Ans - (A)

Question 4

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

8 : 32: : 6 : ?

A 31

B 22

C 18

D 21

Answer: C

Explanation:
Expression = 8 : 32: : 6 : ?

The pattern followed is = $x : \frac{x^2}{2}$

Eg :- $8 : \frac{8^2}{2} = 8 : 32$

Similarly, $\frac{6^2}{2} = \frac{36}{2} = 18$

=> Ans - (C)

Question 5

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

A Tonne

B Quintal

C Kilogram

D Gallon

Answer: D

Explanation:
Gallon is a unit of measurement for liquid capacity, hence it is the odd one out.

=> Ans - (D)

Question 6

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

A XTD

B TSE

C MDI

D SOD

Answer: A

Explanation:
Except XTD, other three contain one vowel, hence it is the odd one out.

=> Ans - (A)

Question 7

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

A 1232

B 1188

C 1320

D 1050

Answer: D

Explanation:

Except 1050, other three are divisible by 4, hence it is the odd one out.

=> Ans - (D)

Question 8

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

A 4832

B 7855

C 6742

D 5735

Answer: B

Explanation:

The product of first two digits is equal to the last two digits, but $7 \times 8 \neq 55$, hence 7855 is the odd one out.

=> Ans - (B)

Question 9

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

Gama rays, X-rays, Ultraviolet rays, ? , Infrared rays

A Microwaves

B Radio waves

C Visible light

D Sonic waves

Answer: C

Explanation:

Electromagnetic waves with frequencies in decreasing order.

= Gama rays -> X-rays -> Ultraviolet rays -> Visible light -> Infrared rays

=> Ans - (C)

Question 10

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

XT, YU, BX, GC, ?

A   NO

B   NJ

C   NM

D   MN

   Answer: B

Explanation:
Expression : XT, YU, BX, GC, ?

The pattern followed in each letter of the terms is :

1st letter : X (+1 letter) = Y (+3 letters) = B (+5 letters) = G (+7 letters) = N

2nd letter : T (+1 letter) = U (+3 letters) = X (+5 letters) = C (+7 letters) = J

Thus, missing term = **NJ**

=> Ans - (B)

Question 11

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

OP, ST, XY, DE, ?

A   KN

B   KL

C   GI

D   WE

   Answer: B

Explanation:
Expression : OP, ST, XY, DE, ?

The pattern followed in each letter of the terms is :

1st letter : O (+4 letters) = S (+5 letters) = X (+6 letters) = D (+7 letters) = K

2nd letter : P (+4 letters) = T (+5 letters) = Y (+6 letters) = E (+7 letters) = L

Thus, missing term = **KL**

=> Ans - (B)

Question 12

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

76, 38, 19, 9.5, ?

A 4.25

B 4.15

C 4.69

D 4.75

    Answer: D

Explanation:
Each number is divided by 2

$76 \div 2 = 38$

$38 \div 2 = 19$

$19 \div 2 = 9.5$

$9.5 \div 2 =$ **4.75**

=> 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.

Statement:
(I) In the GST Model in India, it would be dual tax (GST) with the center and states simultaneously levying tax on a common base tax.
(II) The central and state GST would be levied on every transaction of supply of goods and services simultaneously.

Conclusions:
(I) This new tax regime would benefit common man of country.
(II) There would be more clarity on state and central component.

A Only conclusion II follows

B Conclusion I and II both follow

C   Neither I nor II follow

D   Only conclusion I follows

Answer: C

Question 14

Rajan and Manu went to a market. Rajan bought 3 erasers and 5 pens for Rs 105 and Manu bought 4 erasers and 6 pens for Rs 130. What is the price of one eraser?

A   Rs 25

B   Rs 20

C   Rs 10

D   Rs 19

Answer: C

Explanation:

Let price of 1 eraser = Rs. x and price of 1 pen = Rs. y

According to ques, => $3x + 5y = 105$ -------------(i)

and $4x + 6y = 130$

$\equiv 2x + 3y = 65$ -----------(ii)

Now, multiplying equation (i) by 2 and equation (ii) by 3 and subtracting them : $2(i) - 3(ii)$

=> $10y - 9y = 210 - 195$

=> $y = 15$

Substituting it in equation (ii), we get : $2x + 3(15) = 65$

=> $2x = 65 - 45 = 20$

=> $x = \frac{20}{2} = 10$

Thus, price of 1 eraser is Rs. 10

=> Ans - (C)

Question 15

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

i. Agent
ii. Argentine
iii.Assiduous
iv.Accentuate

A iii, ii, i, iv

B iv, iii, i, ii

C iv, ii, i, iii

D iv, i, ii, iii

Answer: D

Explanation:

As per the order of dictionary :

= Accentuate -> Agent -> Argentine -> Assiduous

≡ iv, i, ii, iii

=> Ans - (D)

Question 16

In a certain code language, "FIRST" is written as "@#$!?" and "EYE" is written as "^*^". How is "TYRE" written in that code language?

