

SSC MTS 17 March 2013 Shift 1

Reasoning

Instructions

For the following questions answer them individually

Question 1

Astronomy: Star::Geology:?

- A Sky
- B Geometry
- C Science
- D Earth

Answer: D

Explanation:

Expression = Astronomy: Star::Geology:?

Astronomy is the study of stars, similarly Geology is the study of **Earth**.

=> Ans - (D)

Question 2

Up:Down::Back:?

- A Left
- B Deep
- C Front
- D Right

Answer: C

Explanation:

Expression = Up:Down::Back:?

The given pairs are antonyms, i.e. up is the opposite of down, similarly opposite of back is **front**.

=> Ans - (C)

Question 3

If $4 \times 2 \times 6 = 1626$, $3 \times 7 \times 4 = 974$, then $5 \times 6 \times 8 = ?$

- A 3658
- B 2568
- C 5664
- D 6456

Answer: B

Explanation:

The pattern followed is that for the numbers : $a \times b \times c = a^2bc$

Eg :- $4 \times 2 \times 6 = (4)^2 26 = 1626$

and $3 \times 7 \times 4 = (3)^2 74 = 974$

Similarly, $5 \times 6 \times 8 = (5)^2 68 = 2568$

=> Ans - (B)

Instructions

In the following question, find the odd word from the given alternatives.

Question 4

A Madam

B Animal

C Othello

D Noun

Answer: D

Explanation:

Madam, Othello and animal are all different nouns, hence **noun** is the odd one out.

=> Ans - (D)

Question 5

A 5:25

B 8:64

C 7:49

D 6:30

Answer: D

Explanation:

(A) : $(5)^2 = 25$

(B) : $(8)^2 = 64$

(C) : $(7)^2 = 49$

(D) : $(6)^2 = 36 \neq 30$

=> Ans - (D)

Question 6

A 245

B 443

C 633

D 821

Answer: C

Explanation:

The sum of digits of each number is 11

(A) : $2 + 4 + 5 = 11$

(B) : $4 + 4 + 3 = 11$

(C) : $6 + 3 + 3 = 12 \neq 11$

(D) : $8 + 2 + 1 = 11$

=> Ans - (C)

Question 7

A Green gram

B Corn

C Barley

D Wheat

Answer: A

Explanation:

Except green gram all others are cereals

Instructions

For the following questions answer them individually

Question 8

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

A E _ F C G _ H _ I F J _ K

A bdeg

B debg

C eegb

D bcad

Answer: A

Explanation:

in the alphabetical series that is 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

after every letter the third letter to it is placed before it i.e

A E B F C G D H E I F J G K

making option A the correct answer

Question 9

Arrange the following words as per order in dictionary.

1. Obscure

2. Objective

3. Objection

4. Obligation

5. Oblivion

A 3,2,4,5,1

B 3,2,5,4,1

C 3,2,5,1,4

D 5,2,1,3,4

Answer: A

Explanation:

As per the order of dictionary,

= Objection -> Objective -> Obligation -> Oblivion -> Obscure

≡ 3,2,4,5,1

=> Ans - (A)

Question 10

15,23,31,39,__,55,63

A 45

B 47

C 46

D 44

Answer: B

Explanation:

The pattern followed is :

$$15 + 8 = 23$$

$$23 + 8 = 31$$

$$31 + 8 = 39$$

$$39 + 8 = \mathbf{47}$$

$$47 + 8 = 55$$

$$55 + 8 = 63$$

=> Ans - (B)

Question 11

2, 3.5, 5, 6.5, 8, __?

A 9.0

B 9.5

C 10.5

D 11.0

Answer: B

Explanation:

The pattern followed here is $(n + 1.5)$

$$2 + 1.5 = 3.5,$$

$$3.5 + 1.5 = 5,$$

$$5 + 1.5 = 6.5,$$

$$6.5 + 1.5 = 8,$$

$$8 + 1.5 = 9.5$$

Hence, option B is the correct answer.

Question 12

32,58,92,134,___?

A 169

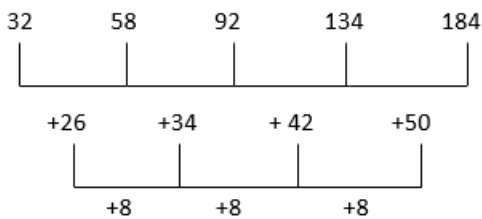
B 184

C 194

D 156

Answer: B

Explanation:



Hence, option B is the correct answer.

Question 13

From the given alternative words, select the word which cannot be formed using the letters of the given word:

INTERROGATE (multiple use of letters are allowed)

A GATE

B SIGNATURE

C INTERN

D TERROR

Answer: B

Explanation:

The word 'INTERROGATE' does not contain any 'S', thus the word **Signature** cannot be formed.

=> Ans - (B)

Question 14

If PAINT is coded as 74128 and EXCEL is coded as 93596.how is ACCEPT coded?

A 459578

B 457958

C 459758

D 455978

Answer: D

Explanation:

The codes for each letter is given :

A -> 4

C -> 5

C -> 5

E -> 9

P -> 7

T -> 8

=> ACCEPT : **455978**

=> Ans - (D)

Question 15

If '+' means ' \div ', 'x' means '+', '-' means 'x' and ' \div ' means '-' then which of the following equations is correct ?

A $36 + 6 - 3 \times 2 = 20$

B $36 \times 6 + 3 - 2 < 20$

C $36 \times 6 + 3 \times 2 > 20$

D $36 + 6 \times 3 + 2 = 20$

Answer: A

Explanation:

(A) : $36 + 6 - 3 \times 2 = 20$

$\equiv 36 \div 6 \times 3 + 2 = 20$

L.H.S. = $(\frac{36}{6} \times 3) + 2$

= $(6 \times 3) + 2 = 20 = \text{R.H.S.}$

=> Ans - (A)

Question 16

A father is 5 times as old as his son. His son is 6 year old. After how many years, will the father be 4 times as old as his son ?

A 2 years

B 5 years

C 6 years

D 4 years

Answer: A

Explanation:

Son's age = 6 years

=> Father's age = $5 \times 6 = 30$ years

Let after x years, father will be four times as old as his son.

=> $(30 + x) = 4(6 + x)$

=> $30 + x = 24 + 4x$

=> $4x - x = 30 - 24$

=> $3x = 6$

=> $x = \frac{6}{3} = 2$

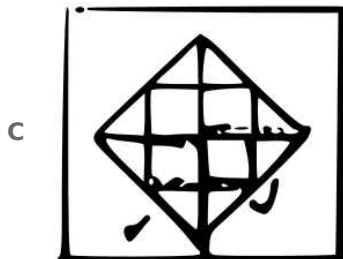
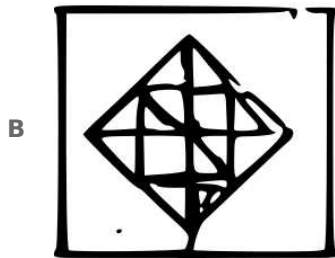
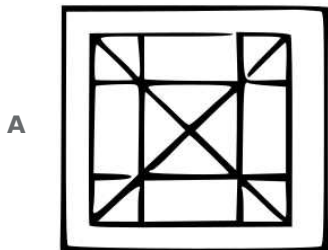
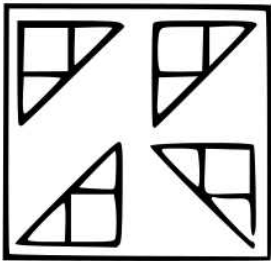
∴ After **2 years**, father will be four times as old as his son.

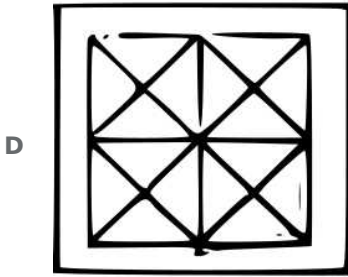
=> Ans - (A)

Instructions

Among the four question figures, which figure can be formed from the cut-pieces given below in the question figure ?

Question 17

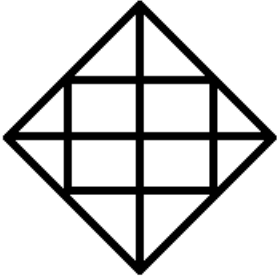




Answer: C

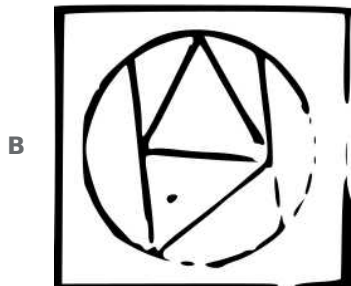
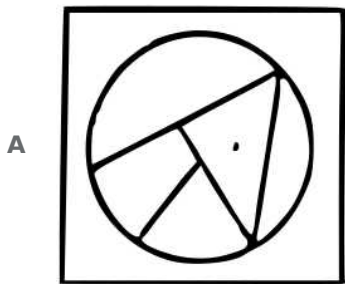
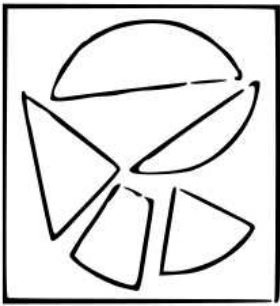
Explanation:

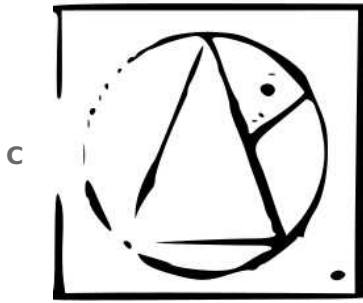
If we join the cut-pieces given above, the figure obtained will be :



=> Ans - (C)

Question 18



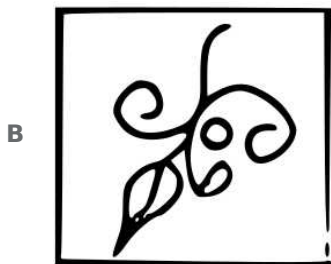
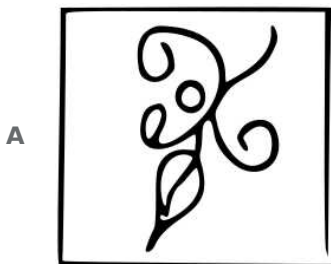


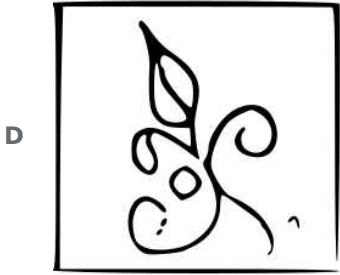
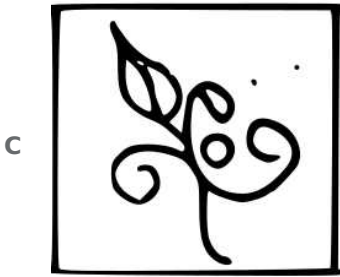
Answer: A

Instructions

In question no. 19 and 20, a mirror is placed on line MN. Then which of the answer figures is the correct image of the given figures ?

Question 19





Answer: D

Explanation:

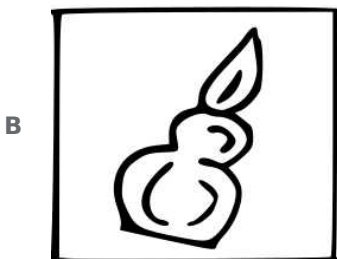
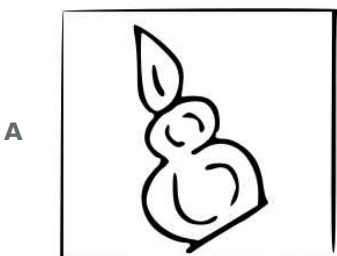
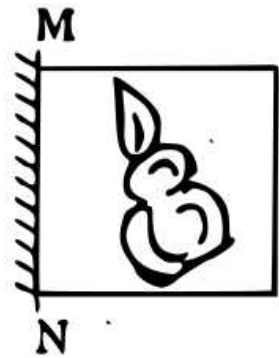
A vertical mirror is placed, so the object on the left will appear right in reverse position and vice-versa.

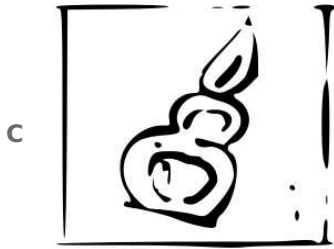
So the leaf pointing top right will now be facing top left, thus the first two options will be eliminated.

Also, in the question figure, the circle at the middle right side will appear at left side, hence fourth option is the right image.

=> Ans - (D)

Question 20





Answer: D

Explanation:

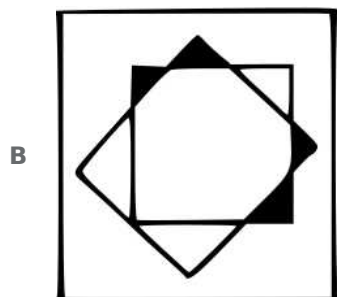
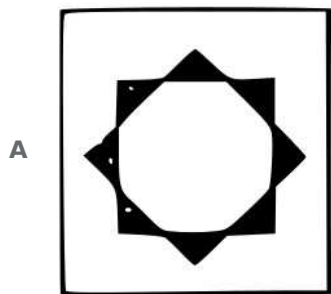
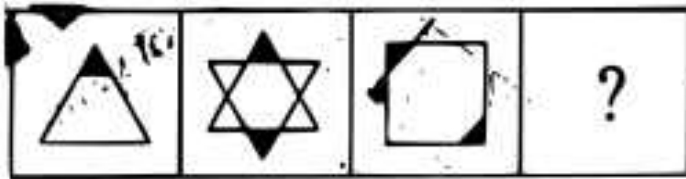
Figure in option D is the mirror image of given figure.

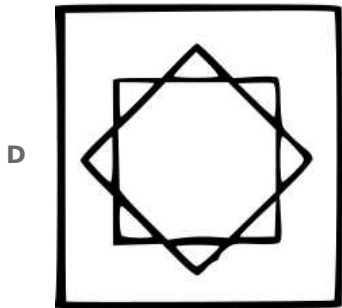
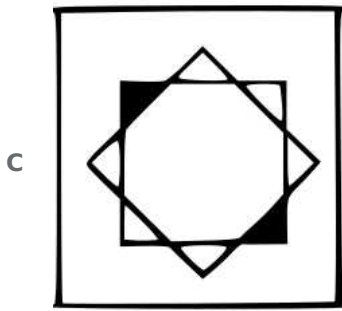
Instructions

For the following questions answer them individually

Question 21

Find the missing figure of the series from the given response.



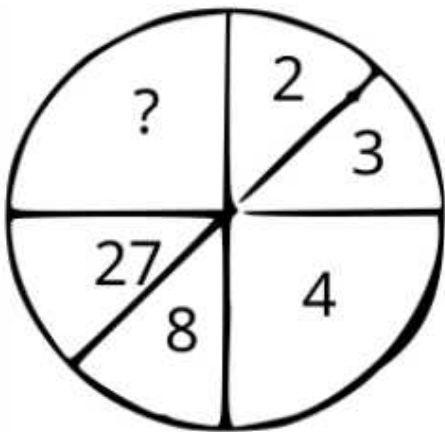


E None of these

Answer: E

Question 22

Select the missing number from the given responses.



A 56

B 49

C 45

D 64

Answer: D

Explanation:

The opposite numbers are cubes of the numbers i.e

$$2^3 = 8$$

$$3^3 = 27$$

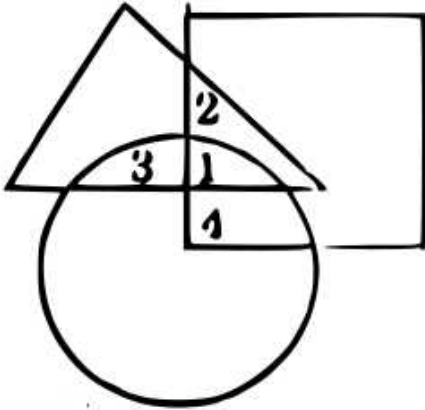
similarly,

$$4^3 = 64$$

hence the correct answers is option D

Question 23

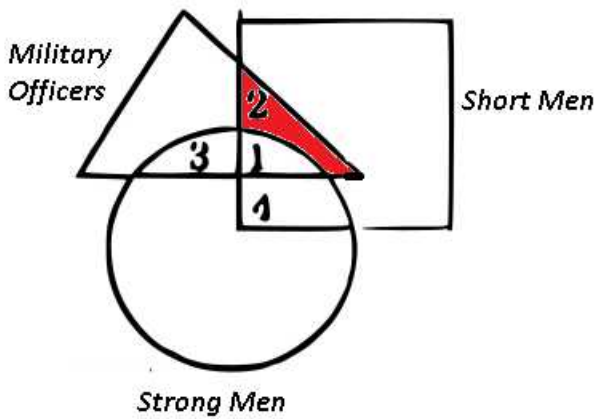
In the given diagram, Circle represents strong men, Square represents short men and Triangle represents military officers. Which region represents military officers who are short but not strong ?



