

SSC MTS 22 September 2017 Shift 1

Reasoning

Instructions

For the following questions answer them individually

Question 1

In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.

3	5	2	32
6	2	3	38
4	3	5	?

- A 36
- B 62
- C 80
- D 84

Answer: B

Explanation:

In each row, the number at the end, is equal to the product of the three numbers and '2' is added.

$$\text{Eg :- } (3 \times 5 \times 2) + 2 = 30 + 2 = 32$$

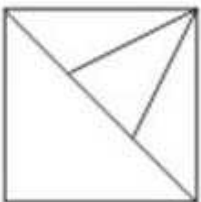
$$\text{and } (6 \times 2 \times 3) + 2 = 36 + 2 = 38$$

$$\text{Similarly, } (4 \times 3 \times 5) + 2 = 60 + 2 = 62$$

=> Ans - (B)

Question 2

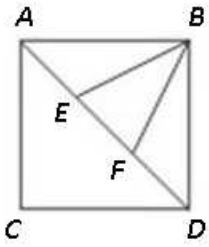
How many triangles are there in the given figure ?



- A 5
- B 6
- C 7
- D 8

Answer: C

Explanation:



Small triangles = ABE, BEF, BFD, ACD

Triangles (having 2 triangles) = ABF, BED

Triangles (having 3 triangles) = ABD

Thus, total triangles = 7

=> Ans - (C)

Question 3

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'Z' can be represented by 20, 97, etc., and 'Y' can be represented by 42, 79, etc. Similarly, you have to identify the set for the word "FRONT".

	0	1	2	3	4
0	F	H	J	L	N
1	P	R	T	V	X
2	Z	B	D	G	E
3	K	M	O	Q	S
4	U	W	Y	A	C

	5	6	7	8	9
5	N	P	I	K	B
6	L	E	R	M	A
7	J	T	D	O	Y
8	H	V	B	Q	W
9	F	X	Z	C	U

A 00, 11, 32, 04, 12

B 95, 67, 32, 55, 75

C 00, 31, 85, 03, 76

D 95, 11, 79, 55, 23

Answer: A

Explanation:

(A) : 00, 11, 32, 04, 12 = FRONT

(B) : 95, 67, 32, 55, 75 = FRONJ

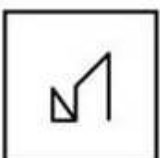
(C) : 00, 31, 85, 03, 76 = FMHLT

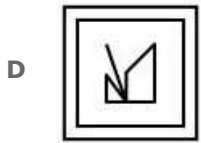
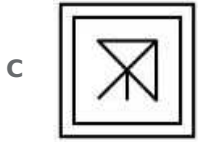
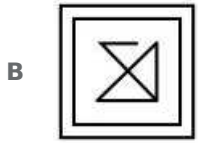
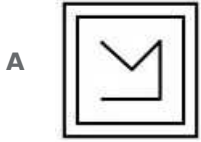
(D) : 95, 11, 79, 55, 23 = FRYNG

=> Ans - (A)

Question 4

From the given answer figures, select the one in which the question figure is hidden/embedded.





Answer: D

Explanation:

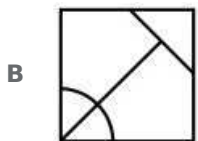
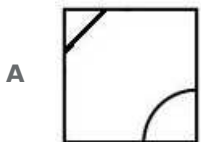
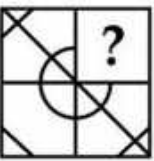
The question figure is embedded in the following figure and is represented by 'red' colour.



=> Ans - (D)

Question 5

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



C



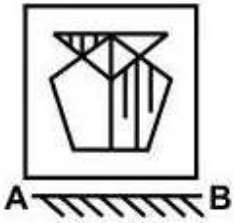
D



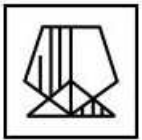
Answer: C

Question 6

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



A



B



C



D



Answer: C

Explanation:

A horizontal mirror is placed, so the object on the top will appear at the bottom in reverse position and vice-versa.

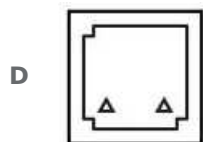
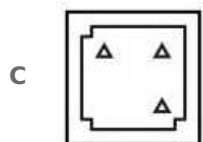
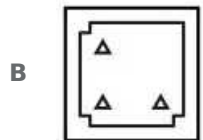
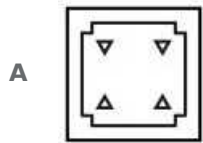
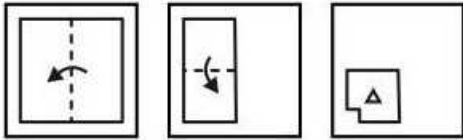
So the three vertical line at top left will now appear at bottom left, thus the first and last options will be eliminated.