A ?*$^

B ?*^$

C ?**^

D ?*^^

Answer: A

Explanation:

The codes for each letter is given :

T -> ?
Y -> *
R -> $
E -> ^

Thus, TYRE : ?*$^

=> Ans - (A)

Question 17

Find the missing number as per given series in table ?

12	13	11
16	17	?
400	458	221

A 10

B 91

C 17

D 81

Answer: A

Explanation:

In each column, the number at the end is obtained by adding the squares of other two numbers.

Eg :- $(12)^2 + (16)^2 = 144 + 256 = 400$

$(13)^2 + (17)^2 = 169 + 289 = 458$

Similarly, $(11)^2 + (x)^2 = 221$

=> $x^2 = 221 - 121 = 100$

=> $x = \sqrt{100} = 10$

=> Ans - (A)

Question 18

If "A" means "subtraction", "B" means "division", "C" means "addition" and "D" means "multiplication", then 411 B 3 A 29 C 53 D 20 = ?

A 1169

B 1156

C 1168

D 1163

Answer: C

Explanation:

Expression = 411 B 3 A 29 C 53 D 20 = ?

$\equiv 411 \div 3 - 29 + 53 \times 20$

= $137 - 29 + 1060$

$= 108 + 1060 = 1168$

=> 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?

PE_NP_ON_EO_

A PEEN

B OPEN

C OEPN

D OPNE

Answer: C

Explanation:
The pattern followed is that in groups of 4, the term 'PEON' is repeated.

= PE**O**N P**E**ON **P**EO**N**

=> Ans - (C)

Question 20

Heera starts walking towards the east from her home to go to her college. She walks for 10 km in the east, takes a left turn, walks 20 km further and reaches her college. In which direction is her home with respect to her college?

A North-West

B West

C North

D South-West

Answer: D

Explanation:
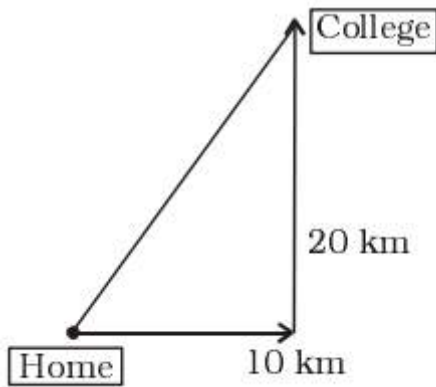
Heera starts walking towards the east from her home for 10 km, then takes a left turn, walks 20 km further towards north and reaches her college.

Thus, her home is south-west of her college.

=> Ans - (D)

Question 21

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numberec 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, 'W' can be represented by 21, 23 etc. and '1' can be represented ky 79, 97 etc. Similarly, you have to identify the set for the word 'GERM'.

Matrix 1:

	0	1	2	3	4
0	M	A	R	E	G
1	G	E	M	Q	H
2	U	W	R	W	P
3	G	V	A	P	O
4	M	A	R	Y	I

Matrix 2:

	5	6	7	8	9
5	V	M	P	G	M
6	R	P	E	D	U
7	P	M	G	E	J
8	N	R	E	A	K
9	M	U	J	S	L

A 10, 11, 02, 59

B 04, 87, 31, 76

C 30, 67, 44, 40

D 77,96,12, 95

Answer: A

Explanation:

(A) : 10, 11, 02, 59 = **GERM**

(B) : 04, 87, 31, 76 = GEVM

(C) : 30, 67, 44, 40 = GEIM

(D) : 77,96,12, 95 = GUMM

=> Ans - (A)

Question 22

Introducing a girl, a boy says, "She is the daughter of my father's only brother-in-law". How is the girl related to the boy?

A Sister-in-law

B Granddaughter

C Cousin

D Daughter

   Answer: C

Explanation:

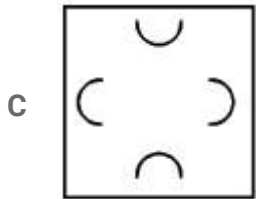Boy's father's only brother-in-law = Boy's maternal uncle

Daughter of boy's uncle = boy's cousin

Thus, the girl is that boy's cousin.