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

Answer: A

Explanation:

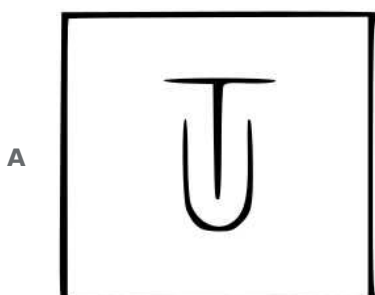


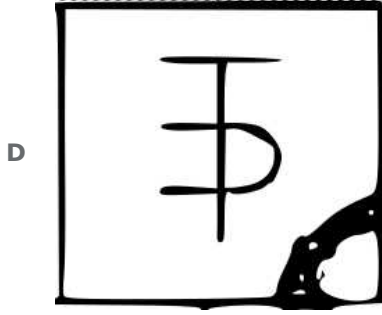
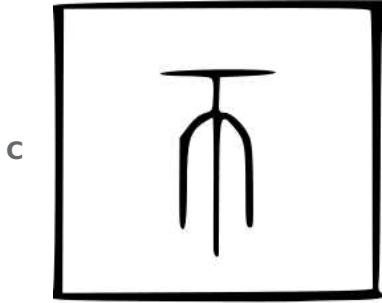
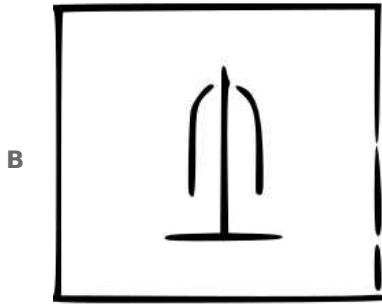
Military officers who are short but not strong is represented by = 2

=> Ans - (A)

Question 24

Select the figure which is different from the rest.





Answer: D

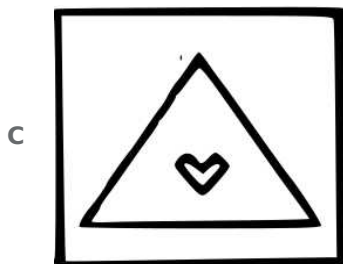
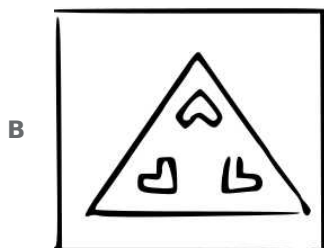
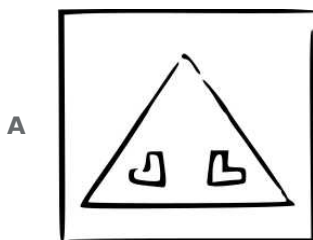
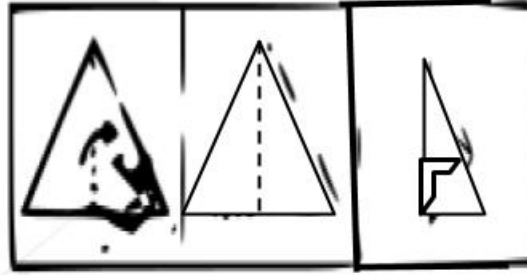
Explanation:

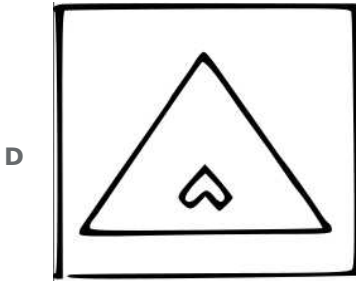
The last figure is different from the rest, as the last curve is horizontal and there is an arc at the bottom right area of the square.

=> Ans - (D)

Question 25

A triangular piece of paper is folded and cut as shown below, Find out from the answer figures, how it will up appear when opened





Answer: D

English

Instructions

For the following questions answer them individually

Question 26

The new government tooj_____last year.

- A out
- B after
- C over
- D upon

Answer: E

Question 27

Mohan's career has taken some_____twists and turns.

- A incentive
- B interesting
- C interactive
- D intuitive

Answer: E

Question 28

The bus___fifty passengers fell___the river.

- A with;into
- B for;upon
- C over;on
- D of;at

Answer: E

Question 29

It is raining_____. Do not go out.

- A** heavily
- B** fast
- C** soundly
- D** strongly

Answer: E

Question 30

She tries to adjust_____her relations.

- A** for
- B** at
- C** so
- D** with

Answer: E

Question 31

She was remarkably_____in singing and dancing.

- A** accomplished
- B** conducive
- C** fluctuating
- D** cooperative

Answer: E

Question 32

Sheila gained an advantage_____me.

- A** upon
- B** from
- C** on
- D** over

Answer: E

Question 33

Take this medicine regularly and you will get rid_____this disease.

- A at
- B from
- C of
- D over

Answer: E

Question 34

Statistics_____always my worst subject.

- A are
- B were
- C is
- D have

Answer: E

Question 35

When she retired, she handed_____the charge to the Vice-President.

- A over
- B out
- C across
- D off

Answer: E

Question 36

Barbaric

- A Thorny
- B Uncivilized
- C Premeditated
- D Barber's

Answer: E

Question 37

Hurdle

- A Suspicion
- B Throw
- C Opposition
- D Obstacle

Answer: E

Question 38

Deter

- A To hinder
- B To neglect
- C To Disapprove
- D To differ

Answer: E

Question 39

indolent

- A Solvent
- B Diligent
- C Malvolent
- D Brilliant

Answer: E

Question 40

Coherent

- A Distorted
- B Disorganized
- C Inept
- D Carefree

Answer: E

Question 41

Brutal

- A Adamant
- B Humane

C Fearless

D Criminal

Answer: E

Question 42

The man changed colours when I questioned him on the allocation of funds.

A turned pale

B got numbed

C turned happy

D got motivated

Answer: A

Question 43

We cannot depend on him for this assignment as it need careful handling and he is like a bull in a china shop.

A a felicitous person

B a clumsy person

C a tactful person

D a no-nonsense person

Answer: B

Question 44

The mother always insists on keeping the house spick and span.

A open

B locked

C safe

D Tidy

Answer: D

Question 45

On receiving his appointment letter, Ravi treated us with a sumptuous meal.

A treated us to

B treated us for

- C treated us by
- D No improvement

Answer: A

Instructions

Long ago in Mounnelin there lived an fenreiqrowing old. One day, he sano gram in the street. Upset at being rennin led that someday, he too, would ago, he ordered all the old people to leave his land.

One day, a violent storm iswept, the kingdom. Nothing was safe from its fury. It . • roared into the palace and blew away the emperor's belongings, including his priceless golden pitcher. *hen the storm ended, the emperor ordered that dm pitcher ho found and brought back to him. People went in search of the pitcher. They saw it in a lake nairliy. But no matter who ... • tried, no one could getia grip on the pitcher. All they, got was a handful of water. Yet it coulthe plainluea•glittering and just below the waters surface

Question 46

The emperor's orders were that all the

- A children should leave his land
- B old men should leave his land
- C old men should live in his land
- D young men should stay in his land

Answer: E

Question 47

What did the people who went to bring the pitcher get?

- A Nothing at all
- B A handful of water
- C a handful of air
- D The pitcher's handle

Answer: E

Question 48

The people saw the golden pitcher

- A in a river nearby
- B in alake nearby
- C in a pit nearby
- D inside the palace

Answer: E

Question 49

the emperor feared

- A getting old
- B getting young
- C getting weak
- D getting ill

Answer: E

Question 50

The emperor was upset to see the old man because

- A it reminded him of his grandfather
- B it reminded him that he might fall ill
- C it reminded him that he would grow old too
- D it reminded him that he had to colour his hair

Answer: E

Quant

Instructions

For the following questions answer them individually

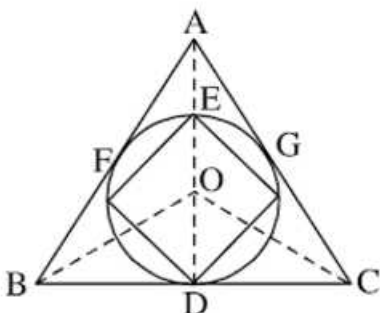
Question 51

A circle is inscribed in an equilateral triangle and a square is inscribed in that circle. The ratio of the areas of the triangle and square is

- A $3\sqrt{3} : 1$
- B $\sqrt{3} : 4$
- C $\sqrt{3} : 8$
- D $3\sqrt{3} : 2$

Answer: D

Explanation:



ABC is an equilateral triangle with side $AB = a$. AO, BO and CO are the angle bisectors of $\angle A$, $\angle B$ and $\angle C$ respectively. O is the centre of the circle and let radius of circle = r and side of square = s

Also, we know that the angle bisector from the vertex of an equilateral triangle is the perpendicular bisector of the opposite side.

\Rightarrow AD is the perpendicular bisector of BC.

$\Rightarrow BD = \frac{a}{2}$ and $\angle OBD = \frac{1}{2} \angle B = \frac{1}{2} \times 60^\circ = 30^\circ$

Now, in $\triangle OBD$,

$\Rightarrow \tan(30^\circ) = \frac{OD}{BD} = \frac{r}{\frac{a}{2}}$

$\Rightarrow r = \frac{1}{\sqrt{3}} \times \frac{a}{2} = \frac{a}{2\sqrt{3}}$

Now, in right $\triangle EDG$, using Pythagoras theorem

$\Rightarrow (ED)^2 = (EG)^2 + (GD)^2$

$\Rightarrow (2r)^2 = (s)^2 + (s)^2$

$\Rightarrow 4r^2 = 2s^2$

$\Rightarrow s^2 = 2 \times \left(\frac{a}{2\sqrt{3}}\right)^2$

$\Rightarrow s^2 = \frac{a^2}{6}$

\therefore ar($\triangle ABC$) : ar(DEFG)

$= \left(\frac{\sqrt{3}}{4} a^2\right) : (s)^2$

$= \left(\frac{\sqrt{3}}{4} a^2\right) : \left(\frac{a^2}{6}\right)$

$= 3\sqrt{3} : 2$

\Rightarrow Ans - (D)

Question 52

The simplified value of $\frac{\sqrt{32} + \sqrt{48}}{\sqrt{8} + \sqrt{12}}$ is

A 4

B 3

C 2

D 6

Answer: C

Explanation:

Expression : $\frac{\sqrt{32} + \sqrt{48}}{\sqrt{8} + \sqrt{12}}$

$= \frac{4\sqrt{2} + 4\sqrt{3}}{2\sqrt{2} + 2\sqrt{3}}$

$= \frac{2(2\sqrt{2} + 2\sqrt{3})}{2\sqrt{2} + 2\sqrt{3}} = 2$

\Rightarrow Ans - (C)

Question 53

$\sqrt{\frac{9.5 \times 0.085}{0.0017 \times 0.19}}$ equals

A 5

B 50

C 500

D 0.05

Answer: B

Explanation:

Expression : $\sqrt{\frac{9.5 \times 0.085}{0.0017 \times 0.19}}$

$= \sqrt{\frac{95}{10} \times \frac{85}{1000} \times \frac{10000}{17} \times \frac{100}{19}}$

$= \sqrt{5 \times 5 \times 100}$

$= 5 \times 10 = 50$

=> Ans - (B)

Question 54

Two pipes A and B can fill a tank in 6 hours and 4 hours respectively. If they are opened on alternate hours and if pipe A is opened first, then the tank shall be fill in

A $4\frac{1}{2}$ hrs

B 5 hrs

C $5\frac{1}{2}$ hrs

D 6 hrs

Answer: B

Explanation:

Let total capacity of tank is L.C.M. (6,4) = 12 units

A alone can fill the tank in 6 hours, => A's efficiency = $\frac{12}{6} = 2$ units/hr

Similarly B's efficiency = $\frac{12}{4} = 3$ units/hr

Now, (A+B)'s 2 hour's work (A in first hour and B in second) = $2+3=5$ units

=> In 4 hours, tank filled = $5 \times 2 = 10$ units

=> Remaining part = $12-10=2$ units, which will be filled by A in the next complete hour.

\therefore Total time = $4+1=5$ hours

=> Ans - (B)

Question 55

A,B and C can do a piece of work in 10,12 and 15 days respectively. A leaves 5 days before the completion of the work and B leaves 2 days after A. The whole work lasts for

A 7 days

B 6 days

C 12 days

D 13 days

Answer: A

Explanation:

Let total work = L.C.M. (10,12,15) = 60 units

A can complete the work in 10 days, \Rightarrow A's efficiency = $\frac{60}{10}=6$ units/day

Similarly, B's efficiency = $\frac{60}{12}=5$ units/day

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

Let total work is completed in x days, \Rightarrow A worked for $(x-5)$ days and B for $(x-3)$ days

According to ques,

$$\Rightarrow 6(x-5)+5(x-3)+4(x)=60$$

$$\Rightarrow 6x-30+5x-15+4x=60$$

$$\Rightarrow 15x=60+45=105$$

$$\Rightarrow x=\frac{105}{15}=7 \text{ days}$$

\Rightarrow Ans - (A)

Question 56

A merchant purchases a wrist watch for 450 and fixes its list price in such a way that after allowing a discount of 10% he earns a profit of 20%. Then the list price of the watch is

A 600

B 650

C 700

D 550

Answer: A

Explanation:

Cost price of the watch = Rs. 450

Profit % = 20%

$$\Rightarrow \text{Selling price} = 450 + \left(\frac{20}{100} \times 450\right)$$

$$= 450 + 90 = \text{Rs. } 540$$

Discount % = 10%

$$\Rightarrow \text{List price} = \frac{540}{(100-10)} \times 100$$

$$= 6 \times 100 = \text{Rs. } 600$$

\Rightarrow Ans - (A)

Question 57

The ratio in which a man must mix rice at 10.20 per kg and 14.40 per kg so as to make a mixture worth 12.60 per kg, is

A 3:4

B 4:3

C 2:5

D 1:2

Answer: A

Explanation:

Quantity in which man use rice at Rs. 10.20/kg = x kg and at Rs. 14.40/kg = y kg

According to ques,

$$\Rightarrow 10.20x + 14.40y = 12.60(x+y)$$

$$\Rightarrow 102x + 144y = 126x + 126y$$

$$\Rightarrow 126x - 102x = 144y - 126y$$

$$\Rightarrow 24x = 18y$$

$$\Rightarrow \frac{x}{y} = \frac{18}{24} = \frac{3}{4}$$

\therefore the ratio in which a man must mix rice at 10.20 per kg and 14.40 per kg so as to make a mixture worth 12.60 per kg = 3:4

\Rightarrow Ans - (A)

Question 58

If the sum of the length, breadth and height of a rectangular parallelepiped is 24 cm and the length of its diagonal is 15 cm then its total surface area is

A 351 cm^2

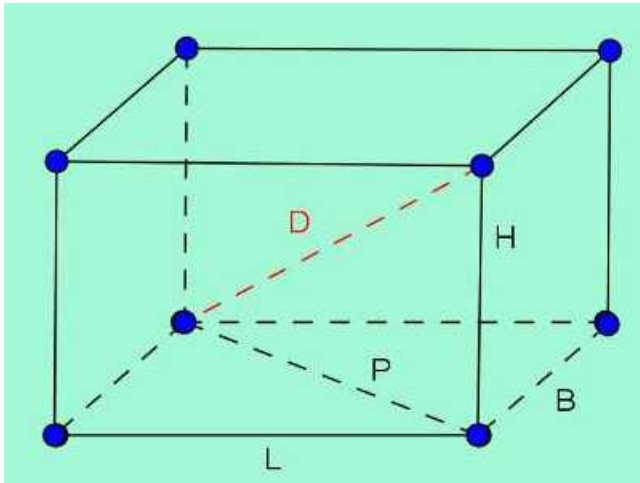
B 256 cm^2

C 265 cm^2

D 315 cm^2

Answer: A

Explanation:



Let the length, breadth and height be L, B and H . The base diagonal, $P^2 = L^2 + B^2$

Again, main diagonal, $D^2 = P^2 + H^2$

$$\Rightarrow L^2 + B^2 + H^2 = (15)^2 = 225$$

Also, it is given that $L + B + H = 24$

Total surface area = $2(LB + BH + HL) = x$

Using square of three term expression, we get :

$$\Rightarrow (L + B + H)^2 = (L^2 + B^2 + H^2) + 2(LB + BH + HL)$$

$$\Rightarrow (24)^2 = 225 + x$$

$$\Rightarrow x = 576 - 225 = 351 \text{ cm}^2$$

\Rightarrow Ans - (A)

Question 59

Two successive discounts of 30% and 70% are equivalent to single discount of

- A 89%
- B 75%
- C 79%
- D 100%

Answer: C

Explanation:

Let Marked price = Rs. $\$100$

After 1st discount of 30%, price = $\$100 - (\frac{30}{100} \times 100)$

$$= \$100 - 30 = 70$$

After 2nd discount of 70% (on changed price), selling price = $\$70 - (\frac{70}{100} \times 70)$

$$= \$70 - 49 = 21$$

$$\therefore \text{Net discount \%} = \frac{(100 - 21)}{100} \times 100 = 79\%$$

=> Ans - (C)

Question 60

A merchant allows a discount of 10% on marked price for the cash payment. To make a profit of 17%, he must mark his goods higher than their cost price by

- A 30%
- B 33%
- C 40%
- D 27%

Answer: A

Explanation:

Let Cost price = Rs. 100

Profit % = 17%

$$\Rightarrow \text{Selling price} = \$100 + (\frac{17}{100} \times 100)$$

$$= \$100 + 17 = \text{Rs. } \$117$$

Discount % = 10%

$$\Rightarrow \text{Marked price} = \frac{117}{(100 - 10)} \times 100$$

$$= \frac{117}{90} \times 100 = \text{Rs. } \$130$$

$$\therefore \text{Markup \%} = \frac{(130 - 100)}{100} \times 100 = 30\%$$

=> Ans - (A)

Question 61

The present ages of two persons are 36 and 50 years respectively if after n years the ratio of their ages will be 3:4 then the value of n is

- A 3

B 4

C 7

D 6

Answer: D

Explanation:

Present ages of the persons are 36 and 50 years respectively.