Also, in the question figure at bottom right, only the vertical line in the middle is longer, hence they will appear at top left side, hence third option is the right image.

=> Ans - (C)

Question 7

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



Answer: A

Question 8

If 'x' means '+', '+' means 'x', '-' means '÷' and '÷' means '-', then which of the following equation is correct?

A $12 - 3 \times 4 = 12$

B $44 + 4 - 2 = 88$

C $49 \times 7 - 14 = \frac{98}{2}$

D $5 + 2 - 4 = \frac{13}{2}$

Answer: B

Explanation:

(A) : $12 - 3 \times 4 = 12$

$\equiv 12 \div 3 + 4 = 12$

L.H.S. = $4 + 4 = 8 \neq$ R.H.S.

(B) : $44 + 4 - 2 = 88$

$\equiv 44 \times 4 \div 2 = 88$

L.H.S. = $44 \times 2 = 88 =$ R.H.S.

=> Ans - (B)

Question 9

If $3 \# 9 @ 4 = 3$ and $4 \# 4 @ 4 = 2$, then $6 \# 4 @ 5 = ?$

A 3

B 2

C 4

D 1

Answer: B

Explanation:

Given : $3 \# 9 @ 4 = 3$ and $4 \# 4 @ 4 = 2$

=> '#' means '+' and '@' means '÷'

$$\text{Eg : } (3 + 9) \div 4 = \frac{12}{4} = 3$$

$$\text{and } (4 + 4) \div 4 = \frac{8}{4} = 2$$

$$\text{Similarly, } (6 + 4) \div 5 = \frac{10}{5} = 2$$

=> Ans - (B)

Question 10

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

1. Viper
2. Vapour
3. Victory
4. Vacuum
5. Visit

A 42135

B 42315

C 24315

D 24135

Answer: B

Explanation:

As per the order of dictionary,

= Vacuum -> Vapour -> Victory -> Viper -> Visit

≡ 42315

=> Ans - (B)

Question 11

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

?, 28, 65, 126, 217, 344

A 7

B 4

C 9

D 5

Answer: C

Explanation:

The numbers are of the form $(n^3 + 1)$ where n is a natural number.

$$(2)^3 + 1 = 9$$

$$(3)^3 + 1 = 28$$

$$(4)^3 + 1 = 65$$

$$(5)^3 + 1 = 126$$

$$(6)^3 + 1 = 217$$

$$(7)^3 + 1 = 344$$

=> Ans - (C)

Question 12

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

J, O, T, Y, D, ?

A I

B J

C H

D K

Answer: A

Explanation:

Expression : J, O, T, Y, D, ?

The pattern followed is that there is a gap of four English alphabets in between each pair of alphabets.

$$\Rightarrow J (+5 \text{ letters}) = O (+5 \text{ letters}) = T (+5 \text{ letters}) = Y (+5 \text{ letters}) = D (+5 \text{ letters}) = \mathbf{I}$$

=> Ans - (A)

Question 13

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

A Metre

B Kilometre

C Centimetre

D Litre

Answer: D

Explanation:

Metre, kilometre and centimetre are units to measure distance while litre is used to measure quantity, hence it is the odd one out.

=> Ans - (D)

Question 14

In the following question, select the odd number pair from the given alternatives.

A 24 : 47

B 16 : 31

C 28 : 55

D 32 : 65

Answer: D

Explanation:

The pattern followed is = $n : (2n - 1)$

(A) : $(2 \times 24 - 1) = 47$

(B) : $(2 \times 16 - 1) = 31$

(C) : $(2 \times 28 - 1) = 55$

(D) : $(2 \times 32 - 1) = 63 \neq 65$

=> Ans - (D)

Question 15

In the following question, select the odd letters from the given alternatives.