=> Ans - (C)

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
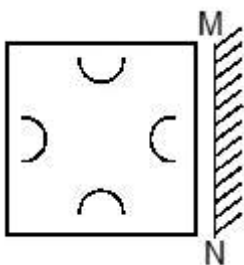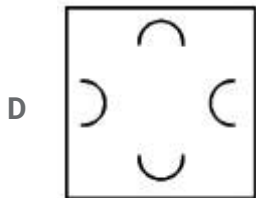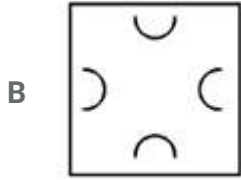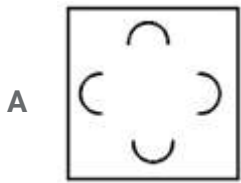
Answer: B

Question 24

Identify the diagram that best represents the relationship among the given classes.
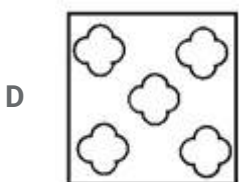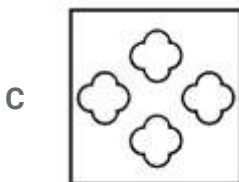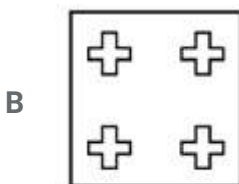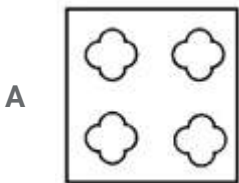
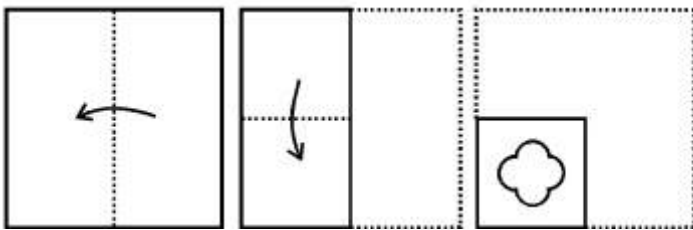**Science, Physics, Chemistry**

A

B

C

D
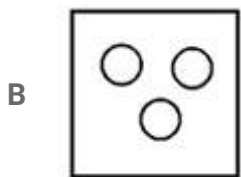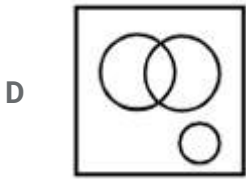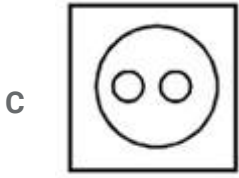
Answer: C

Question 25

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

A

B

C

D

Answer: A

General Awareness

Question 26

Diwane-i-khas is in which of these monuments?

A   Humayun's Tomb

B   Mahabodhi Temple Complex

C   Qutub Minar

D   Red Fort Complex

   Answer: D

Question 27

Who won the 2016 men's singles Wimbledon Championship?

A   Novak Djokovic

B   Andy Murray

C   Roger Federer

D   Milos Raonic

   Answer: B

Question 28

Deficiency of which vitamin causes night blindness?

A   Vitamin K

B   Vitamin C

C   Vitamin B1

D   Vitamin A

   Answer: D

Question 29

The flower with the world's largest bloom is _____.

A   Pando

B   Posidonia

C   Rafflesia arnoldii

D   Helianthus annuus

   Answer: C

Question 30

Name the scientist who proposed the cell theory

A   Schleiden and Schwann

B   Lamarck

C   Treviranus

D   Whittaker and Stanley

   Answer: A

Question 31

_____ decreases the rate of setting of cement.

A   Alumina

B   Silica

C   Gypsum

D   Magnesium oxide

   Answer: C

Question 32

Alkenes were earlier known as _____.

A   Paraffins

B   Titoffins

C   Olefins

D   Meloffins

Answer: C

Question 33

A language used to control the tasks of the computer itself, such as starting other programs, is _____.

A   Command Language

B   Machine Language

C   Markup Language

D   Style Sheet Language

Answer: A

Question 34

Munda is a folk dance of _____.

A   Arunachal Pradesh

B   Jharkhand

C   Chhattisgarh

D   Haryana

Answer: B

Question 35

In 2015, the nominal rate of interest in a country was 8% and the inflation rate then was 2.5%. So real rate of interest in 2015 was

A   3.2 percent

B   10.5 percent

C   8 percent

D   5.5 percent

Answer: D

Question 36

Macro economics deals with

A   the circular flow of income

B   the decision making of a single economic variable like demand

C   resource allocation at firm level

D   equilibrium prices and quantities

Answer: A

Question 37

The Ozone layer is present in which atmospheric layer?

A   Lithosphere

B   Ionosphere

C   Stratosphere

D   Biosphere

Answer: C

Question 38

Organisms that use light to prepare food are known as _____.

A   Autotrophs

B   Heterotrophs

C   Omnivores

D   Decomposers

Answer: A

Question 39

Which of the following will not be traded in a commodity market?