According to ques,

$$\Rightarrow \frac{36+n}{50+n} = \frac{3}{4}$$

$$\Rightarrow 144+4n=150+3n$$

$$\Rightarrow 4n-3n=150-144$$

$$\Rightarrow n=6$$

\Rightarrow Ans - (D)

Question 62

Out of 20 boys, 6 are each of 1 m 15 cm height, 8 are of 1 m 10 cm and rest of 1m 12cm. The average height of all of them is

A 1m 12cm

B 1m 121cm

C 1m 211cm

D 1m 21cm

Answer: B

Explanation:

Total number of boys = 20

Total height of first 6 boys = $6 \times 1.15 = 6.9$ m

Total height of next 8 boys = $8 \times 1.10 = 8.8$ m

Total height of last 6 boys = $6 \times 1.12 = 6.72$ m

$$\Rightarrow \text{Average height} = \frac{(6.9+8.8+6.72)}{20}$$

$$= \frac{22.42}{20} = 1.121 = 1 \text{ m } 121 \text{ cm}$$

\Rightarrow Ans - (B)

Question 63

Average of first five prime numbers is

A 3.6

B 5.3

C 5.6

D 5

Answer: C

Explanation:

Sum of first 5 prime numbers = $2+3+5+7+11=28$

$$\Rightarrow \text{Required average} = \frac{28}{5} = 5.6$$

=> Ans - (C)

Question 64

A dishonest greer sells rice at a profit of 10% and also uses weight which are 20% less than the marked weight. The total gain earned by him will be

- A 35%
- B 37.5%
- C 40%
- D 30.5%

Answer: B

Explanation:

Let cost price = Re. 1/gm = Rs. 1000/kg

Weight used by the seller = $1000 - (\frac{20}{100} \times 1000) = 800$ gm

Selling price = $1000 + (\frac{10}{100} \times 1000) = \text{Rs. } 1100$

=> Selling price per gm = $\frac{1100}{800} = \text{Rs. } 1.375$ /gm

∴ Profit % = $(1.375 - 1) \times 100 = 37.5\%$

=> Ans - (B)

Question 65

The cost price of a radio is 600. 5% of the cost price is charged toward transportation. After adding that, if the net profit to be made is 15%, then the selling price of the radio must be

- A 684.50
- B 704.50
- C 724.50
- D 664.50

Answer: C

Explanation:

Cost price of radio = Rs. 600

Transportation price = $\frac{5}{100} \times 600 = \text{Rs. } 30$

=> Total Cost Price = $600 + 30 = \text{Rs. } 630$

Profit % = 15%

=> Selling price = $630 + (\frac{15}{100} \times 630)$

= $630 + 94.50 = \text{Rs. } 724.50$

=> Ans - (C)

Question 66

A certain amount of money is divided among x,y and z. If x receives 25% more than y and y receives 25% less than z, then x:y:z is equal to

- A 12:10:11

- B** 14:12:13
- C** 15:12:16
- D** 10:9:12

Answer: C

Explanation:

Let amount received by $z=100$

$$\Rightarrow \text{Amount received by } y=100-\left(\frac{25}{100}\right)\times 100=75$$

$$\Rightarrow \text{Amount received by } x=75+\left(\frac{25}{100}\right)\times 75=93.75$$

$$\therefore x:y:z=93.75:75:100$$

$$= 9375:7500:10000$$

Dividing each term by 625, we get = 15:12:16

\Rightarrow Ans - (C)

Question 67

Walking at speed of 5 km/hr, a man reaches his office 6 minutes late. Walking at 6 km/hr, he reaches there 2 minutes early. The distance of his office is:

- A** 2 km
- B** 3 km
- C** 4 km
- D** 3.5 km

Answer: C

Explanation:

Let ideal time to reach office is in = t hours and let distance = d km

When he walks at 5 km/hr, he reaches his office 6 minutes late

Using, distance = speed \times time

$$\Rightarrow d=5\left(t+\frac{6}{60}\right) \text{ -----(i)}$$

$$\text{Similarly, } d=6\left(t-\frac{2}{60}\right) \text{ -----(ii)}$$

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

$$\Rightarrow 5\left(t+\frac{6}{60}\right)=6\left(t-\frac{2}{60}\right)$$

$$\Rightarrow 5t+\frac{1}{2}=6t-\frac{1}{5}$$

$$\Rightarrow 6t-5t=\frac{1}{2}+\frac{1}{5}$$

$$\Rightarrow t=\frac{(5+2)}{10}=\frac{7}{10}$$

Substituting it in equation (i), $\Rightarrow d=5\left(\frac{7}{10}+\frac{6}{60}\right)$

$$= 5\left(\frac{48}{60}\right)=\frac{48}{12}=4 \text{ km}$$

\Rightarrow Ans - (C)

Question 68

By selling a fan for 600, a man loses 10%. To make a gain of 20%, the selling price of the fan should be

- A 800
- B 900
- C 1000
- D 700

Answer: A

Explanation:

Selling price of fan = Rs. 600

Loss % = 10%

$$\Rightarrow \text{Cost price} = \frac{600}{(100-10)} \times 100$$

$$= \frac{6000}{9} = \text{Rs. } \frac{2000}{3}$$

Profit % = 20%

$$\therefore \text{Selling price} = \frac{2000}{3} + \left(\frac{20}{100}\right) \times \frac{2000}{3}$$

$$= \frac{2000}{3} + \frac{400}{3} = \frac{2400}{3} = \text{Rs. } 800$$

\Rightarrow Ans - (A)

Question 69

Two persons contested an election of Parliament. The winning candidate secured 57% of the total votes polled and won by a majority of 42,000 votes. The number of total votes polled is

- A 4,00,000
- B 5,00,000
- C 6,00,000
- D 3,00,000

Answer: D

Explanation:

Let number of total votes polled = $100x$

$$\text{Votes secured by winning candidate} = \frac{57}{100} \times 100x = 57x$$

$$\Rightarrow \text{Votes secured by losing candidate} = 100x - 57x = 43x$$

According to ques, $\Rightarrow 57x - 43x = 42,000$

$$\Rightarrow x = \frac{42,000}{14} = 3,000$$

$$\therefore \text{Total votes polled} = 100 \times 3,000 = 3,00,000$$

\Rightarrow Ans - (D)

Question 70

A number when reduced by 10% gives 30. The number is

- A 35
- B $33\frac{1}{2}$

C $33\frac{1}{3}$

D 40

Answer: C

Explanation:

Let the number be x

According to ques, $x - \frac{10}{100}x = 30$

$$\Rightarrow x - \frac{x}{10} = 30$$

$$\Rightarrow \frac{9x}{10} = 30$$

$$\Rightarrow x = \frac{30 \times 10}{9} = \frac{100}{3}$$

$$\Rightarrow x = 33\frac{1}{3}$$

\Rightarrow Ans - (C)

Question 71

Two trains 108m and 112 m in length are running towards each other on the parallel lines at a speed of 45 km/hr and 54 km/hr respectively. To cross each other after they meet, it will take

A 10 sec

B 12 sec

C 9 sec

D 8 sec

Answer: D

Explanation:

Sum of lengths of train = $108 + 112 = 220$ m

Trains are running towards each other, \Rightarrow Relative speed = $45 + 54 = 99$ km/hr

$$= 99 \times \frac{5}{18} = 27.5 \text{ m/s}$$

\Rightarrow Time taken = distance/speed

$$= \frac{220}{27.5} = 8 \text{ seconds}$$

\Rightarrow Ans - (D)

Question 72

A sum of money becomes 1.331 times in 3 years as compound interest. The rate of interest is

A 50%

B 8%

C 7.5%

D 10%

Answer: D

Explanation:

Let principal sum = Rs. x and rate of interest = $r\%$

\Rightarrow Amount after 3 years = Rs. $1.331x$

Amount under compound interest = $P(1 + \frac{R}{100})^T$

$$\Rightarrow x(1 + \frac{r}{100})^3 = 1.331x$$

$$\Rightarrow 1 + \frac{r}{100} = \sqrt[3]{1.331}$$

$$\Rightarrow \frac{r}{100} = 1.1 - 1 = 0.1$$

$$\Rightarrow r = 0.1 \times 100 = 10\%$$

\Rightarrow Ans - (D)

Question 73

A person deposited 500 for 4 years and 600 for 3 years at the same rate of simple interest in a bank. Altogether she received 190 as interest. The rate of simple interest per annum was

A 3%

B 4%

C 5%

D 2%

Answer: C

Explanation:

Let rate of interest = $r\%$

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

According to ques,

$$\Rightarrow \left(\frac{500 \times r \times 4}{100}\right) + \left(\frac{600 \times r \times 3}{100}\right) = 190$$

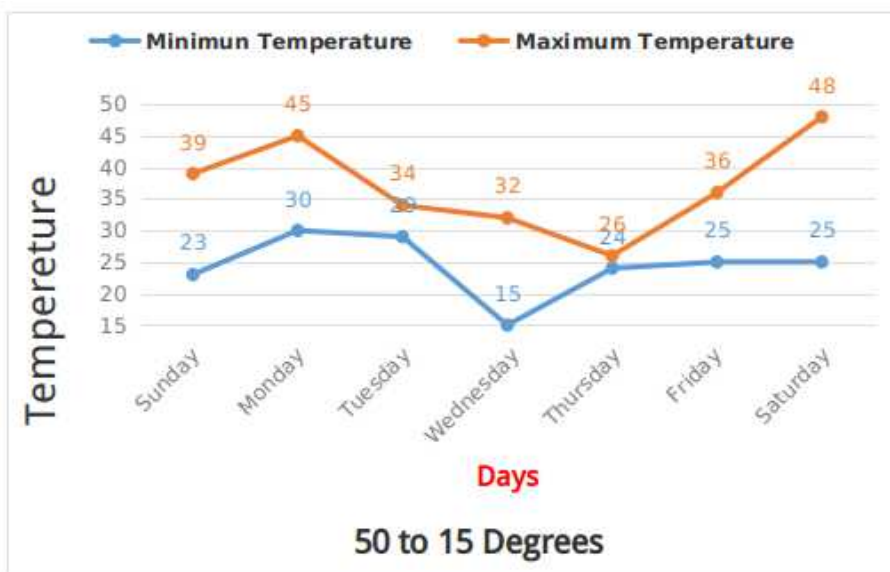
$$= 20r + 18r = 190$$

$$\Rightarrow r = \frac{190}{38} = 5\%$$

\Rightarrow Ans - (C)

Question 74

The following graph represents the maximum and minimum temperature recorded every day in a certain week. The day on which the difference between the maximum and minimum temperature was maximum is



A Monday

- B Wednesday
- C Saturday
- D Sunday

Answer: C

Explanation:

Difference between the maximum and minimum temperature :

(A) : Monday = $45-30=15$

(B) : Wednesday = $32-15=17$

(C) : Saturday = $48-25=23$ **[MAX]**

(D) : Sunday = $39-23=16$

=> Ans - (C)

Question 75

Different choices made by a group of 200 students are given below in percentages. The number of students who have taken neither Science nor Commerce is

Percentage of Students in different streams	
Name of the Streams	Intake Ratio
Science	29%
Arts	29%
Commerce	31%
Home Science	6%
Others	5%

- A 40
- B 80
- C 120
- D 60

Answer: B

Explanation:

Total number of students = 200

% of students who have taken neither Science nor Commerce = $29+6+5=40\%$

=> Total number of students who have taken neither Science nor Commerce = $\frac{40}{100} \times 200 = 80$

=> Ans - (B)

General Awareness

Instructions

For the following questions answer them individually

Question 76

Name the commander of the Arab army who conquered the Sindh

- A** Mubammad bin Qasim
- B** Al Hazzaz
- C** Qutbuddin Aibak
- D** Allauddin Khilji

Answer: A

Question 77

Who was the chairperson of the Chinese Communist Party at the time of liberation of China ?

- A** Liu shaoqi
- B** Zhou Enlai
- C** Deng Xiaoping
- D** Mao Zedong

Answer: E

Question 78

Who was regarded by Gandhiji as his political guru ?

- A** Gopal krishna gokhale
- B** lala lajapt rai
- C** bipin chandra pal
- D** bal gangadhar tilak

Answer: E

Question 79

Select the high yielding varieties of seed-crops developed under green revolution in india

- A** Wheat rice sugarene pulse and maizo
- B** rice wheat pulses oil seeds and sugareane

C maize black-gram jowar coffee and tea

D rice wheat jowar bajra and maize

Answer: D

Question 80

In which year did amartya kumar sen receive the nobel prize in economics ?

A 1990

B 1998

C 1995

D 2000

Answer: E

Question 81

The worldwide great depression took place in

A 1930

B 1936

C 1929

D 1928

Answer: A

Question 82

india is the largest producer and consumer of

A sugar

B paddy

C tea

D coffee

Answer: C

Question 83

A camera in the hands of a professional photographer is a ____ good.

A capital

B free

C intermediary

D consumer

Answer: E

Question 84

which among the following movements was not led by mahatma gandhi?

A civil disobedience movement

B quit india movement

C swadeshi movement

D non-cooperation movement

Answer: C

Question 85

constitution of india came into force in

A 1949

B 1951

C 1956

D 1950

Answer: E

Question 86

cold war refers to

A tension between east and west

B ideological rivalry between capitalist and communist world

C tension between superpower

D all of the above

Answer: E

Question 87

which one of the following is not an all india service?

A indian police service

B indian foreign service

C indian forest service

D indian administrative service

Answer: B

Question 88

in which session of the indian national congress was the poorna swaraj resolution adopted?

- A** karachi session in 1931
- B** lucknow session in 1916
- C** belgaum session in 1924
- D** lahore session in 1929

Answer: D

Question 89

the school of arts developed during the kusham period with the mixture of indian and greek style know as

- A** mughal art
- B** kusham art
- C** persian art
- D** gandhara art

Answer: E

Question 90

where was christopher columbus from ?

- A** portugal
- B** venice
- C** genoa
- D** spain

Answer: C

Question 91

speed of processor chip is measured in

- A** bytes/second
- B** mbps
- C** mhz
- D** bits/second

Answer: C

Question 92

which command is not used to switch off the computer

- A** hibernate
- B** turn off
- C** log off
- D** shut down

Answer: E

Question 93

which one out of the following helps in burning?