A ACEG

B MOQS

C FHIK

D PRTV

Answer: C

Explanation:

(A) : A (+2 letters) = C (+2 letters) = E (+2 letters) = G

(B) : M (+2 letters) = O (+2 letters) = Q (+2 letters) = S

(C) : F (+2 letters) = H (+1 letter) = I (+2 letters) = K

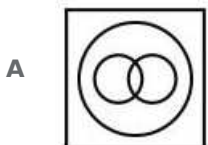
(D) : P (+2 letters) = R (+2 letters) = T (+2 letters) = V

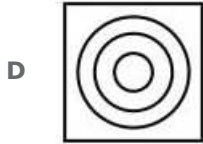
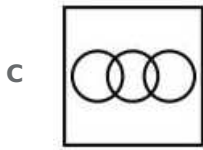
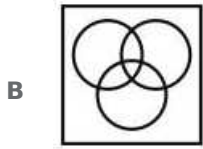
=> Ans - (C)

Question 16

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

Cricketer, Male, Actor





Answer: C

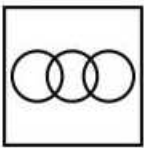
Explanation:

A male can be a cricketer or an actor, but an actor cannot be a cricketer.

here cricketer and actor defines field in which they work

for example sachin tendulkar acted in many ads but by profession he is a cricketer hence one can only be cricketer or an actor at one working profession

Thus, the venn diagram that best describes above relationship is :



=> Ans - (C)

Question 17

In the following question, select the related word from the given alternatives.

Love : Hate :: Deep : ?

- A** Long
- B** Bright
- C** Shallow
- D** High

Answer: C

Explanation:

Expression = Love : Hate :: Deep : ?

The first pair of words are antonyms, i.e. love is the opposite of hate. Similarly opposite of deep is **shallow**.

=> Ans - (C)

Question 18

In the following question, select the related number from the given alternatives.

18636 : 3106 :: 2508 : ?

- A** 418
- B** 406
- C** 394
- D** 430

Answer: A

Explanation:

Expression = 18636 : 3106 :: 2508 : ?

The second number in the pair is the result when first number is divided by 6.

Eg :- $\frac{18636}{6} = 3106$

Similarly, $\frac{2508}{6} = 418$

=> Ans - (A)

Question 19

In the following question, select the related letters from the given alternatives.

LP : QU :: VX : ?

- A** BD
- B** AD
- C** ZB
- D** AC

Answer: D

Explanation:

Expression = LP : QU :: VX : ?

The pattern followed is that in the pair each letter of the first term is related to the second term as :

L (+5 letters) = Q , P (+5 letters) = U

Similarly, V (+5 letters) = A , X (+5 letters) = C

=> VX : **AC**

=> Ans - (D)

Question 20

In the following question, select the word which cannot be formed using the letters of the given word.

OPTICIAN

- A** PAINT
- B** PAIN
- C** COIN
- D** TAIL

Answer: D

Explanation:

The word 'OPTICIAN' does not contain any 'L', thus the term **Tail** cannot be formed.

=> Ans - (D)

Question 21

P is father of Q, but Q is not his son. S is wife of P. R is son of S. How is Q related to S?

- A Brother
- B Daughter
- C Father
- D Cannot be determined

Answer: B

Explanation:

P is father of Q, but Q is not his son, => Q is daughter of P (male).

Also, S is wife of P. R is son of S, => Q (female) and R (male) are siblings.

Thus, Q is **daughter** of S.

=> Ans - (B)

Question 22

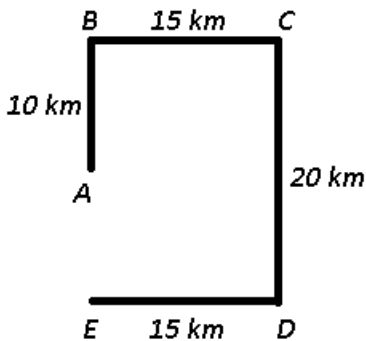
Megha walks 10 km towards North. She turns right and walks 15 km. She turns right and walks 20 km. She turns right and walks 15 km. How far (in km) is she from her starting point?

- A 15
- B 5
- C 10
- D 20

Answer: C

Explanation:

Let Megha starts from point A and walks 10 km towards North to reach B. She then turns right and walks 15 km to reach C. She again turns right and walks 20 km southwards. She turns right and walks 15 km to finally stop at point E.



Thus, she is **10 km** from her starting point.

=> Ans - (C)

Question 23

In the following question below are given some statements followed by some conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the conclusions and then decide which of the given conclusion logically follows the given statements.

Statements:

- I. All pens are cups.
- II. All cups are chairs.