A   Crude oil

B   Silver

C   Currency

D   Gold

   Answer: C

Question 40

Panaji is the capital of which Indian State?

A   Chattisgarh

B   Goa

C   Himachal Pradesh

D   Jharkhand

   Answer: B

Question 41

Lucknow is the Capital City of _____.

A   Uttarakhand

B   Uttar Pradesh

C   Tripura

D   Arunachal Pradesh

   Answer: B

Question 42

During the Independence Movement, Subhash Chandra Bose revamped the Indian National _____.

A   Navy

B Army

C Defence

D Air Force

Answer: B

Question 43

Aurangzeb was the son of _____.

A Babur

B Humayun

C Akbar

D Shah Jahan

Answer: D

Question 44

World Wide Web was invented by _____.

A John Barber

B Tim Berners-Lee

C Alan Blumlein

D David Brewster

Answer: B

Question 45

Which among the following is false about viscosity?

A Viscosity of gases is less than that of liquids

B Viscosity of gases increases with rise in temperature

C Viscosity of liquid decreases with rise in temperature

D Viscosity of liquid decreases with increase in pressure

Answer: D

Question 46

Weight (W) of a body can be given by the formula

A W=mv

B W=mf

C W=ms

D W=mg

Answer: D

Question 47

Narendra Modi is the ___ Prime Minister of India.

A 5th

B 10th

C 14th

D 18th

Answer: C

Question 48

Who was the first Speaker of Lok Sabha?

A G. V. Mavalankar

B Sarvepalli Radhakrishnan

C M. Ananthasayanam Ayyangar

D Dr P V Cherian

Answer: A

Question 49

Who is the winner of the first Indian Super League football?

A Atletico de Kolkata

B Kerala Blasters

C FC Goa

D Delhi Dynamos FC

    Answer: A

Question 50

Who wrote the book "Walking with Lions"?

A K Natwar Singh

B Kapil Dev

C Kiran Bedi

D Sarojini Naidu

    Answer: A

English

Instructions
For the following questions answer them individually

Question 51

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

The student body met the Principal to have their _____ heard.

A griefs

B disdain

C woes

D sorrows

    Answer: C

Question 52

Select the word with the correct spelling.

A   excusing

B   begared

C   redulent

D   imortal

   Answer: A

Question 53

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

All in the same boat.

A   staying together is the secret to successfully navigating the ups and downs of life

B   In a group, one's situation is tied up with the situation of the rest.

C   There is false sense of safety in a large group

D   To be in the same unpleasant situation as other people

   Answer: D

Question 54

Select the antonym of

antique

A   obsolote

B   superannuated

C   current

D   ancient

   Answer: C

Question 55

Select the word with the correct spelling.

A feriest

B meditate

C diuratic

D farments

Answer: B

Question 56

Select the antonym of

void

A destitute

B scant

C bereft

D adequate

Answer: D

Question 57

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.

Nations work to expand justice in the society and provide infrastructure to _____ commerce.

A pass

B contribute

C popularize

D promote

Answer: D

Question 58

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.

"Please give me something to eat. I am hungry" the beggar said to them.

A   The beggar requested them to give him something to eat and said that he was hungry.

B   The beggar requested them to give him something to eat and said he was hungry.

C   The beggar while requesting them to give him something to eat and says he was hungry.

D   The beggar while requesting them to give him something to eat and says he is hungry.

   Answer: A

Question 59

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

to make (someone) anxious or unsettled.

A   to pester

B   to perturb

C   to bug

D   to ruffle

   Answer: B

Question 60

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'.

Had anybody(A)/ever told you(B)/that you're beautiful?(C)No error(D)

A   A

B   B

C   C

D   D

Answer: A

Question 61

Select the synonym of

to scram

A   to cluster

B   to array

C   to convene

D   to scoot

   Answer: D

Question 62

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

All Greek to me

A   The new person in a group gets the most attention

B   Learning a new language is very difficult

C   Saying that one does not understand something that is said or written

D   Everything is new when one is in a new country

   Answer: C

Question 63

Improve the bracketed part of the sentence.

There is no more (accommodation) for you in this bus.

A   room

B   seat

C   space

D   no improvement

Question 64

Select the synonym of

to gnaw

A to drool

B to slaver

C to nibble

D to spit

Answer: C

Question 65

Rearrange the parts of the sentence in correct order.

Despite this high-level political
P-have achieved little
Q-these summits
R-attention, and fanfare,

A QRP

B RQP

C PRQ

D PQR

Answer: B

Question 66

Improve the bracketed part of the sentence.

By the end of this decade, doctors surely (must have discover) a cure for cancer.