- A** carbon dioxide
- B** oxygen
- C** carbon monoxide
- D** nitrogen

Answer: B

Question 94

in organic compounds, nitrogen is estimates by

- A** Dumas method
- B** Carius method
- C** Victor-meyer's method
- D** Liebig's method

Answer: A

Question 95

the tropic of cancer does not pass through

- A** China
- B** Myanmar
- C** Nepal
- D** Bangladesh

Answer: C

Question 96

The country in east asia which is most conspicuous for its decreasing population growth since 1981 is

- A Japan
- B South korea
- C Thailand
- D China

Answer: A

Question 97

the sathusamudram ship canal project sscp is supposed to reduce the distance between chennai and tuticorin by____nautical miles.

- A 305
- B 361
- C 434
- D 243

Answer: C

Question 98

Cities with population from one to five million are called

- A Cosmopolitan
- B Conurbation
- C Million city
- D Metroplitan

Answer: D

Question 99

Master copy of genetic information is

- A DNA
- B Nucleus
- C r-RNA
- D m-RNA

Answer: A

Question 100

contraceptive pills in the market conatin

- A steroid-hormones

B inorganic compounds

C herbicides

D antibiotics

Answer: A

SSC MTS 17 March 2013 Shift 2

Reasoning

Instructions

For the following questions answer them individually

Question 1

CAT : 21 :: DOG : ?

A 23

B 24

C 25

D 26

Answer: A

Explanation:

C = 3, A = 1, T = 20

Add all numbers and subtract '3' as there are 3 letters in the word.

Hence CAT is coded as $24 - 3 = 21$.

Now, D = 4, O = 15, G = 7

DOG is coded as $26 - 3 = 23$.

Hence, option A is the correct answer.

Question 2

Painting : Art :: ? : Dance

A Meerabai

B Function

C Kathak

D Tabla

Answer: C

Explanation:

Painting is an art and likewise Kathak is a type of dance.

Hence, option C is the correct answer.

Question 3

ADIP : DGLS :: BEJQ : ?

A EHMT

B EJQU

C CGLS

D FINU

Answer: A

Explanation:

The pattern followed here is $(n + 3)$,

$A + 3 = D$, $D + 3 = G$, $I + 3 = L$, $P + 3 = S$

BEJQ can be written as,

$B + 3 = E$, $E + 3 = H$, $J + 3 = M$, $Q + 3 = T$

Hence, option A is the correct answer.

Question 4

Find the missing number 10, 12, 9, 13, 8, __, 7

A 11

B 7

C 14

D 12

Answer: C

Explanation:

The pattern followed here is alternate addition and subtraction with 2,3,4,5,6

$10 + 2 = 12$,

$12 - 3 = 9$,

$9 + 4 = 13$,

$13 - 5 = 8$,

$8 + 6 = 14$

Hence, option C is the correct answer.

Question 5

Find the odd number/letter/word from the given alternatives.

A Heart

B Kidney

C Spleen

D Liver

Answer: E

Question 6

Find the odd number/letter/word from the given alternatives.

A ACEG

B MOQS

C GHJL

D RTVX

Answer: C

Explanation:

Except in option C difference between the letters is '2'

Hence, option C is the correct answer.

Question 7

find the odd number/letter/word from the given alternatives.

A 1

B 2

C 3

D 4

Answer: E

Question 8

After arrange the following in dictionary order, which will be the third word ?

1.particular

2.particle

3.participate

4.partiality

A 2

B 3

C 4

D 1

Answer: A

Explanation:

After arranging the given words in dictionary order. we get,

1) partiality 2) participate 3) particle 4) particular

3rd word in the dictionary order would be 'PARTICLE'

Hence, option A is the correct answer.

Question 9

If D is the daughter of A, D is the sister of M and A's brother is C, how are C and M related?

A mother and daughter

B uncle and niece

C father and daughter

D aunt and niece

Answer: B

Question 10

From the given alternatives, find the word which CANNOT be formed from the letters used in the given word

INTERDEPENDENCE

- A** DEPENDENT
- B** INTEND
- C** INCENT
- D** INCIDENT

Answer: D

Explanation:

Except INCIDENT other words can be formed using given word.

Hence, option D is the correct answer.

Question 11

If RATE is written as SBUF, then FIRE can be written as

- A** HJSF
- B** GJSF
- C** GJFS
- D** JGSF

Answer: B

Explanation:

The pattern followed here is (n+1)

RATE - SBUF

$R + 1 = S, A + 1 = B, T + 1 = U, E + 1 = F$

FIRE - GJSF

$F + 1 = G, I + 1 = J, R + 1 = S, E + 1 = F$

Hence, option B is the correct answer.

Question 12

Which one of the given responses can be inserted to make a meaningful word ?

- A** TE
- B** ER
- C** FE
- D** AT

Answer: E

Instructions

In the following question, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

Question 13

10, 11, 14, 23, 50, ___?

A 110

B 104

C 70

D 131

Answer: D

Explanation:

The common difference between the numbers is multiplied with 3 and added.

$$10 + 1 = 11,$$

$$11 + 3 = 14,$$

$$14 + 9 = 23,$$

$$23 + 27 = 50,$$

$$50 + 81 = 131.$$

Hence, option D is the correct answer.

Question 14

15, 20, 30, ?, 65

A 40

B 45

C 50

D 60

Answer: B

Explanation:

$$15 + 5 = 20,$$

$$20 + 10 = 30,$$

$$30 + 15 = 45,$$

$$45 + 20 = 65.$$

Hence, option B is the correct answer.

Question 15

37, 32, 26, 19, ?

A 10

B 11

C 12

D 13

Answer: B

Explanation:

$$37 - 5 = 32,$$

$$32 - 6 = 26,$$

$$26 - 7 = 19,$$

$$19 - 8 = 11.$$

Hence, option B is the correct answer.

Instructions

For the following questions answer them individually

Question 16

Identify the correct response from the given following symbols

$$2(27 * 3) * 30 * 30 * 18$$

A $+ - = +$

B $\times + \div =$

C $+ - \div =$

D $\div + - =$

Answer: D

Explanation:

Only option D fits in the given equation

$$2(27 \div 3) + 30 - 30 = 18$$

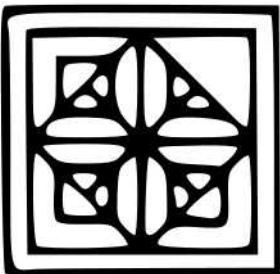
$$2(9) = 18$$

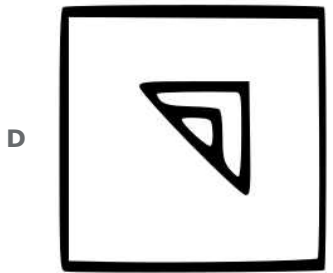
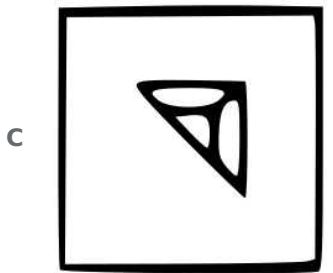
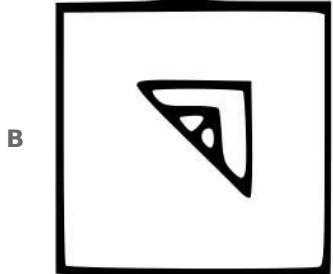
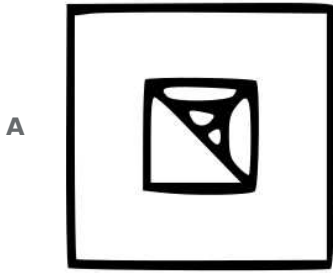
$$18 = 18$$

Hence, option D is the correct answer.

Question 17

Which answer figure will complete the pattern in the question figure ?

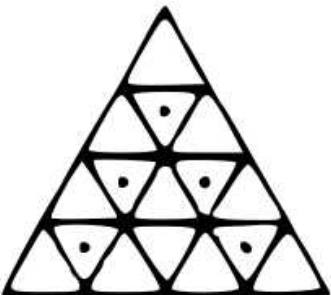




Answer: E

Question 18

Find out the number of triangles with dots:

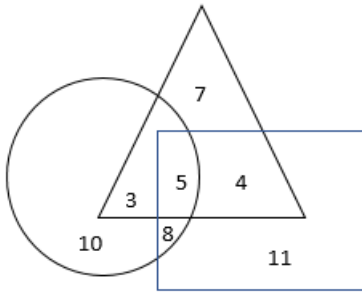


- A 5
- B 8
- C 10
- D 16

Answer: E

Question 19

In the following diagram, the circle represents Cricket players, the triangle represents Hockey players and the square represents Football players. How many play both Football & Hockey ?



- A 7
- B 9
- C 11
- D 4

Answer: B

Explanation:

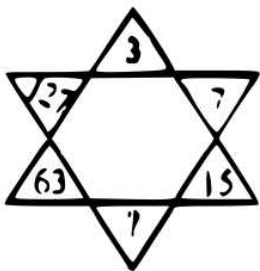
Number of players who play both hockey and football = number of players in common area of triangle and square

$$5 + 4 = 9$$

Hence, option B is the correct answer.

Question 20

In question Nos. 20 and 21, select the missing number from the given responses.



- A 37
- B 35
- C 31
- D 29

Answer: C

Explanation:

The pattern followed here is $(n \times 2) + 1$

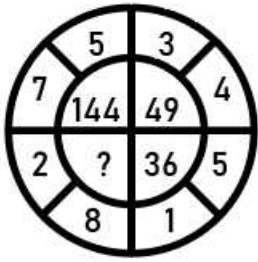
$$(3 \times 2) + 1 = 7$$

$$(7 \times 2) + 1 = 15$$

$$(15 \times 2) + 1 = 31 \dots\dots$$

Hence, option C is the correct answer.

Question 21



- A 100
- B 81
- C 64
- D 121

Answer: A

Explanation:

$(7 + 5) = 12$ and square of 12 is 144

$(4 + 3) = 7$ and square of 7 is 49

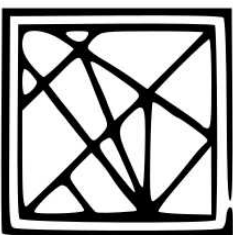
$(5 + 1) = 6$ and square of 6 is 36

$(2 + 8) = 10$ and square of 10 is 100

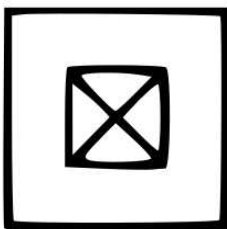
Hence, option A is the correct answer.

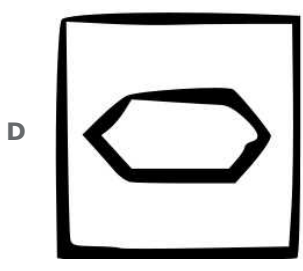
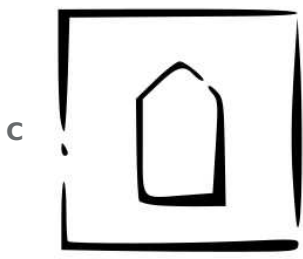
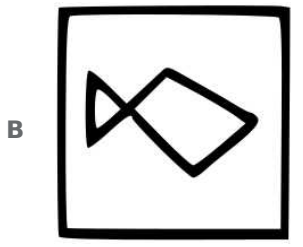
Question 22

Which of the answer figure is embedded in the question figure ?



A





Answer: B

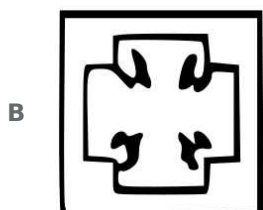
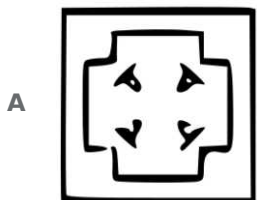
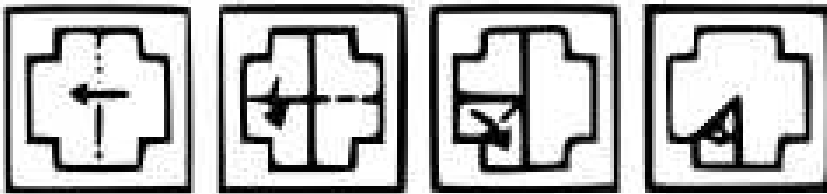
Explanation:

Figure in option B is embedded in question figure.

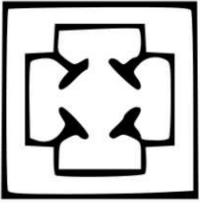
Hence, option B is the correct answer.

Question 23

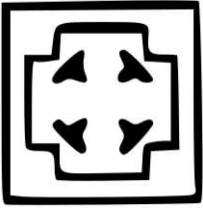
A square piece of paper with its corners cut is folded as shown below. From the given responses, indicate how it will appear when opened ?



C



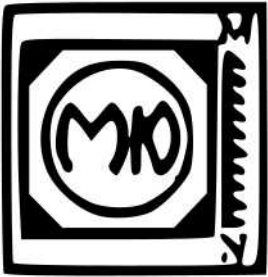
D



Answer: E

Question 24

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



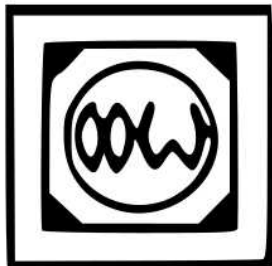
A



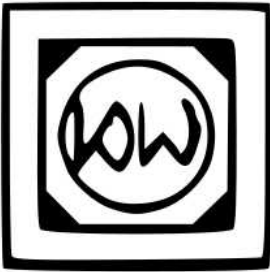
B



C



D



Answer: A

Explanation:

Figure in option A is the mirror image of the given figure.

Hence, option A is the correct answer.

Question 25

A word is represented by only 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 in two matrices given below. 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, eg., 'S' can be represented by 03, 44, etc., and 'R' can be represented by 69, 78 etc. Similarly, you have to identify the set for the word 'PUPIL'

Matrix

I

	0	1	2	3	4
0	P	U	L	S	E
1	U	L	S	E	P
2	L	S	E	P	U
3	S	E	P	U	L
4	E	P	U	L	S

II

	5	6	7	8	9
5	R	A	D	I	O
6	A	D	I	O	R
7	D	I	O	R	A
8	I	O	R	A	D
9	O	R	A	D	I

A 41,10,32,85,86

B 32,85,23,76,12

C 23,33,41,58,90

D 41,33,32,85,43

Answer: D

Explanation:

According to the given information,

P = 00, 14, 23, 32, 41

U = 01, 10, 24, 33, 42

I = 58, 67, 76, 85, 99

L = 02, 11, 20, 34, 43

41,33,32,85,43 can be a combination of the word PUPIL

Hence, option D is the correct answer.

English

Instructions

For the following questions answer them individually

Question 26

In Question some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

- A I have
- B known him
- C since two years
- D No error

Answer: E

Question 27

In Question some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

- A He is
- B your brother
- C isn't it?
- D No error

Answer: E

Question 28

In Question some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

- A This time you will have to work
- B hardly to pass
- C your qualifying examination
- D No error

Answer: E

Question 29

In Question some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

- A My ideas are not

- B** the same as
- C** my father
- D** No error

Answer: E

Question 30

In Question some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

- A** It was
- B** approved answer
- C** to the problem
- D** No error

Answer: E

Question 31

Rather than reduce the commuter delays, the new toll road has_____

- A** aggravated
- B** minimized
- C** refined
- D** decreased

Answer: E

Question 32

India has shown considerable_____

- A** efficient
- B** proficiency
- C** effect
- D** progress

Answer: E

Question 33

Surya is suffering_____a viral fever

- A** from

B with

C by

D for

Answer: E

Question 34

these talent-contests will enable the students to bring_____their best

A in

B out

C off

D up

Answer: E

Question 35

janet had always been afraid_____

A to

B from

C of

D for

Answer: E

Question 36

man is generally a_____animal

A social

B enterprising

C amicable

D agile

Answer: E

Question 37

birds_____from one place to another during winter

A migrate

B emigrate

C immigrate

D transfer

Answer: E

Question 38

the students jumped_____the opportunity of going on a study tour

A for

B with

C on

D at

Answer: E

Question 39

ravi's marriage was_____the wishes of his parents

A opposed

B fighting

C against

D anti

Answer: E

Question 40

In question out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the answer sheet 'feeble'

A small

B frail

C trivial

D supple

Answer: E

Question 41

in question choose the word opposite in meaning to the given word and mark it in the answer sheet 'affected'

A genuine

B altered

C confined

D feigned

Answer: A

Question 42

in question four alternatives are given for the idiom\phrase underlined in the sentence choose the alternative which best express the meaning of the Ramu gave the dog a wide berth

- A** to give it freedom
- B** to keep as far away from it as possible
- C** to teach a lesson to it
- D** to give false hopes to it

Answer: E

Question 43

It's afine day, no?