Conclusions:

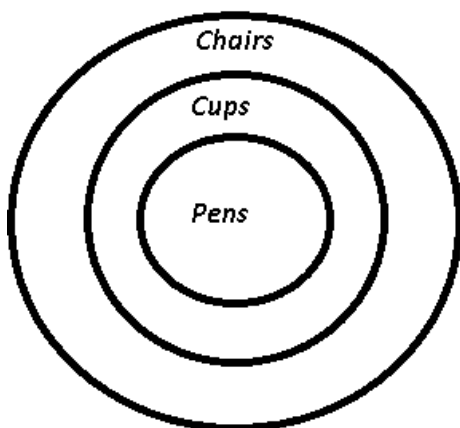
- I. All pens are chairs.
- II. Some cups are pens.

- A Only conclusion (I) follows.
- B Only conclusion (II) follows.
- C Both conclusion follow.
- D Neither conclusion (I) nor conclusion (II) follows.

Answer: C

Explanation:

The venn diagram for above statements is :



Conclusions:

- I. All pens are chairs = true
- II. Some cups are pens = true

Thus, both conclusion follow.

=> Ans - (C)

Question 24

In a certain code language, "BOOK" is written as "CQRO". How is "ROAD" written in that code language?

- A SQDH
- B SQCH
- C SRDH
- D SREH

Answer: A

Explanation:

"BOOK" is written as "CQRO"

The pattern followed is :

B	O	O	K
(+1)	(+2)	(+3)	(+4)
C	Q	R	O

Similarly, for ROAD : **SQDH**

R	O	A	D
(+1)	(+2)	(+3)	(+4)
S	Q	D	H

=> Ans - (A)

Question 25

In a certain code language, "HELLO" is written as "97151620" and "WORLD" is written as "241721169". How is "FRUIT" written in that code language?

- A 720241325
- B 720231325
- C 720241324
- D 719231325

Answer: A

Explanation:

"HELLO" is written as "97151620"

If all the alphabets are numbered sequentially, i.e. A=1, B=2, C=3 and so on, then the pattern followed is :

$$H + 1 = I \equiv 9$$

$$E + 2 = G \equiv 7$$

$$L + 3 = O \equiv 15$$

$$L + 4 = P \equiv 16$$

$$O + 5 = T \equiv 20$$

Similarly, WORLD = 241721169

$$F + 1 = G \equiv 7$$

$$R + 2 = T \equiv 20$$

$$U + 3 = X \equiv 24$$

$$I + 4 = M \equiv 13$$

$$T + 5 = Y \equiv 25$$

∴ FRUIT : 720241325

=> Ans - (A)

English

Instructions

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

Question 26

This book stall is very well stocked (a)/ you can almost get (b)/ every book here. (c)/ No Error (d)

A a

B b

C c

D d

Answer: B

Question 27

The old woman continued living a hard life (a)/ but never she asked (b)/ for any help from neighbours. (c)/ No Error (d)

A a

B b

C c

D d

Answer: B

Instructions

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

Question 28

He runs faster than _____.

A I

B me

C my

D his

Answer: A

Question 29

There is no difference between _____ and me.

A yourself

B you

C yours

D your

Answer: B

Instructions

For the following questions answer them individually

Question 30

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

Bleak

- A Comfortable
- B Depressing
- C Pleasant
- D Bright

Answer: B

Question 31

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

Chaos

- A Order
- B Quiet
- C Mix-up
- D Normality

Answer: C

Question 32

In the following question, out of the given four alternatives, select the one which best expresses the meaning of the given word.

Chorus

- A Soloist
- B Signing group
- C Artist
- D Pundit

Answer: B

Question 33

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

Split

- A Clear

- B** Position
- C** Join
- D** Distribute

Answer: C

Question 34

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

Cherish

- A** Abandon
- B** Admire
- C** Nourish
- D** Shelter

Answer: A

Question 35

In the following question, out of the given four alternatives, select the one which is opposite in meaning of the given word.

Proceeding

- A** Action
- B** Passiveness
- C** Movement
- D** Procedure

Answer: B

Question 36

In the following question, out of the four given alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

Make a fortune

- A** To become rich
- B** Boasting
- C** Unavoidable
- D** Reviewing leisurely

Answer: A

Question 37

In the following question, out of the four given alternatives, select the alternative which best expresses the meaning of the Idiom/Phrase.

Cry down

- A** To depreciate
- B** Jealousy
- C** Spending diligently
- D** Think creatively

Answer: A

Question 38

Improve the bracketed part of the sentence.