A would have discovered

B could discover

C have discovered

D no improvement

Answer: A

Question 67

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

to depart from an established course

A to deviate

B to whirl

C to err

D to wander

Answer: A

Question 68

Rearrange the parts of the sentence in correct order:

They also need help
P-rains have failed, and
Q-agricultural production will fall drastically
R-just now, because

A RPQ

B RQP

C PQR

D QPR

Answer: A

Question 69

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'.

Go up the beach and watch for tourists (A)/so you could warn anyone(B)/before they get to the water.(C)No error(D)

A A

B B

C C

D D

　　Answer: B

Question 70

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.

My father decorated the entire house.

A The entire house was decorated by my father.

B The entire house was being decorated by my father.

C The entire house has been decorated by my father.

D The entire house had been decorated by my father.

　　Answer: A

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.

This argument is completely _____(1)_____ and shows very little understanding _____(2)_____ education. The costs quoted for private schools, one, have no reliable source of data and, _____(3)_____, they discount two kinds of hidden costs — to the family and _____(4)_____ the nation. Often the cost of education in private schools is _____(5)_____ with the fee per child.

Question 71

This argument is completely _____

A incredible

B spurious

C amazing

D inadequate

　　Answer: B

Question 72

shows very little understanding _____ education.

A   of

B   for

C   with

D   toward

   Answer: A

Question 73

one, have no reliable source of data and, _____, they discount two kinds of hidden costs

A   twice

B   both

C   two

D   secondly

   Answer: C

Question 74

to the family and _____ the nation.

A   to

B   of

C   for

D   about

   Answer: A

Question 75

Often the cost of education in private schools is _____ with the fee per child.

A equation

B equates

C equating

D equated

    Answer: D

Mathematics

Instructions

For the following questions answer them individually

Question 76

Of the 3 numbers whose average is 112, the first is 3/13 times the sum of other 2. The first number is _____.

A 63

B 95

C 42

D 126

    Answer: A

Explanation:

Let the three numbers be x, y, z

Sum of three numbers = $x + y + z = 112 \times 3 = 336$

According to ques, => $x = \frac{3}{13} \times (y + z)$

=> $x = \frac{3}{13} \times (336 - x)$

=> $13x = 1008 - 3x$

=> $13x + 3x = 16x = 1008$

=> $x = \frac{1008}{16} = 63$

Question 77

If a merchant offers a discount of 20% on the list price, then he makes a loss of 10%. What % profit or % loss will she make if he sells at a discount of 5% of the list price?

A 6.875 percent profit

B 20 percent profit

C 14 percent profit

D 30 percent loss

Answer: A

Explanation:

Let list price = Rs. $100x$

After 20% discount, selling price = $\frac{80}{100} \times 100x$ = Rs. $80x$

Let Cost price = Rs. y

=> Loss % = $\frac{y-80x}{y} \times 100 = 10$

=> $\frac{y-80x}{y} = \frac{10}{100} = \frac{1}{10}$

=> $10y - 800x = y$

=> $10y - y = 800x$

=> $y = \frac{800x}{9} = 88.89x$

If discount = 5%, => Selling price = $\frac{95}{100} \times 100x = Rs.95x$

$\therefore$ Profit % = $\frac{95x-88.89x}{88.89x} \times 100$

$\approx 6.875\%$

Question 78

Coefficient of x in (x + 11)(3 - 5x) is _____.

A 33

B -5

C 3

D -52

Answer: D

Explanation:

Expression : (x + 11)(3 - 5x)

= $3x - 5x^2 + 33 - 55x$

= $-5x^2 - 52x + 33$

∴ Coefficient of x in above equation = -52

=> Ans - (D)

Question 79

A does 80% of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?

A 75 days

B 37.5 days

C 17.5 days

D 35 days

    Answer: B

Explanation:
Work done by A in 20 days = $\frac{80}{100} = \frac{4}{5}$

Work done by A in 1 day = $\frac{\frac{4}{5}}{20} = \frac{4}{100} = \frac{1}{25}$

Work done by A and B in 3 days = $\frac{20}{100} = \frac{1}{5}$ (Because remaining 20% is done in 3 days by A and B)

Work done by A and B in 1 day = $\frac{1}{15}$

Work done by B in 1 day = $\frac{1}{15} - \frac{1}{25} = \frac{2}{75}$

=> B can complete the work in $\frac{75}{2}$ days = 37.5 days

Question 80

What is the HCF (highest common factor) of 77 and 275?

A 12

B 11

C 7

D 25

    Answer: B

Explanation:
Factors of : 77 = 1 , 7 , 11 , 77

275 = 1 , 5 , 11 , 25 , 55 , 275

The common factors are 1 and 11

and HCF = 11

=> Ans - (B)

Question 81

To travel 648 km, an Express train takes 12 hours more than Rajdhani. If however, the speed of the Express train is doubled, it takes 6 hours less than Rajdhani. The speed of Rajdhani is _____.