- A** is it?
- B** isn't it?
- C** yes?
- D** No improvement

Answer: B

Question 44

A confused complicated or embarrassing situation

- A** Imbroglia
- B** Inflammable
- C** Infinitesimal
- D** Awkward

Answer: A

Question 45

A from of a word, phrase,etc. that is shorter than the full form

- A** acronym
- B** abbreviation
- C** conscription

D bibliography

Answer: E

Instructions

The greatest flourishing of northern Indian culture, art, and imperial strength undoubtedly took place during the reign of the Mughal monarchs of the 16th and 17th centuries. The Mughals were Central Asian descendants of the great Mongol warriors Ghengis Khan and Timur (Tamerlane), whose hordes of cavalry swept across the Eurasian steppe in the 13th and 14th centuries, conquering everything between Beijing and Budapest. But by the turn of the 16th century, the great Mongol empire has splintered: the many royal descendants of Ghengis and Timur fought over the territorial scraps and did their best to hold on to their own minor Sultanates.

One of these Sultans, Babur, was not satisfied with his small kingdom of Ferghana (now in modern-day Kyrgyzstan and eastern Uzbekistan), and he tried and tried again to permanently reconquer Timur's greatest prize, Samarkand. He never succeeded. So instead, Babur turned his attention south to the Sultanate of Delhi in northern India, which had been ruled successively by five dynasties of Muslim warriors from Afghanistan since the late 11th century. As history would show, Babur's campaign against the Delhi Sultanate catalyzed the foundation of one of the greatest dynasties in the history of South Asia: the Mughal Empire.

Question 46

The mughals can trace their ancestry to

- A** beijing
- B** budapest
- C** central asia
- D** the eurasian steppes

Answer: C

Question 47

The mughal attacked the delhi sultanate because

- A** they were the royal descendants of ghengis khan
- B** they wanted to expand their kingdom
- C** they could not gain supremacy in the kingdom of samarkand
- D** both (B) and (C)

Answer: E

Question 48

the mughal rulers were responsible for

- A** unleashing terror amongst their subjects
- B** organizing the eurasian stepe region
- C** patronizing art and culture
- D** in-fighting amongst themselves

Answer: B

Question 49

the mongols in the 13th and 14th centuries

- A plundered the greater part of asia and eastern europe
- B gave rise to the mughal dynasty
- C encouraged imperial strength in northern india
- D none of the above

Answer: B

Question 50

the word closet in meaning to catalyzed is

- A unrestricted
- B exploited
- C disseminated
- D accelerated

Answer: D

Quant

Instructions

For the following questions answer them individually

Question 51

The simplified value of

$\sqrt{\frac{1.21 \times 0.9}{1.1 \times 0.11}}$ is

- A 2
- B 3
- C 9
- D 11

Answer: B

Explanation:

Expression : $\sqrt{\frac{1.21 \times 0.9}{1.1 \times 0.11}}$

$= \sqrt{\frac{1.1 \times 1.1 \times 0.9}{1.1 \times 0.11}}$

$= \sqrt{\frac{11 \times 11 \times 9}{11 \times 11}}$

$= \sqrt{9} = 3$

=> Ans - (B)

Question 52

By what least number $25 \times 20 \times 9 \times 12 \times 30$ should be multiplied to make it a perfect square number ?

- A 5
- B 4
- C 3
- D 2

Answer: D

Explanation:

Expression : $25 \times 20 \times 9 \times 12 \times 30$

$$= (5^2) \times (2^2 \times 5) \times (3^2) \times (2^2 \times 3) \times (2 \times 3 \times 5)$$

$$= (2^5) \times (3^4) \times (5^4)$$

To make above number a perfect square, all the exponents must be even, thus the smallest number which should be multiplied = 2

=> Ans - (D)

Question 53

Three taps can fill a cistern in 18 min, 15 min and 10 min respectively. The cistern being empty, all the three taps are kept open. After 3 min the first tap is closed. Counting time from that moment the cistern will be full in

- A 5 min
- B 1 min
- C 3 min
- D 2 min

Answer: D

Explanation:

Let total capacity of cistern is L.C.M. (18,15,10) = 90 units

Let the three taps be A, B and C respectively.

A alone can fill in 18 minutes, => A's efficiency = $\frac{90}{18} = 5$ units/min

Similarly B's efficiency = $\frac{90}{15} = 6$ units/min

and C's efficiency = $\frac{90}{10} = 9$ units/min

Now, (A+B+C)'s 3 minute's work = $(5 + 6 + 9) \times 3 = 20 \times 3 = 60$ units

Capacity of cistern left to be filled = $90 - 60 = 30$ units

∴ Now remaining time taken by taps B and C to fill the cistern = $\frac{30}{(6+9)} = 2$ minutes

=> Ans - (D)

Question 54

A can do piece of work in 4 days, B in 12 days and C in 6 days. If A is assisted by both B and C on every third day, the total work can be done in

- A** 6 days
- B** 3 days
- C** 5 days
- D** 4 days

Answer: B

Explanation:

Let total work is L.C.M. (4,12,6) = 12 units

A alone can do the work in 4 days, => A's efficiency = $\frac{12}{4} = 3$ units/day

Similarly B's efficiency = $\frac{12}{12} = 1$ unit/day

and C's efficiency = $\frac{12}{6} = 2$ units/day

Work done by A in 2 days = $3 \times 2 = 6$ units

Now, (A+B+C)'s 1 day's work = $3 + 1 + 2 = 6$ units/day

∴ Total work, i.e. $6 + 6 = 12$ units is done in = 3 days

=> Ans - (B)

Question 55

A piece of wire is in the shape of an equilateral triangle, each of whose sides is 4.4 cm. If it is re-bent to form a circular ring, the radius of the ring so formed (taking $\pi = \frac{22}{7}$) is

- A** 5.1
- B** 3.2
- C** 2.1
- D** 1.5

Answer: C

Explanation:

Let radius of ring = r cm and side of equilateral triangle = 4.4 cm

Circumference of circle = Perimeter of triangle

$$\Rightarrow 2\pi r = 3s$$

$$\Rightarrow 2 \times \frac{22}{7} r = 3 \times (4.4)$$

$$\Rightarrow \frac{44r}{7} = 3 \times 4.4$$

$$\Rightarrow r = \frac{7 \times 3 \times 4.4}{44}$$

$$\Rightarrow r = 2.1 \text{ cm}$$

=> Ans - (C)

Question 56

if the ratio of the volumes of two right circular cones is 2:3 and the ratio of the radii of their bases is 1:2, then the ratio of their heights will be

- A 3:4
- B 8:3
- C 4:3
- D 3:8

Answer: B

Explanation:

Let the heights of the two cones respectively be h_1 and h_2

Let their radii be r and $2r$ respectively.

Thus, volume of cone = $\frac{1}{3}\pi r^2 h$

According to ques, $\Rightarrow \frac{\frac{1}{3}\pi r^2 h_1}{\frac{1}{3}\pi(2r)^2 h_2} = \frac{2}{3}$

$$\Rightarrow \frac{h_1}{4h_2} = \frac{2}{3}$$

$$\Rightarrow \frac{h_1}{h_2} = \frac{8}{3}$$

\Rightarrow Ans - (B)

Question 57

A tradesman marks his goods 30% more than the cost price, if he allows a discount of 20% on the marked price, then his gain percent is

- A 15
- B 10
- C 6
- D 4

Answer: D

Explanation:

Let cost price = Rs. 100

$$\Rightarrow \text{Marked price} = 100 + \left(\frac{30}{100} \times 100\right)$$

$$= 100 + 30 = \text{Rs. } 130$$

Discount % = 20%

$$\Rightarrow \text{Selling price} = 130 - \left(\frac{20}{100} \times 130\right)$$

$$= 130 - 26 = \text{Rs. } 104$$

$$\therefore \text{Profit \%} = \frac{(104-100)}{100} \times 100 = 4\%$$

\Rightarrow Ans - (D)

Question 58

The marked price of an article is 300. The shopkeeper gives a discount of 10% on the marked price and still gains 25%. Then the cost price of the article is

- A 216
- B 203.50
- C 237.50
- D 215

Answer: A

Explanation:

Marked price = Rs. 300

Discount % = 10%

$$\Rightarrow \text{Selling price} = 300 - \left(\frac{10}{100} \times 300\right)$$

$$= 300 - 30 = \text{Rs. } 270$$

Profit % = 25%

$$\therefore \text{Cost price} = \frac{270}{(100+25)} \times 100$$

$$= \frac{270 \times 4}{5} = \text{Rs. } 216$$

\Rightarrow Ans - (A)

Question 59

A machine is marked at 7,500. The shopkeeper allows successive discount of 8%, 5% and 2% on it The net selling price is

- A 6,400.30
- B 6,423.90
- C 6,427.50
- D 6,415.50

Answer: B

Explanation:

Marked price = Rs. 7500

$$\text{After 1st discount of 8\%, price} = 7500 - \left(\frac{8}{100} \times 7500\right)$$

$$= 7500 - 600 = 6900$$

$$\text{After 2nd discount of 5\% (on changed price), selling price} = 6900 - \left(\frac{5}{100} \times 6900\right)$$

$$= 6900 - 345 = \text{Rs. } 6555$$

$$\text{After 3rd discount of 2\%, net selling price} = 6555 - \left(\frac{2}{100} \times 6555\right)$$

$$= 6555 - 131.10 = \text{Rs. } 6423.90$$

\Rightarrow Ans - (B)

Question 60

A grocer mixed sugar at 12 per kg with sugar at 9 per kg in a certain ratio and sold the mixture at 11 per kg to have a gain of 1/8th of his total investment. The ratio of two types of sugar in the mixture is

- A 7 : 20
- B 1 : 2
- C 9 : 12
- D 3 : 4

Answer: A

Explanation:

Selling price of mixture = Rs. 11/kg and gain = $\frac{1}{8}$

$$\Rightarrow \text{Cost price} = \frac{11}{1+\frac{1}{8}}$$

$$= \frac{11 \times 8}{9} = \text{Rs. } \frac{88}{9}$$

Let ratio of both types of sugar respectively be $x : y$

According to ques,

$$\Rightarrow 12x + 9y = \frac{88}{9}(x + y)$$

$$\Rightarrow 108x + 81y = 88x + 88y$$

$$\Rightarrow 108x - 88x = 88y - 81y$$

$$\Rightarrow 20x = 7y$$

$$\Rightarrow \frac{x}{y} = \frac{7}{20}$$

\therefore The ratio of two types of sugar in the mixture = 7 : 20

\Rightarrow Ans - (A)

Question 61

53 is divided among A, B, C in such a way that A gets 7 more than what B gets and B gets 8 more than what C gets. Ratio of their shares is

- A 5 : 3 : 1
- B 25 : 18 : 10
- C 9 : 7 : 3
- D 30 : 16 : 13

Answer: B

Explanation:

Let C gets = x

$$\Rightarrow \text{B gets} = (x + 8)$$

$$\Rightarrow \text{A gets} = (x + 8 + 7) = (x + 15)$$

According to ques, total amount = $(x) + (x + 8) + (x + 15) = 53$

$$\Rightarrow 3x = 53 - 23 = 30$$

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

$\therefore A : B : C = 25 : 18 : 10$

=> Ans - (B)

Question 62

The ratio of speeds of two trains, one travelling at 45 km/hour and the other at 10 m/sec is

A 5 : 4

B 2 : 3

C 3 : 4

D 4 : 3

Answer: A

Explanation:

Speed of first train = 45 km/hr = $45 \times \left(\frac{5}{18}\right) = 12.5$ m/s

Speed of second train = 10 m/s

=> Required ratio = 12.5 : 10

= 5 : 4

=> Ans - (A)

Question 63

In 6 days of a week, 250 boys attended for the first four days and 260 boys for the last three days. The average attendance in this week is 255. The number of students present on Thursday was ?

A 260

B 250

C 240

D 280

Answer: B

Explanation:

Average attendance in 6 days = 255

=> Total boys attended in 6 days = $255 \times 6 = 1530$

Similarly, total boys attended in first 4 days = $250 \times 4 = 1000$

Total boys attended in last 3 days = $260 \times 3 = 780$

=> The number of students present on Thursday = $(1000 + 780) - 1530 = 250$

=> Ans - (B)

Question 64

The average of all the prime numbers between 1 and 20 is

A 9.625

B 9.75

C 8.66

D 10.625

Answer: A

Explanation:

Sum of prime numbers between 1 and 20 = $2 + 3 + 5 + 7 + 11 + 13 + 17 + 19 = 77$

=> Required average = $\frac{77}{8} = 9.625$

=> Ans - (A)

Question 65

A dealer sells a radio at a gain of 10%. If he had bought it at 10% less and sold it for 132 less, he would have still gained 10%. The cost price of the radio is

A 1,100

B 1,200

C 1,300

D 1,320

Answer: B

Explanation:

Let cost price of the radio = Rs. $100x$

Profit % = 10%

=> Selling price = $\frac{10}{100} \times 100x = Rs. 110x$

Now, new cost price = $C' = 100x - (\frac{10}{100} \times 100x) = Rs. 90x$

Similarly, new selling price = $S' = Rs. (110x - 132)$

=> Profit % = $\frac{(S'-C')}{C'} \times 100$

=> $\frac{(110x-132)-90x}{90x} \times 100 = 10$

=> $\frac{20x-132}{90x} = \frac{10}{100}$

=> $\frac{20x-132}{9x} = 1$

=> $20x - 132 = 9x$

=> $20x - 9x = 11x = 132$

=> $x = \frac{132}{11} = 12$

∴ Cost price = $100 \times 12 = Rs. 1,200$

=> Ans - (B)

Question 66

If the cost price of 15 articles is equal to the selling price 10 articles, then the gain percentage is

A 45

B 50

C 55

D 60

Answer: B

Explanation:

Let C.P. of 1 article = Rs. x and S.P. of 1 article = Rs. y

According to ques, $\Rightarrow 15x = 10y$

$$\Rightarrow \frac{x}{y} = \frac{10}{15} = \frac{2}{3}$$

Let $x = 2$ and $y = 3$

$$\therefore \text{Profit \%} = \frac{(y-x)}{x} \times 100$$

$$= \frac{(3-2)}{2} \times 100 = 50\%$$

\Rightarrow Ans - (B)

Question 67

A man sold two articles for 1,200 each. In one, he gained 20% and on the other, he lost 20%. His total loss was

A 400

B 300

C 200

D 100

Answer: D

Explanation:

Selling price of both articles = Rs. 1200

$$\text{Cost price of article on which he get 20\% profit} = C_1 = 1200 \times \frac{100}{100+20}$$

$$= 10 \times 100 = \text{Rs. } 1000$$

$$\text{Similarly, cost price of article on which he get 20\% loss} = C_2 = 1200 \times \frac{100}{100-20}$$

$$= 15 \times 100 = \text{Rs. } 1500$$

$$\Rightarrow \text{Total CP} = (1000 + 1500) = \text{Rs. } 2500$$

$$\text{and total SP} = (1200 + 1200) = \text{Rs. } 2400$$

$$\therefore \text{Loss} = 2500 - 2400 = 100$$

\Rightarrow Ans - (D)

Question 68

If 70% of the students in a school are boys and the number of girls be 504, the number of boys is

A 1176

B 1008

C 3024

D 1208

Answer: A

Explanation:

Let total number of students = $100x$

$$\Rightarrow \text{Number of boys} = \frac{70}{100} \times 100x = 70x$$

$$\Rightarrow \text{Number of girls} = 100x - 70x = 30x$$

According to ques, $\Rightarrow 30x = 504$

$$\Rightarrow x = \frac{504}{30} = 16.8$$

$$\therefore \text{Total number of boys} = 70 \times 16.8 = 1176$$

\Rightarrow Ans - (A)

Question 69

A rebate of 7.5% is allowed if an electric bill is paid in due time. A man gets a rebate of 16.50. The amount of the bill is (in ?)