The jury were divided in (its) decision.

- A** their
- B** his
- C** her
- D** No improvement

Answer: A

Question 39

Improve the bracketed part of the sentence.

Everybody was there except (me).

- A** I
- B** my
- C** mine
- D** No improvement

Answer: D

Question 40

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

Flesh Eater

- A** Herbivore
- B** Carnivore
- C** Omnivore

D Piscivore

Answer: B

Question 41

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

One who prescribes medicine

A Optician

B Politician

C Beautician

D Physician

Answer: D

Question 42

In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

A Sufering

B Suffering

C Suffiring

D Sufireng

Answer: B

Question 43

In the following question, a word has been written in four different ways out of which only one is correctly spelt. Select the correctly spelt word.

A Cuorageous

B Couragious

C Couragoeous

D Courageous

Answer: D

Question 44

Rearrange the parts of the sentence in correct order.

Modern e-mail

P: intenet or other

Q: computer networks

R: operates across the

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

Answer: D

Question 45

Rearrange the parts of the sentence in correct order.

The most frightening

P:is that it is likely to

Q:aspect of malnutrition

R:cause permanent brain damage

- A RPQ
- B PQR
- C QPR
- D RQR

Answer: C

Instructions

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

A mother is the most ___(1)___ person in the life of everyone about which we cannot ___(2)___ completely in the words. However, some of the ___(3)___ moments with our mother can be described. A mother is ___(4)___ most beautiful and caring person in our lives. She always cares every moment for our every need without her any ___(5)___ intention. In the morning, she calls us very softly to get a rise from the bed and during the night she tells us lovely stories to make us sleep with a beautiful dream.

Question 46

A mother is the most _____ person

- A precarious
- B poetic
- C precious
- D dependent

Answer: C

Question 47

which we cannot _____ completely

- A describe

B write

C speak

D listen

Answer: A

Question 48

However some of the _____ moments

A valueless

B valuable

C checked

D filtered

Answer: B

Question 49

A mother is _____ most beautiful

A the

B a

C an

D my

Answer: A

Question 50

need without her any _____ intention.

A public

B official

C customized

D personal

Answer: D

Quant

Instructions

For the following questions answer them individually

Question 51

Which of the following is true?

A $\frac{7}{8} > \frac{6}{7} > \frac{3}{4}$

B $\frac{3}{4} > \frac{6}{7} > \frac{7}{8}$

C $\frac{6}{7} > \frac{3}{4} > \frac{7}{8}$

D $\frac{6}{7} > \frac{7}{8} > \frac{3}{4}$

Answer: A

Explanation:

Fractions : $\frac{7}{8}, \frac{6}{7}, \frac{3}{4}$

L.C.M. of denominators (8,7,4) = 56

$$\equiv \left(\frac{49}{56}\right), \left(\frac{48}{56}\right), \left(\frac{42}{56}\right)$$

Now, arranging in decreasing order, we get : $\frac{49}{56} > \frac{48}{56} > \frac{42}{56}$

$$\equiv \frac{7}{8} > \frac{6}{7} > \frac{3}{4}$$

=> Ans - (A)

Question 52

What is the simplified value of $\frac{\sqrt{9}+\sqrt{7}}{\sqrt{9}-\sqrt{7}}$?

A $8 + 3\sqrt{7}$

B $8 - 3\sqrt{7}$

C $16 + 3\sqrt{7}$

D $16 - 3\sqrt{7}$

Answer: A

Explanation:

Expression : $\frac{\sqrt{9}+\sqrt{7}}{\sqrt{9}-\sqrt{7}}$

Rationalizing the denominator, we get :

$$= \frac{\sqrt{9}+\sqrt{7}}{\sqrt{9}-\sqrt{7}} \times \frac{\sqrt{9}+\sqrt{7}}{\sqrt{9}+\sqrt{7}}$$

$$= \frac{(\sqrt{9}+\sqrt{7})^2}{(\sqrt{9}-\sqrt{7})(\sqrt{9}+\sqrt{7})}$$

$$= \frac{9+7+2(\sqrt{9})(\sqrt{7})}{9-7}$$

$$= \frac{16+2\sqrt{63}}{2}$$

$$= 8 + \sqrt{63} = 8 + 3\sqrt{7}$$

=> Ans - (A)

Question 53

If $A = 23 \times 3$ and $B = 25 \times 3$, then what is the value of $A \times B$?