A 36 km/hr

B 18 km/hr

C 45 km/hr

D 27 km/hr

Answer: D

Explanation:

Let speed of Rajdhani train = x km/hr and Express train = y km/hr

Using, time = distance/speed

Acc. to ques, => $\frac{648}{y} - \frac{648}{x} = 12$

=> $\frac{1}{y} - \frac{1}{x} = \frac{12}{648} = \frac{1}{54}$ ---------------(i)

If speed of express train is doubled = $2y$ km/hr

=> $\frac{648}{x} - \frac{648}{2y} = 6$

=> $\frac{1}{x} - \frac{1}{2y} = \frac{6}{648} = \frac{1}{108}$ ---------------(ii)

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

=> $\frac{1}{y} - \frac{1}{2y} = \frac{1}{54} + \frac{1}{108}$

=> $\frac{1}{2y} = \frac{3}{108}$

=> $y = \frac{108}{6} = 18$ km/hr

$\therefore$ Speed of Rajdhani = $\frac{1}{x} = \frac{1}{18} - \frac{1}{54}$

=> $\frac{1}{x} = \frac{2}{54} = \frac{1}{27}$

=> $x = 27$ km/hr

Question 82

A trader had 16 quintals of wheat. He sold a part of it at 17% profit and the rest at 27% profit, so that he made a total profit of 21%. How much wheat did he sell at 27% profit?

A 960 kg

B 640 kg

C 320 kg

D 1280 kg

Answer: B

Explanation:

1 quintal = 100 kg => 16 quintals = 1600 kg

Let the part he sold at 27% profit = x kg

=> Part he sold at 17% profit = $(1600 - x)$ kg

Total profit made by the trader = 21%

=> $27x + 17(1600 - x) = 21 \times 1600$

=> $27x + (17 \times 1600) - 17x = 21 \times 1600$

=> $10x = 1600 \times (21 - 17)$

=> $x = 160 \times 4 = 640$ kg

Question 83

The brother is elder to his sister by 6 years. Seven years ago the product of their ages was 72. What is the age of the brother?

A 13 years

B 12 years

C 6 years

D 19 years

Answer: D

Explanation:

Let age of brother = x years

=> Age of sister = $(x - 6)$ years

Product of their ages 7 years ago = $(x - 7) \times (x - 13) = 72$

=> $x^2 - 13x - 7x + 91 - 72 = 0$

=> $x^2 - 20x + 19 = 0$

=> $x^2 - x - 19x + 19 = 0$

=> $x(x - 1) - 19(x - 1) = 0$

=> $(x-1)(x-19) = 0$

=> $x = 1, 19$

Since, $x \neq 1$, => Age of brother = 19 years

Question 84

If Girish's salary is 4/9 times of Harishankar's and Shirish's salary is 5/6 times of Harishankar's, what is the ratio of Girish's salary to Shirish's.

A 27:10

B 10:27

C 8:15

D 15:8

Answer: C

Explanation:

Let Harishankar's salary = $18x$

=> Girish's salary = $\frac{4}{9} \times 18x = 8x$

=> Shirish's salary = $\frac{5}{6} \times 18x = 15x$

$\therefore$ Ratio of Girish's salary to Shirish's = $\frac{8x}{15x}$

= 8 : 15

Question 85

If 5 - x > 1 + 3x and 5 + 5x ≥ 2 + 2x; then x can take which of the following values?

A 2

B -2

C 3

D 0

Answer: D

Explanation:

Expression (i) : 5 - x > 1 + 3x

=> 3x + x < 5 - 1, => 4x < 4

=> x < 1

Expression (ii) : 5 + 5x ≥ 2 + 2x

=> 5x - 2x $\geq$ 2 - 5, => 3x $\geq$ -3

=> x $\geq$ -1

Combining above equations, we get = $-1 \leq x < 1$

Thus, x can be either -1 or 0

=> Ans - (D)

Question 86

Find the value of p, if 2x - 4, 4x + p and 6x - 12 are in arithmetic progression.