A 160

B 215

C 240

D 220

Answer: D

Explanation:

Let the amount of bill = Rs. $100x$

$$\text{According to ques, } \Rightarrow \frac{7.5}{100} \times 100x = 16.50$$

$$\Rightarrow 7.5x = 16.5$$

$$\Rightarrow x = \frac{16.5}{7.5} = 2.2$$

$$\therefore \text{Bill} = 100 \times 2.2 = 220$$

\Rightarrow Ans - (D)

Question 70

The number of seconds taken by a 500 m long train with speed 63 km per hour to cross a man walking at 3 km per hour in the same direction is

A 20

B 25

C 30

D 35

Answer: C

Explanation:

Train and man are walking in same direction, \Rightarrow Relative speed = $63 - 3 = 60$ km/hr

$$= 60 \times \left(\frac{5}{18}\right) = \frac{50}{3} \text{ m/s}$$

Length of train = 500m

$$\Rightarrow \text{Time taken} = \text{distance/speed}$$

$$= 500 \div \frac{50}{3}$$

$$= 500 \times \frac{3}{50}$$

$$= 10 \times 3 = 30 \text{ seconds}$$

=> Ans - (C)

Question 71

A train X leaves Howrah at 6 a.m. and reaches Asansol at 10 a.m. Another train Y leaves Asansol at 8 a.m. and reaches Howrah at 11.30 a.m. The two trains cross one another at

- A** 8.44 a.m.
- B** 8.56 a.m.
- C** 9.27 a.m.
- D** 9.42 a.m.

Answer: B

Explanation:

Time taken by train X to reach destination = 4 hours and time taken by train Y = 3.5 hours

Let distance between Howrah and Asansol = L.C.M. (4,3.5) = 28 km

=> Speed of train X = $\frac{28}{4} = 7$ km/hr

and speed of train Y = $\frac{28}{3.5} = 8$ km/hr

If the two trains meet after t hours from 6 a.m., then

=> $7t + 8(t - 2) = 28$

=> $15t = 28 + 16 = 44$

=> $t = \frac{44}{15}$ hours

=> $t = \frac{44}{15} \times 60 = 176$ minutes = 2 hours 56 minutes

∴ The two trains cross one another at = 8.56 a.m.

=> Ans - (B)

Question 72

In what time will 8,000, at 3% simple interest per annum produce the same income as 6,000 does in 5 years at 4% simple interest ?

- A** 3 years
- B** 5 years
- C** 4 years
- D** 6 years

Answer: B

Explanation:

Principal sum = Rs. 6000 and rate of interest = 4% and time period = 5 years

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

= $\frac{6000 \times 4 \times 5}{100} = 1200$

Now, let time taken for sum = Rs. 8000 at 3% to generate simple interest = Rs. 1200 is t years

$$\Rightarrow \frac{8000 \times 3 \times t}{100} = 1200$$

$$\Rightarrow 240t = 1200$$

$$\Rightarrow t = \frac{1200}{240} = 5 \text{ years}$$

\Rightarrow Ans - (B)

Question 73

A man borrows some money at 3% simple interest per annum and lends it to somebody at 5% interest to be compounded annually. By this he makes a profit of Rs. 541 at the end of 3 years. The money he borrowed was

A 8,000

B 6,762

C 6,000

D 8,070

Answer: A

Explanation:

Let amount that the man borrowed = Rs. $100x$

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

Interest the man need to return to the source at 3% in 3 years

$$= A = \frac{100x \times 3 \times 3}{100} = \text{Rs. } 9x$$

$$\text{Compound interest at 5\%} = P \left[\left(1 + \frac{R}{100} \right)^T - 1 \right]$$

$$\text{Similarly, interest the man get from other person} = A' = 100x \left[\left(1 + \frac{5}{100} \right)^3 - 1 \right]$$

$$= 100x \left[\left(\frac{21}{20} \right)^3 - 1 \right]$$

$$= 100x \left(\frac{9261 - 8000}{8000} \right)$$

$$= 100x \times \frac{1261}{8000} = \text{Rs. } 15.7625x$$

According to ques,

$$\Rightarrow A' - A = 541$$

$$\Rightarrow 15.7625x - 9x = 6.7625x = 541$$

$$\Rightarrow x = \frac{541}{6.7625} = 80$$

\therefore Amount the man borrowed = $100 \times 80 = \text{Rs. } 8,000$

\Rightarrow Ans - (A)

Question 74

The amount proposed on education is greater than that on Roads and Communication by

A 1000

B 2000

C 3000

D 1500

Answer: E

Question 75

12,000 is proposed on

A Education

B Irrigation and power

C Roads and communication

D Agriculter

Answer: E

General Awareness

Instructions

For the following questions answer them individually

Question 76

who is the first economist to receive the nobel prize in economics in single

A simon kuznets

B wassily leontief

C milton friedman

D paul A. samuelson

Answer: E

Question 77

The supply of money in a cuntry means

A cash balance held by the government

B Aggregate stock of money issued by the central bank

C cash reserves owned by the commercial banks

D total stock of money in circulation at a given peroid of time

Answer: D

Question 78

Corner shop is an example for

A Partnership

- B** Sole trade
- C** Limited company
- D** Public company

Answer: B

Question 79

Which one of the following is an advantage of the market economic system ?

- A** Better governance
- B** Equal income distribution
- C** Protects the environment
- D** Incentives to producers

Answer: D

Question 80

The vertical distance between total cost and total variable cost is

- A** total average cost
- B** marginal cost
- C** total fixed cost
- D** as average fixed cost

Answer: C

Question 81

Who said that, 'Man is by nature a political animal' ?

- A** Plato
- B** Chew
- C** Polyblus
- D** Aristotle

Answer: D

Question 82

According to Indian Constitution, Right to Property is a

- A** Fundamental Right
- B** Legal
- C** Both Right

D None

Answer: B

Question 83

Which among the following are duties of Indian citizens as per Constitution of India ?

A Respect National Anthem, Flag etc.

B Develop Scientific temper.

C Protect and preserve National and Cultural Heritage.

D All of the above.

Answer: D

Question 84

The Right to Information is based on the

A right to know implied under Article 14

B right to know implied under Article 19

C right to know implied under Article 21

D right to know implied under Article 32

Answer: B

Question 85

Which was called by Gandhi as 'Post dated cheque' ?

A Cripps proposal

B McDonald Award

C Simon Commission Report

D None of these

Answer: A

Question 86

whom did ashoka appoint to spread buddhism to many parts of asia

A Nagarikas

B adhyakshas

C mahamatras

D dharma mahamatras

Answer: E

Question 87

under whose leadership the sikhs became a political and military force ?

A guru har rai

B guru har kishan

C guru tegh bahadur

D guru gobind singh

Answer: E

Question 88

khajuraho was the capital of

A paramaras

B chauhans

C chandelas

D rathods

Answer: E

Question 89

During the British rule, the only British King to visit India and hold a grand Durban was

A Edward VII

B George V

C James II

D James VII

Answer: E

Question 90

Who among the following noted for the first time the existence of seven castes in India ?

A Kautilya

B Seleucus Nicator

C Megasthenes

D Justin

Answer: C

Question 91

The largest industry in India is

- A** Textile
- B** Steel
- C** Cement
- D** Automobile

Answer: A

Question 92

Who have measured first the circumferences of earth ?

- A** Hecatacus
- B** Herodotus
- C** Aristotle
- D** Eratosthenes

Answer: D

Question 93

Which one of the following land forms is go related to glaciers ?

- A** Hanging valleys
- B** Corries in the mountains
- C** U-shaped valleys
- D** Natural levees

Answer: D

Question 94

India recently launched a satellite in orbit for the purpose of

- A** Education
- B** Marine Exploration
- C** Mission to Moon
- D** Resource Evaluation

Answer: E

Question 95

Pedology deals with the scientific study of

- A** Rocks
- B** Soils
- C** Caves
- D** Fossils

Answer: B

Question 96

Which of the following is exclusively marine animals ?

- A** Chondrichthyes
- B** Echinoderms
- C** Molluscs
- D** Coelenterates

Answer: E

Question 97

Which one can imitate human speech ?

- A** whale
- B** dolphin
- C** ape
- D** bear

Answer: E

Question 98

Haemophilia is a kind of disease which is

- A** viral
- B** bacterial
- C** hereditary
- D** fungal

Answer: E

Question 99

For a living organism, greatest available energy is from

A fig1

B fig2

C fig3

D fig4

Answer: E

Question 100

HIV is a

A Combination of disease symptoms

B developmental index

C viral disease

D retrovirus

Answer: E

SSC MTS 17 March 2013 Shift 3

Reasoning

Instructions

For the following questions answer them individually

Question 1

In the given question find odd number/word from the given alternatives.

A 25

B 9

C 16

D 18

Answer: D

Explanation:

Except 18 all the other numbers are perfect squares.

Hence, option D is the correct answer.

Question 2

In the given question find odd number/word from the given alternatives.

A Cello

B Guitar

C Flute

D Violin

Answer: C

Explanation:

All except flute are string instruments.

Hence, option C is the correct answer.

Question 3

In question find odd number/word from the given alternatives.

A Sweetness

B Elegant

C Bright

D Beautiful

Answer: E

Question 4

In dictionary, which word comes fourth in arrangement ?

A Propense

- B** Prophet
- C** Prong
- D** Propine

Answer: D

Explanation:

Arranging the given words according to the dictionary order, we get

1) C - Prong 2) A - Propense 3) B - prophet 4) D - Propine

Propine comes fourth in arrangement.

Hence, option D is the correct answer.

Question 5

In question select the word from the given alternatives.

Circle : Arc :: Square : ?

- A** Line
- B** Triangle
- C** Sphere
- D** Rectangle

Answer: A

Explanation:

Second is a part of first element. Arc is a part of circle and line is a part of square.

Hence, option A is the correct answer.

Question 6

Moderate : Intensify :: Nominal : ?

- A** Memorial
- B** Expensive
- C** Distance
- D** Chaos

Answer: B

Explanation:

Moderate is the opposite of Intensify. Likewise Nominal is the opposite of Expensive.

Hence, option B is the correct answer.

Question 7

6,9,12,15,18,?

- A** 21
- B** 20

C 19

D 22

Answer: A

Explanation:

The pattern followed here is $(n + 3)$

$6 + 3 = 9, 9 + 3 = 12, 12 + 3 = 15, 15 + 3 = 18, 18 + 3 = 21.$

Hence, option A is the correct answer.

Question 8

107,97,82,62,?

A 52

B 42

C 47

D 37

Answer: D

Explanation:

Given series 107 97 82 62 37

The pattern followed here is that every number is subtracted from 5 multiple starting from 10

$107 - 10 = 97,$

$97 - 15 = 82,$

$82 - 20 = 62,$

$62 - 25 = 37.$

Hence, option D is the correct answer.

Question 9

A I B J C K ?

A E M

B E L

C D L

D D M

Answer: C

Explanation:

There are two series in the given question

A, B, C, D and I, J, K, L

The missing elements are D and L

Hence, option C is the correct answer.

Question 10

8, 3, 11, 14, 25, ?

- A** 50
- B** 39
- C** 29
- D** 11

Answer: B

Explanation:

$$8 + 3 = 11,$$

$$3 + 11 = 14,$$

$$11 + 14 = 25,$$

$$14 + 25 = 39.$$

Hence, option B is the correct answer.

Question 11

In a certain code, 'SOBER' is written as "RNADQ". How 'LOTUS' can be written in that code ?

- A** KNSTR
- B** MPUWT
- C** KMSTR
- D** LMRST

Answer: A

Explanation:

SOBER is written as RNADQ

$$S - 1 = R, O - 1 = N, B - 1 = A, E - 1 = D, R - 1 = Q$$

Following the same pattern LOTUS is written as,

$$L - 1 = K, O - 1 = N, T - 1 = S, U - 1 = T, S - 1 = R$$

LOTUS can be written as KNSTR

Hence, option A is the correct answer.

Question 12

If $73+82=14$, $91+21=11$, then $86+24=?$

- A** 9
- B** 62
- C** 8
- D** 6

Answer: C

Explanation:

The pattern followed here is,

$$(7 - 3) + (8 + 2) = 14,$$

$$(9 - 1) + (2 + 1) = 11,$$

$$(8 - 6) + (2 + 4) = 8.$$

Hence, option C is the correct answer.

Question 13

In a row of girls veena is 12th from the start and 19th from The end. In another row of girls, sunitha is 14th from the start and 20th from The end. How many girls are there in both the rows together ?

A 72

B 65

C 63

D 61

Answer: C

Explanation:

In the 1st row, Veena is 12th from the start and 19th from the end. Total number of persons in the row = 30

In the 2nd row, Sunitha is 14th from the start and 20th from the end. Total number of persons in the row = 33

Total persons in both the rows together = 63

Hence, option C is the correct answer.

Question 14

From the given alternative words, select the word which cannot be formed using the letters of the given word

CONCEPTUALISATION

A STATUS

B POINTS

C NOISE

D TOTAL

Answer: A

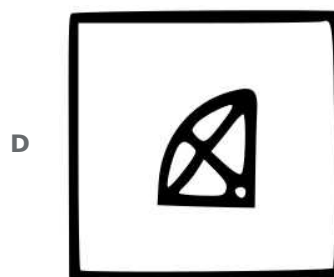
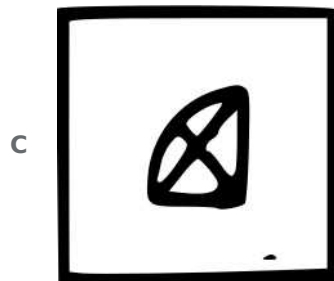
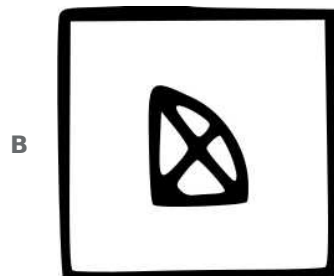
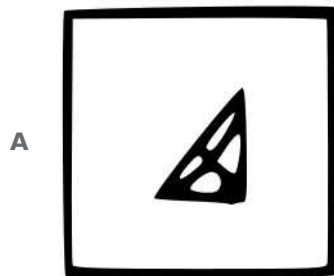
Explanation:

STATUS cannot be formed using the given word as there is only one S in CONCEPTUALISATION

Hence, option A is the correct answer.

Question 15

Which answer figure will complete the pattern in the question figure ?



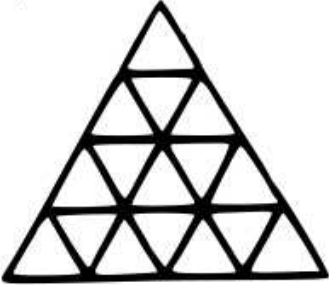
Answer: C

Explanation:

Only option C fits into the given figure.

Question 16

Find out the number of triangles in the given pattern.



- A 23
- B 26
- C 27
- D 28

Answer: C

Explanation:

No of unit triangles = 16

No of triangles with 2 or 3 unit triangles = 0

No of triangles with 4 unit triangles (vertex up + vertex down) = 6 + 1 = 7

No of triangles with 5,6,7,8 unit triangles = 0

No of triangles with 9 unit triangles = 3

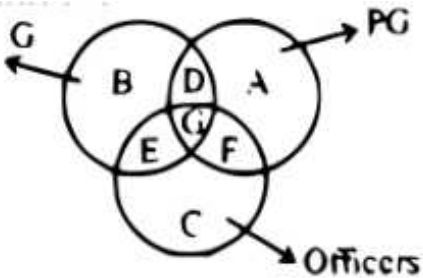
Full triangle = 1

Total number of triangles = 27

Hence, option C is the correct answer.

Question 17

Given below are 3 figures representing graduates, post graduates, officers. Which part represents all the officers who are graduates and post graduates ?



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

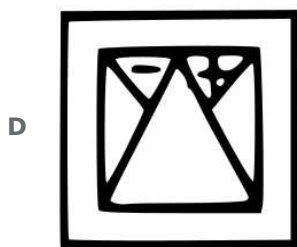
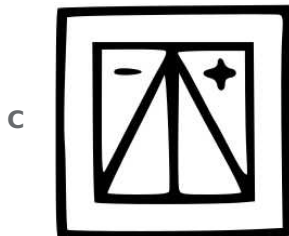
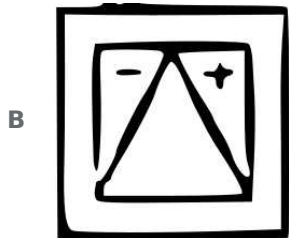
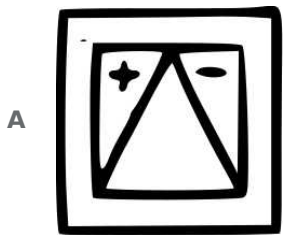
Answer: A

Explanation:

All officers who are graduates and post graduates is the common part of Graduates, Post graduates, and officers i.e G
Hence, option A is the correct answer.

Question 18

Find the missing figure in the series from the given responses.



Answer: E

Question 19

Select the missing number from the given responses.



A 54

B 51

C 48

D 44

Answer: A

Explanation:

The pattern followed here is $(n \times 2) + 2$

$$5 \times 2 + 2 = 12$$

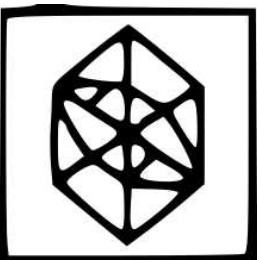
$$12 \times 2 + 2 = 26$$

$$26 \times 2 + 2 = 54 \dots\dots$$

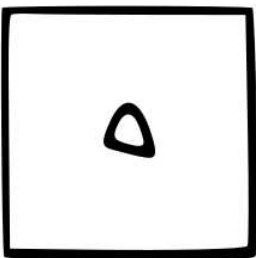
Hence, option A is the correct answer.

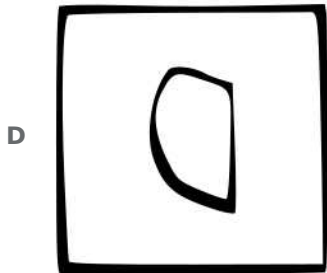
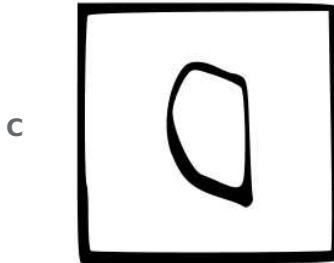
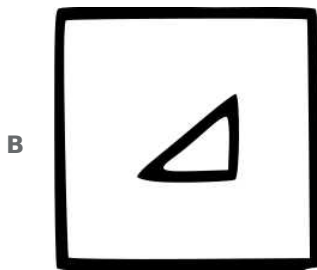
Question 20

Which of the answer figure is embedded in the question figure ?



A





Answer: B

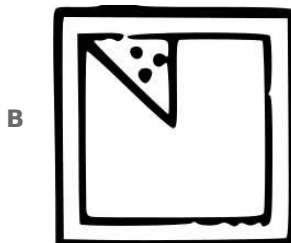
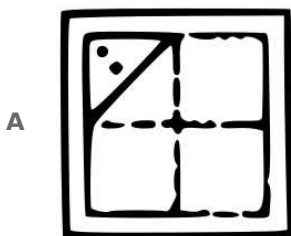
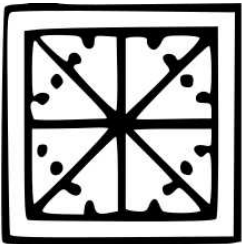
Explanation:

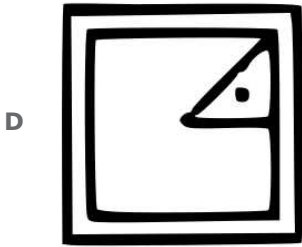
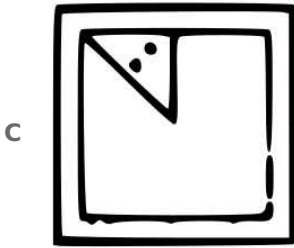
Figure in option B is embedded in the question figure.

Hence, option B is the correct answer.

Question 21

A square piece of paper is folded in a particular manner and punched and then unfolded. The unfolded paper is given below. Find out the manner in which the paper was folded and punched from the answer figure.





Answer: A

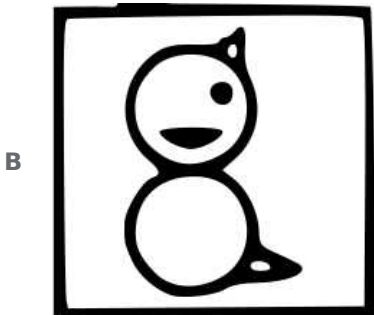
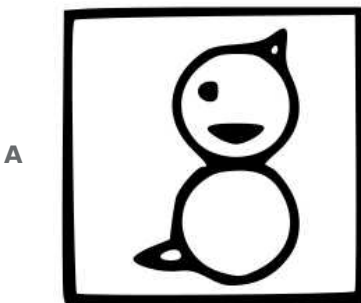
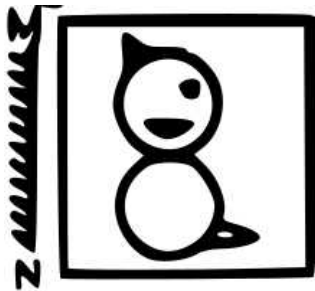
Explanation:

If the paper is folded and punched as shown in option A, then the resulting unfolded paper would look like the one given in the question.

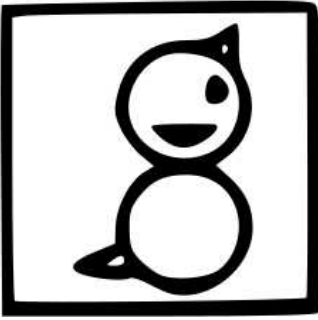
Hence, option A is the correct answer.

Question 22

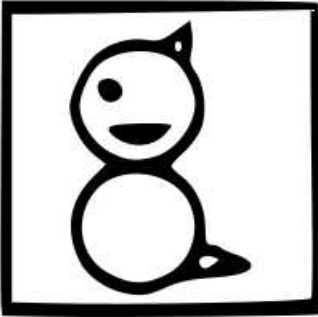
If a mirror is placed on the line MN, then which of the answer figures is the right image image of the given figure ?



C



D



Answer: A

Explanation:

Figure in option A is the mirror image of the given figure.

Question 23

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 in two matrices given below. The column 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, e.g., I can be represented by 03, 22; etc., and 'R' can be represented by 57, 67 etc., Similarly, you have to identify the set for the word 'BALD'.

Matrix-I

	0	1	2	3	4
0	B	T	D	I	F
1	I	D	B	F	T
2	F	B	I	T	D
3	T	I	F	D	B
4	D	F	T	B	I

Matrix-II

	5	6	7	8	9
5	A	L	R	E	K
6	K	A	L	R	E
7	E	K	A	L	R
8	R	E	K	A	L
9	L	R	E	K	A

- A 12,99,65,24
- B 21,88,95,24
- C 43,55,67,04
- D 34,77,76,42

Answer: B

Explanation:

As per the given information,

B = 00, 12, 21, 34, 43

A = 55, 66, 77, 88, 99

L = 56, 67, 78, 89, 95

D = 02, 11, 24, 33, 40

21,88,95,24 is a probable combination for BALD

Hence, option B is the correct answer.

Question 24

figure

- A fig1
- B fig2
- C fig3
- D fig4

Answer: E

Question 25

figure

- A fig1
- B fig2
- C fig3
- D fig4

Answer: E

English

Instructions

For the following questions answer them individually

Question 26

In question some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval corresponding to the appropriate letter A,B,C. If a sentence is free from error. Blacken the oval corresponding to D in the answer sheet

- A The number of guests
- B invited to the wedding
- C are one thousand
- D no error.

Answer: C

Explanation:

The correct answer is "The number of guests invited to the weddings is one thousand".

Question 27

In question sentences are given with blanks to be filled in with an appropriate words four alternatives are suggested for each question choose the correct alternative out of the four and indicate it by blackening the appropriate oval in the answer sheet

The photographer rolled a machine _____ the middle _____ the room

- A above, from
- B in, off
- C by, across
- D into, of

Answer: D

Question 28

If I _____ a more reliable car, I _____ to delhi rather than fly

- A would have had, would drive
- B would have, would drive
- C had, had driven
- D had, would drive

Answer: D

Question 29

He's been bitten _____ a dog

- A at
- B from
- C of
- D by

Answer: D

Explanation:

Only option D fits in the given sentence.

Question 30

_____ resigned, we would have been forced to sack him

- A he not had
- B had he not
- C hadn't he
- D he had not

Answer: B

Explanation:

Only option B fit in the given sentence.

Question 31

Women who swear___beauty products are in for a shock

- A with
- B for
- C in
- D by

Answer: D

Explanation:

Swear by = Express great confidence in the use, value, or effectiveness of.

Question 32

_____of people come here to gossip

- A few
- B most
- C a lot
- D lot

Answer: C

Explanation:

Only option C fit in the given sentence.

Question 33

Do congratulate him_____his success

- A at

- B** on
- C** in
- D** from

Answer: B

Explanation:

Only option B fit in the given sentence.

Question 34

He is_____the top of the class

- A** on
- B** upon
- C** in
- D** at

Answer: D

Explanation:

At the top of one's class means getting highest grades in one's class

Eg: He graduated at the top of his class

Hence, option D is the correct answer.

Question 35

Telling a small lie sometimes enables one to avoid_____another

- A** hurting
- B** nothing
- C** harming
- D** stopping

Answer: A

Question 36

in question out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the answer sheet

Gall

- A** Macho
- B** Bold
- C** Boastful
- D** Audacity

Answer: D

Question 37

Choose the word opposite in meaning to the given word and mark it in the answer sheet

Obligatory

- A Exemplary
- B Compulsory
- C Exclusionary
- D Voluntary

Answer: D

Question 38

In question four alternatives are given for the idiom\phrase underlined in the sentence choose the alternative which best expresses the meaning of the idiom\phrase and mark it in the answer sheet.

I am tired of the rat-race in the corporate sector

- A Corruption
- B Misery
- C Unpleasant sight
- D Fierce competition

Answer: D

Question 39

In question four alternatives are given for the idiom\phrase underlined in the sentence choose the alternative which best expresses the meaning of the idiom\phrase and mark it in the answer sheet.

Sachin is an indifferent student he is often all at sea

- A In a state of shock
- B Very knowledgeable
- C In danger
- D Completely confused

Answer: D

Question 40

In question four alternatives are given for the idiom\phrase underlined in the sentence choose the alternative which best expresses the meaning of the idiom\phrase and mark it in the answer sheet.

I am waiting for the old man to kick the bucket so that i can get his money

- A to conclude
- B to kill

- C to die
- D to absolve

Answer: C

Question 41

In the given question, a part of the sentence is underlined. Below are given alternatives to the underlined part at A,B and C which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is D

To contact the police he tried hard

- A He tried to contact the police hard
- B He is reputed to be a close-fisted man would be a correct sentence
- C He tried the police to contact hard
- D No improvement

Answer: B

Explanation:

"He tried hard to contact the police" is the correct sentence.

Hence, option B is the correct answer.

Question 42

He is reputed to be a closedfisted man

- A claw fisted
- B clasped fisted
- C close fisted
- D no improvement

Answer: C

Explanation:

He is reputed to be a close-fisted man would be a correct sentence.

Hence, option C is the correct answer.

Question 43

Its not possible to judge a man by his appearance

- A It's not possible to judge a man by his appearance
- B Its impossible to judge a man by his appearance
- C Its' not impossible to judge a man by his appearance
- D No improvement

Answer: A

Question 44

In the given question out of the four alternatives choose the one which can be substituted for the given words/sentence

To free anything from germs

- A Cauterize
- B Sterilize
- C Antiseptic
- D Antivirus

Answer: B

Explanation:

Sterilize = make (something) free from bacteria or other living microorganisms.

Hence option B is the correct answer.

Question 45

In the given question there are four different words out of which one is correctly spelt. Find the correctly spelt word and indicate it by blackening the appropriate oval in the answer sheet

- A commette
- B committee
- C comittee
- D comitte

Answer: B

Explanation:

Committee is the only word which is correctly spelt.

Hence, option B is the correct answer.

Instructions

There are two kinds of orange trees, the sweet and the sour. The sour orange was the first to be grown in europe. It was first brought in by the moors who attacked and entered southern spain and sicily around the ninth century.

By the eleventh century the moors were quite firmly in control of the countries they had taken over. There they planted many trees including the sour orange. Sour oranges were widely grown in southern europe until the fifteenth century which increased trade with the orient brought sweet oranges are still grown and eaten, sweet oranges to europe. Although some sour oranges are still grown and eaten sweet oranges are tastier than the sour ones.

When christopher columbus sailed for the new world (north and south america) he carried seeds of oranges and many other citrus fruits with him. The seeds were planted on the island of hispaniola. citrus trees grow well in the tropical climate of the west indies and the land now known as florida. Today the united states leads the world in the production of oranges. The state of florida has the greatest number of oranges trees and produces more sweet oranges than any other state or country.

Question 46

When was sweet orange brought to europe

- A Fifteenth century brought the sweet orange to europe

- B** The moors invasion brought sweet oranges to europe
- C** Increased trade with the orient brought the sweet orange to europe
- D** Increased trade with columbus brought the sweet orange to europe

Answer: C

Explanation:

"Sour oranges were widely grown in southern Europe until the fifteenth century which increased trade with the orient brought sweet oranges are

still grown and eaten, sweet oranges to Europe". From the above sentence we can say that option C is the correct answer.

Hence, option C is the correct answer.

Question 47

Which country leads in the production of oranges ?

- A** Spain
- B** The united states
- C** Florida
- D** Sicily

Answer: B

Explanation:

From this statement given in the passage, "Today the united states leads the world in the production of oranges". We can conclude that United

states leads in the production of oranges.

Hence, option B is the correct answer.

Question 48

In which climate does the orange grow well

- A** Tropical
- B** Hot
- C** Cold
- D** Dry

Answer: A

Explanation:

As mentioned in the passage "Citrus trees grow well in the tropical climate". we can conclude that orange grows well in the tropical climate.

Hence, option A is the correct answer.

Question 49

The orange was first brought to europe by

- A The chinese
- B Christopher columbus
- C Florida
- D The moors

Answer: D

Explanation:

"The sour orange was the first to be grown in Europe. It was first brought in by the Moors". From the above statement given in the passage, we can conclude that sentence in option D is true.

Hence, option D is the correct answer.

Question 50

Which of the following statements is true ?

- A The moors planted many trees including orange in europe
- B The moors planted the sour orange in europe
- C The moors planted many trees.
- D The orients planted sweet oranges in europe

Answer: B

Explanation:

"The sour orange was the first to be grown in Europe. It was first brought in by the Moors who attacked and entered southern Spain and Sicily around the ninth century". From the above statement given in the passage, we can conclude that sentence in option B is true.

Hence, option B is the correct answer.

Quant

Instructions

For the following questions answer them individually

Question 51

A certain number is divided into two parts such that 5 times the first part added to 11 times the second part makes 7 times the whole. The ratio of the first part to the second part is

- A 2:1
- B 5:11
- C 1:2
- D 2:3

Answer: A

Explanation:

Let the number be x and divided into 'a' and ' $x-a$ '

According to the given question,

$$5a + 11(x - a) = 7x$$

$$5a + 11x - 11a = 7x$$

$$4x = 6a \text{ (or) } x = \frac{3}{2}a \text{(1)}$$

Ratio between first part and second part,

$$a : \frac{3}{2}a - a$$

$$a : a\left(\frac{3}{2} - 1\right)$$

$$a : a\left(\frac{1}{2}\right)$$

2:1

Hence, option A is the correct answer.

Question 52

What sum of money is to be divided among 3 persons in the ratio 3:4:7 so that the second man receives 12 only?

A 21

B 32

C 9

D 42

Answer: D

Explanation:

Let amount distributed among three persons be $3x, 4x, 7x$

Second man received 12 rs

$$\therefore 4x = 12 \text{ (or) } x = 3$$

Total money distributed = $14x$ (or) $14(3)$ (or) 42

Hence, option D is the correct answer.

Question 53

The marked price is 10% higher than the cost price. A discount of 10% is given on the marked price. In this kind of sale, the seller

A loses 1.5%

B bears no loss, makes no gain

C gains 1%

D loses 1%

Answer: D

Explanation:

Let cost price = 100

If MRP is 10% higher than cost price then, $MRP = 110$

If a discount of 10% is given then selling price would be,

$$S.P = 90\% \text{ of } 110 \text{ (or) } 99$$

The seller loses 1% in the sale.

Hence, option D is the correct answer.

Question 54

In a certain examination, the number of those who passed was 4 times the number of those who failed. If there had been 35 fewer candidates and 9 more had failed, the ratio of passed and failed candidates would have been 2:1 the total number of candidates was

A 135

B 155

C 145

D 150

Answer: B

Explanation:

Let passed students be $4x$ and failed students be x

Total number of students will be $5x$

If there had been 35 fewer candidates and 9 more had failed, the ratio of passed and failed candidates would have been 2:1

Then, total number of students will be $5x - 35$

$$\Rightarrow \frac{(5x-35)-(x+9)}{x+9} = \frac{2}{1}$$

$$\Rightarrow \frac{(4x-44)}{x+9} = \frac{2}{1}$$

$$\Rightarrow 4x - 44 = 2x + 18$$

$$\Rightarrow 2x = 62 \text{ (or) } x = 31$$

Total number of students = $5(31) = 155$

Hence, option B is the correct answer.