A -9

B -10

C -11

D -8

   Answer: D

Explanation:

Terms in arithmetic progression : $(2x - 4), (4x + p), (6x - 12)$

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

=> $(4x + p) - (2x - 4) = (6x - 12) - (4x + p)$

=> $2x + p + 4 = 2x - 12 - p$

=> $2p = -12 - 4 = -16$

=> $p = \frac{-16}{2} = -8$

Question 87

Points P and Q lie on side AB and AC of triangle ABC respectively such that segment PQ is parallel to side BC. If the ratio of areas of triangle APQ: triangle ABC is 16:25. Then the ratio of AP:PB is?
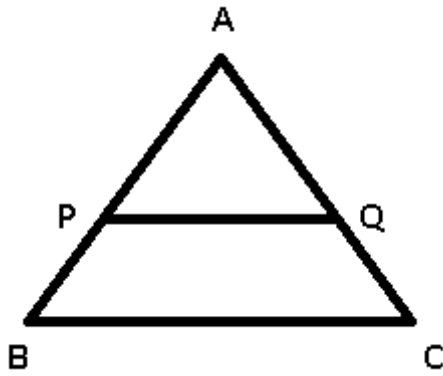
A 4:5

B 1:4

C 5:1

D 4:1

   Answer: D

Explanation:

PQ is parallel to BC angle A is common, thus $\triangle$ APQ $\sim$ $\triangle$ ABC

In two similar triangles, the ratio of their areas is equal to the square of the ratio of their sides.

=> $\left(\frac{AP}{AB}\right)^2 = \frac{ar(\triangle APQ)}{ar(\triangle ABC)}$

=> $\frac{AP}{AB} = \sqrt{\frac{16}{25}} = \frac{4}{5}$

Also, PB = AB - AP = 5 - 4 = 1

=> $\frac{AP}{PB} = \frac{4}{1}$ = 4 : 1

Question 88

Which of the following points lies on the line 3x - 4y = -13?

A (-5,-7)

B (5,7)

C (-5,7)

D (5,-7)

   Answer: B

Explanation:

The point that satisfies the equation $3x - 4y = -13$ lies on it

(A) : (-5,-7) : $(3 \times -5) - (4 \times -7)$ = 13

(B) : (5,7) : $(3 \times 5) - (4 \times 7)$ = **-13 = R.H.S.**

(C) : (-5,7) : $(3 \times -5) - (4 \times 7)$ = -43

(D) : (5,-7) : $(3 \times 5) - (4 \times -7)$ = 43

=> Ans - (B)

Question 89

A man spends 59% of his income and saves the rest. What percentage of his expenditure does he save?

A 72.57 percent

B 83.19 percent

C 89.09 percent

D 69.49 percent

   Answer: D

Explanation:

Let total income of man = $Rs.100x$

Amount spent = $\frac{59}{100} \times 100x = Rs.59x$

=> Money saved = $100x - 59x = 41x$

$\therefore$ Percentage of his expenditure that he saves = $\frac{41x}{59x} \times 100$
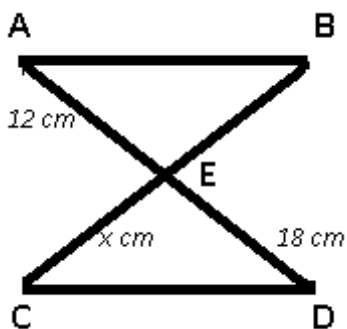
= 69.49 %

Question 90

Line segment AB is parallel to line segment CD. AD intersects BC in E. If lengths of AE, BC and ED are 12 cm, 12 cm and 18 cm respectively, what is the length of EC?

A 4.8 cm

B 9.3 cm

C 8.1 cm

D 7.2 cm

   Answer: D

Explanation:

BC = 12 cm, => BE = (12 - x) cm

AB is parallel to CD, => $\angle$ BAE = $\angle$ CDE and $\angle$ ABE = $\angle$ DCE

=> $\triangle$ABE $\sim$ $\triangle$ CDE

=> $\frac{AE}{DE} = \frac{BE}{CE}$

=> $\frac{12}{18} = \frac{12-x}{x}$

=> $\frac{2}{3} = \frac{12-x}{x}$

=> $2x = 36 - 3x$

=> $x = \frac{36}{5} = 7.2$ cm

Question 91

In a triangle the length of the side opposite the angle which measures 60° is 15 cm, what is the length of the side opposite to the angle which measures 90°?

A   15 cm

B   15√2 cm

C   10√3 cm

D   10 cm

   Answer: C

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

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 60° angle = 15 cm

=> Length of side opposite the 90° angle = $\frac{2}{\sqrt{3}} \times 15 = 10\sqrt{3}$ cm

=> Ans - (C)

Question 92

A sum fetched a total simple interest of Rs 5320 at the rate of 7% per year in 5 years. What is the sum?

A   Rs 18240

B   Rs 12160

C   Rs 15200

D   Rs 9120

   Answer: C

Explanation:

Let the sum = Rs. x

Rate of interest = 7% and time = 5 years

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

=> $\frac{x \times 7 \times 5}{100} = 5320$

=> $x = 5320 \times \frac{20}{7}$

=> $x = 760 \times 20 = Rs.15,200$

Question 93

Curved surface area of a cylinder is 660 sq cm. If circumference of its base is 44 cm, find the volume of the cylinder?