Question 55

If an article is sold at a gain of 6% instead of at a loss of 6%, then the seller gets 6 more. The cost price of the article is

A 106

B 50

C 94

D 100

Answer: B

Explanation:

Let cost price be x

As per the given question, equation can be written as

$$(106\% - 94\%) \text{ of } x = 6$$

$$12\% \text{ of } x = 6$$

$$x = 50$$

Hence, option B is the correct answer.

Question 56

The selling price of 20 articles is equal to the cost price of 22 articles. The gain percentage is

A 12

B 9

C 10

D 11

Answer: C

Explanation:

Let cost price of 1 article = 1 rupee

Then, cost price of 20 articles = 20 rupees

Given, selling price of 20 articles = Cost price of 22 articles (or) 22 rupees

$$\therefore \text{Profit percentage} = \frac{\text{selling price} - \text{cost price}}{\text{cost price}} \times 100 \%$$

$$= \frac{22-20}{20} \times 100 \% \text{ (or) } \frac{200}{20} \%$$

$$= 10 \%$$

Hence, option C is the correct answer.

Question 57

A man gains 10% by selling an article for a certain price. If he sells it at double the price, the profit made is

A 120%

B 20%

C 40%

D 100%

Answer: A

Explanation:

Let cost price be 100

Then, selling price will be 110 as profit is 10%

If he sells it at double the price then selling price would be $110 \times 2 = 220$

$$\text{Profit percentage} = \frac{(220-100)}{100} \times 100$$

$$= \frac{120}{100} \times 100$$

$$= 120\%$$

Hence, option A is the correct answer.

Question 58

A number increased by $37\frac{1}{2}\%$ and the increment is 33. The number is

A 27

B 22

C 24

D 25

Answer: C

Explanation:

As per the given question equation can be written as,

$$x + (37\frac{1}{2}\%) x = 33$$

$$x + (\frac{75}{200}) x = 33$$

$$x + (\frac{3}{8}) x = 33$$

$$11x = (8)(33)$$

$$x = 24$$

Hence, option C is the correct answer.

Question 59

The average of 5 numbers is 20 and 4 of the numbers are 10,15,20 and 25. If the numbers are arranged in ascending order, then the average of the last three is

A 25

B 18.75

C 24

D 22.33

Answer: A

Explanation:

Let the 5th number be x

Given numbers are 10, 15, 20, 25 and

Average of five numbers = 20

$$\therefore \frac{10+15+20+25+x}{5} = 20$$

$$70 + x = 100 \text{ (or) } x = 30$$

Arranging the numbers in ascending order - 10, 15, 20, 25, 30

Average of last three numbers = $\frac{20+25+30}{3}$

$$= \frac{75}{3} \text{ (or) } 25$$

Hence, option A is the correct answer.

Question 60

60 kgs of a certain variety of rice at 32 per kg is mixed with 48 kgs of another variety of rice and the mixture is sold at the average price of 28 per kg.If there be no profit or loss due to the new sale price, then the price of the second variety of rice is

A 25.60/kg

B 25/kg

C 23/kg

D 30/kg

Answer: C

Explanation:

Price of 61 kgs of certain variety of rice at 32 per kg = $(60)(32)$

Price of 48 kgs of another variety of rice at x per kg = $48x$

As there is no profit or loss,

$$(60)(32) + 48x = (108)(28)$$

Divide by '48' on both sides

$$40 + x = 63$$

$$x = 23$$

Hence, option C is the correct answer.

Question 61

Three pipes A, B and C fill a tank in 30 minutes, 20 minutes and 10 minutes respectively. When the tank is empty, all the three pipes are opened. If A, B and C discharge chemical solutions P, Q and R respectively, the part of solution R in the liquid in the tank after 3 minutes is

A 8/11

B 5/11

C 6/11

D 7/11

Answer: C

Explanation:

Work done by pipe A to fill the tank in 1 minute = $\frac{1}{30}$

Similarly, work done by pipe B and C to fill the tank in 1 minute = $\frac{1}{20}$ and $\frac{1}{10}$ respectively

Work done by all three pipes together in 1 minute = $\frac{1}{30} + \frac{1}{20} + \frac{1}{10} = \frac{11}{60}$

Work done by all three pipes in 3 minutes = $\frac{11}{60} \times 3$ (or) $\frac{11}{20}$

Part of chemical solution R discharged by C in 3 minutes = $\frac{1}{10} \times 3$ (or) $\frac{3}{10}$

Part of chemical solution R discharged in the liquid in 3 minutes = $\left(\frac{3}{10}\right) / \left(\frac{11}{20}\right) = \frac{6}{11}$

Hence, option C is the correct answer.

Question 62

A, B and C can do a piece of work in 20,24 and 30 days respectively. They undertook to do the piece of work for 5,400. They begin the work together, but B left 2 days before the completion of work and C left 5 days before the completion of work. The share of A from the assured money is

A 2,700

B 540

C 1,800

D 600

Answer: A

Explanation:

Given A, B and C can do a piece of work in 20,24 and 30 days respectively

Let the work be completed in x days

$$\Rightarrow \frac{x}{20} + \frac{x-2}{24} + \frac{x-5}{30} = 1$$

$$\Rightarrow \frac{6x+5(x-2)+4(x-5)}{120} = 1$$

$$\Rightarrow \frac{6x+5x-10+4x-20}{120} = 1$$

$$\Rightarrow 6x + 5x + 4x = 120 + 30$$

$$\Rightarrow 15x = 150 \Rightarrow x = 10$$

Work done by A,

$$\frac{10}{20} \times 5400 = 2700$$

Hence, option A is the correct answer.

Question 63

The simplified value of

$$\frac{112}{\sqrt{196}} \times \frac{\sqrt{576}}{12} \times \frac{\sqrt{256}}{8} \text{ is}$$

A 12

B 8

C 16

D 32

Answer: D

Explanation:

Given equation,

$$\frac{112}{\sqrt{196}} \times \frac{\sqrt{576}}{12} \times \frac{\sqrt{256}}{8}$$

$$\frac{112}{14} \times \frac{24}{12} \times \frac{16}{8}$$

$$8 \times 2 \times 2$$

32

Hence, option D is the correct answer.

Question 64

The value of $\sqrt[6]{.000729}$ is

A 0.027

B 0.3

C 0.03

D 0.09

Answer: B

Explanation:

Given equation can be written as,

$$\sqrt[6]{729/1000000}$$

$$\sqrt[6]{3^6/10^6}$$

$$\sqrt[6]{10} = 0.3$$

Hence, option B is the correct answer.

Question 65

The cost price of a book is 300. The shopkeeper wants to gain 20% after allowing a discount of 10% on the marked price. Then the marked price of the book must be

- A** 360
- B** 336
- C** 400
- D** 396

Answer: C

Explanation:

Cost price of the book = 300

Shop keeper wants to gain 20% i.e s.p = 360

Selling price should be 360 after giving a discount of 10%,

90% of MRP = 360

MRP = 400

Hence, option C is the correct answer.

Question 66

The printed price of a book is 60. But the seller allows successive discounts of 20% and 30%. The net sale price is subject to a sales tax of 5%, the net sale price is

- A** 36.28
- B** 33.60
- C** 36.60
- D** 35.28

Answer: D

Explanation:

After the discount the price of book will be,

70% of 80% of 60 = $0.7 \times 0.8 \times 60$ (or) 33.6

After the sales tax of 5% the price of book will be,

105% of 33.6 = 35.28

Hence, option D is the correct answer.

Question 67

Weight of a solid metal sphere of radius 4 cm is 4 kg the weight of a hollow sphere made with same metal whose outer diameter is 16 cm and inner diameter is 12 cm is

- A** 20.5 kg
- B** 15.5 kg
- C** 16.5 kg
- D** 18.5 kg

Answer: D

Explanation:

Volume of solid sphere with radius 4 cm is,

$$= \frac{4}{3} \pi (4)^3 \text{ cm}^3$$

Volume of hollow sphere with outer diameter 16 (r = 8) and inner diameter 12 (r = 6) is,

$$= \frac{4}{3} \pi (8^3 - 6^3) \text{ cm}^3$$

$$= \frac{4(512 - 216)}{4^3}$$

$$= \frac{296}{4^2}$$

$$= 18.5$$

Hence, option D is the correct answer.

Question 68

The radii of a sphere and a right circular cylinder are equal and their curved surface areas are also equal. The ratio of their volumes is

- A** 3:4
- B** 2:3
- C** 3:2
- D** 4:3

Answer: B

Explanation:

Curved surface area of sphere = $4\pi r^2$

Curved surface area of a right circular cylinder = $2\pi r h$

As per the given question these two are equal,

$$4\pi r^2 = 2\pi r h$$

$$h = 2r \dots\dots(1)$$

Required ratio,

$$\frac{4}{3} \pi r^3 : \pi r^2 h$$

$$4r : 3h$$

Substitute (1) in the above equation

$$4r : 3(2r) = 2:3$$

Hence, option B is the correct answer.

Question 69

A man covers a certain distance on scooter had he moved 3 km/hr faster he would have taken 40 minutes less. If had moved 2 km/hr slower, he would have taken 40 minutes more. The distance in km is

- A** 42.5
- B** 36
- C** 37.5
- D** 40

Answer: D

Explanation:

If he move 3 km/hr faster he would have taken 40 minutes less,

$$\frac{D}{S} - \frac{D}{S+3} = \frac{40}{60} \dots\dots\dots(1)$$

If he move 2 km/hr slower, he would have taken 40 minutes more,

$$\frac{D}{S-2} - \frac{D}{S} = \frac{40}{60} \dots\dots\dots(2)$$

After solving both the equations we get

$$S = 12 \text{ kmph}$$

$$D = 40 \text{ km}$$

Hence, option D is the correct answer.

Question 70

A sum of money amounts to 2,240 at 4% per annum simple interest in 3 years the interest on the same sum for 6 months at $3\frac{1}{2}\%$ per annum

- A** 30
- B** 50
- C** 35
- D** 150

Answer: C

Explanation:

Given, a sum of money amounts to 2,240 at 4% per annum simple interest in 3 years. Then

$$\frac{3 \times 4 \times P}{100} = 2240 - P$$

$$3 \times P = 25(2240 - P)$$

$$28P = 25 \times 2240$$

$$P = 2000$$

Interest received on 2000 in 6 months at $3\frac{1}{2}\%$ per annum is

$$S.I = \frac{2000 \times 7}{2 \times 2 \times 100}$$

$$S.I = 35$$

Hence, option C is the correct answer.

Question 71

A's salary is 20% less than B's salary. Then B's salary is more than A's salary by

A fig1

B fig2

C fig3

D fig4

Answer: E

Question 72

A man walking with $\frac{3}{4}$ of his usual speed, reaches office 20 minutes late. His usual time is

A 50 minutes

B 80 minutes

C 70 minutes

D 60 minutes

Answer: D

Explanation:

We know, $s_1 t_1 = s_2 t_2$

$$s_1 t_1 = \left(\frac{3}{4}\right)s_1 (t_1 + 20)$$

$$t_1 = \left(\frac{3}{4}\right)(t_1 + 20)$$

$$4t_1 = (3t_1 + 60)$$

$$t_1 = 60 \text{ minutes}$$

Hence, option D is the correct answer.

Question 73

The amount proposed on Agriculture is more than that on /industries and minerals by

A 7.5%

B 10%

C 12%

D 12.5%

Answer: E

Question 74

The amount in crore rupees proposed on irrigation and power is less than that on industries and minerals by

A 3000

B 3500

C 2000

D 2500

Answer: E

Question 75

A sum of 8,448 is to be divided between A and B who are respectively 18 and 19 years old, in such a way that if their shares be invested at 6.25% per annum compound interest they will receive equal amounts on attaining the age of 21 years the present share of A is

A 4,225

B 4,352

C 4,096

D 4,000

Answer: C

Explanation:

Let share of A is 'x' and that of B is (8448 - x)

Amount received by A and B is same. Hence, equation can be written as

$$x\left(1 + \frac{6.25}{100}\right)^3 = (8448 - x)\left(1 + \frac{6.25}{100}\right)^2$$

$$x + \frac{6.25}{100}x = 8448 - x$$

$$100x + 6.25x = 844800 - 100x$$

$$206x = 844800$$

$$x = 4096$$

Hence, option C is the correct answer.

General Awareness

Instructions

For the following questions answer them individually

Question 76

Cosmetic powder is prepared from

A Asbestos

B Talc

C Gypsum

D Serpentine

Answer: B

Question 77

In which state are lions found in large numbers ?

- A** Gujarat
- B** Tamil nadu
- C** Assam
- D** Madhya pradesh

Answer: A

Question 78

Rabies is a

- A** Helminthic disease
- B** Viral disease
- C** Bacterial disease
- D** Protozoan disease

Answer: B

Question 79

Tuberculosis is transmitted through

- A** Droplet transmission
- B** Blood transfusion
- C** Contaminated water
- D** Sexual contact

Answer: A

Question 80

Antibodies are mainly synthesized from

- A** Megakaryocyte
- B** Monocyte
- C** Lymphocyte
- D** Histiocyte

Answer: C

Question 81

Which of the following is a parthenocarpic fruit ?

- A** Banana
- B** Apple
- C** Mulberry
- D** Strawberry

Answer: A

Question 82

Viruses are

- A** Cellular
- B** Acellular
- C** Unicellular
- D** Multicellular

Answer: B

Question 83

The quantity 'weight' is measured by

- A** Beam balance
- B** Common balance
- C** Spring balance
- D** Balance wheel

Answer: C

Question 84

Which one of the following agency markets steel for the public sector plants ?

- A** HNCC
- B** HAIL
- C** SAIL
- D** Tata Steel

Answer: C

Question 85

Jharia coal field is situated in district of jharkhand

- A** Ranchi
- B** Dhanbad

C Hazaribagh

D Chaibasa

Answer: B

Question 86

The principle due to which circular patches of light is seen under a tree during day time is similar to that of image formation by a

A Concave lens

B Pin-hole

C Photographic camera

D Convex lens

Answer: B

Question 87

A browser is a software

A To find out computer in a LAN

B To log into a computer in a LAN

C To search for web pages in internet

D None of the above

Answer: C

Question 88

In MS-Word replace option comes under the _____ menu

A View

B File

C Insert

D Edit

Answer: D

Question 89

CPU refers to

A Central processing unit

B Control program unit

- C Central program unit
- D Control program usage

Answer: A

Question 90

The unit of radioactivity is

- A Angstrom
- B Candela
- C Fermi
- D Curie

Answer: D

Question 91

The gas used for artificial ripening of green fruit is

- A Acetylene
- B Ethylene
- C Ethane
- D Carbon dioxide

Answer: B

Question 92

A compass needle cannot be used to detect?

- A Magnetic north-south direction
- B Polarity of a magnet
- C Strength of a magnet
- D Direction of magnetic field

Answer: C

Question 93

In which medium, velocity of sound is maximum?

- A Metals
- B Air
- C Water
- D Polymer

Answer: A

Question 94

Decibel is used to measure the intensity of

- A** Magnetic field
- B** Sound
- C** Light
- D** Heat

Answer: B

Question 95

Asiatic lion is now

- A** Critically endangered
- B** Endangered
- C** Extinct in wild
- D** Vulnerable

Answer: B

Question 96

The natural environment refers to

- A** The living organisms and non-living objects or factors in an area undisturbed by human activity
- B** The atmosphere in a forest
- C** The plants and animals in a forest
- D** The atmosphere of an area-a forest, lake or an ocean

Answer: A

Question 97

Too much consumption of tea or coffee can result in deficiency of

- A** Vitamin B12
- B** Calcium
- C** Vitamin C
- D** Albumin

Answer: B

Question 98

Which one of the following is an air-to-air missile ?

- A** Astra
- B** Prithvi
- C** Agni
- D** Akash

Answer: A

Explanation:

It is the first air-to-air missile developed by Defense Research and Development Organization (DRDO).

Question 99

Flight-recorder is technically called

- A** Altitude meter
- B** Dark box
- C** Blind box
- D** Black box

Answer: D

Question 100

Glass is

- A** Supercooled liquid
- B** Crystalline solid
- C** Liquid crystal
- D** none of these

Answer: A