A 4620 cubic cm

B 2310 cubic cm

C 6930 cubic cm

D 1155 cubic cm

Answer: B

Explanation:

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

Circumference of base = $2\pi r = 44$

=> $2 \times \frac{22}{7} \times r = 44$

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

Curved surface area of cylinder = $2\pi rh = 660$

=> $2 \times \frac{22}{7} \times 7 \times h = 660$

=> $2 \times 22h = 660$

=> $h = \frac{660}{44} = 15$ cm

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

= $\frac{22}{7} \times (7)^2 \times 15$

= $22 \times 7 \times 15 = 2310 cm^3$

Question 94

What is the value of cos 11π/6?

A -1/√2

B -√3/2

C 2/√3

D √3/2

Answer: D

Explanation:

Expression : cos 11π/6

$= cos\left(2\pi - \frac{\pi}{6}\right)$

$= cos\frac{\pi}{6} = \frac{\sqrt{3}}{2}$

=> Ans - (D)

Question 95

cos 3A is equal to

A $4cos^3 A + 3cos A$

B $4cos^3 A - 3cos A$

C $3cos^3 A - 4cos A$

D $3cos^3 A + 4cos A$

Answer: B

Explanation:

We know that $cos(x + y) = cosx.cosy - sinx.siny$

Also, $cos2x = 2cos^2 x - 1$ and $sin2x = 2sinx.cosx$

Expression : $cos3A = cos(2A + A)$

$= cos2A.cosA - sin2A.sinA$

$= (2cos^2 A - 1)cosA - (2sinA.cosA)sinA$

$= 2cos^3 A - cosA - 2sin^2 A.cosA$

$= 2cos^3 A - cosA - 2cosA(1 - cos^2 A)$

$= 2cos^3 A - cosA - 2cosA + 2cos^3 A$

$= 4cos^3 A - 3cosA$

Question 96

cosA/(1 - sin A) is equal to

A (secA - tanA)

B (secA + tanA)

C √[(secA + tanA)]

D √[(secA - tanA)]

Answer: B

Explanation:

Expression : cosA/(1 - sin A)

Multiplying numerator and denominator by (1 + sin A)

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

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

$$= \frac{cosA(1+sinA)}{cos^2 A} = \frac{1+sinA}{cosA}$$

$$= \frac{1}{cosA} + \frac{sinA}{cosA} = secA + tanA$$

Question 97

Read the data and answer the given questions

	Weight	Height in Meters
Sunit	60	1.5
Anjali	55	1.2
Vimala	75	1.6
Preeti	70	1.4

Who was the least weight to height ratio ?

A Sunita

B Anjali

C Vimla

D Preeti

Answer: A

Explanation:

Ratio of weight to height

Sunita : $\frac{60}{1.5}$ = 40 **[LEAST]**

Anjali : $\frac{55}{1.2}$ = 45.83

Vimala : $\frac{75}{1.6}$ = 46.875

Preeti : $\frac{70}{1.4}$ = 50

=> Ans - (A)

Question 98

Read the table and answer the given Questions

Years	Company's Profit
2011	5
2012	15
2013	25
2014	10
2015	10

What was the Revenue of the company if its Expenditure was Rs 200 crore in the year when its % profit was the least?

A 210

B 220

C 230

D 200

   Answer: A

Explanation:
Profit % was least in 2011 = 5%

Let revenue = Rs. x crore and expenditure = Rs. 200 crore

=> Profit % = $\frac{x-200}{200} \times 100 = 5$

=> $\frac{x-200}{200} = \frac{5}{100} = \frac{1}{20}$

=> $x - 200 = \frac{200}{20} = 10$

=> $x = 200 + 10 = 210$ crore

=> Ans - (A)

Question 99

Read the data and answer the given questions

No of Children	No of Houses
0	3
1	13
2	18
3	3

What average number of children per house?

A   2.07

B   1.82

C   1.57

D   1.32

   Answer: C

Explanation:
Total number of houses = 3 + 13 + 18 + 3 = 37

Total children = $(0 \times 3) + (1 \times 13) + (2 \times 18) + (3 \times 3)$

= 13 + 36 + 9 = 58

∴ Average number of children per house = $\frac{58}{37} = 1.57$

=> Ans - (C)

Question 100

Read the data and answer the given Questions ?

Patners	Present % Share
Anand	25
Basu	5
Chinmay	25
Dhiraj	20
Ejaz	25

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

A   165000 shares

B   150000 shares

C   180000 shares

D   135000 shares

   Answer: A

Explanation:
Total shares = 6,00,000

Original shares with Ejaz = $\frac{25}{100} \times 600000 = 1,50,000$

If Anand offers to sell 15,000 of his shares to Ejaz,

=> Shares with Ejaz = 1,50,000 + 15,000 = 1,65,000

=> Ans - (A)