- A 69×75
- B 215×38
- C 28×38
- D 215×36

Answer: A

Question 54

Which of the following relation (s) is/are true ?

- I. $\sqrt{2} > \sqrt[3]{3}$
- II. $\sqrt[3]{3} > \sqrt{2}$
- III. $\sqrt{2} = \sqrt[3]{3}$

- A Only I
- B Only II
- C Neither I nor II
- D Either I or II

Answer: B

Explanation:

Terms : $\sqrt{2}$ and $\sqrt[3]{3}$

$$\equiv (2)^{\frac{1}{2}} \text{ and } (3)^{\frac{1}{3}}$$

L.C.M. of (2,3) = 6, thus multiplying the exponents by 6, we get :

$$\Rightarrow (2)^{\frac{6}{2}} \text{ and } (3)^{\frac{6}{3}}$$

$$\Rightarrow (2)^3 \text{ and } (3)^2$$

$$\Rightarrow 8 \text{ and } 9$$

Now, $9 > 8$

$$\equiv \sqrt[3]{3} > \sqrt{2}$$

Thus, *only II* is true.

\Rightarrow Ans - (B)

Question 55

What is the simplified value of $(2.7)^2 - 2.7 \times 1.3 + (1.3)^2$?

- A 4
- B 1.4
- C 1.3

D 2.7

Answer: A

Explanation:

$$\text{Expression : } (2.7)^2 - 2.7 \times 1.3 + (1.3)^2$$

Let $2.7 = x$ and $1.3 = y$

$$\equiv (x)^2 - xy + (y)^2$$

$$\text{Using, } (x^3 + y^3) = (x + y)(x^2 + y^2 - xy)$$

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

$$= 2.7 + 1.3 = 4$$

=> Ans - (A)

Question 56

How many two digit numbers are divisible by 9?

A 9

B 8

C 10

D 11

Answer: C

Explanation:

2 digits numbers which are divisible by 9 are : 18,27,.....,99

Clearly, these numbers form an A.P. with first term, $a = 18$, last term, $l = 99$ and common difference, $d = 9$

Let number of terms be n

$$\Rightarrow \text{Last term of an A.P.} = l = a + (n - 1)d$$

$$\Rightarrow 99 = 18 + (n - 1)9$$

$$\Rightarrow (n - 1)9 = 99 - 18 = 81$$

$$\Rightarrow (n - 1) = \frac{81}{9} = 9$$

$$\Rightarrow n = 9 + 1 = 10$$

Thus, there are 10 two digit numbers that are divisible by 9.

=> Ans - (C)

Question 57

P alone can complete a work in 10 days and Q alone can complete the same work in 20 days. If P and Q work together, then in how many days the same work will be completed?

A $\frac{2}{53}$

B $\frac{2}{63}$

C $\frac{2}{83}$

D $\frac{4}{75}$

Answer: B

Explanation:

Let total work is L.C.M. (10,20) = 20 units

P alone can complete a work in 10 days, \Rightarrow P's efficiency = $\frac{20}{10} = 2$ units/day

Similarly Q's efficiency = $\frac{20}{20} = 1$ unit/day

Now, (P+Q)'s 1 day's work = $2 + 1 = 3$ units/day

\therefore Days required by P and Q together to complete the work = $\frac{20}{3} = 6\frac{2}{3}$ days

\Rightarrow Ans - (B)

Question 58

A and B together can complete a work in 8 days. B alone can complete the work in 24 days. In how many days A alone can complete the same work?

A 16

B 14

C 12

D 13

Answer: C

Explanation:

Let total work is L.C.M. (8,24) = 24 units

B alone can complete the work in 24 days, \Rightarrow B's efficiency = $\frac{24}{24} = 1$ unit/day

Let A's efficiency = x units/day

Similarly (A+B)'s efficiency = $\frac{24}{8} = 3$ units/day

Now, (A+B)'s 1 day's work = $x + 1 = 3$

$\Rightarrow x = 3 - 1 = 2$ units/day

\therefore Days required by A alone to complete the work = $\frac{24}{2} = 12$ days

\Rightarrow Ans - (C)

Question 59

What is the area ($incm^2$) of a square having perimeter 84 cm?

A 361

B 529

C 484

D 441

Answer: D

Explanation:

Let side of square = s cm

\Rightarrow Perimeter = $4s = 84$

$$\Rightarrow s = \frac{84}{4} = 21 \text{ cm}$$

$$\therefore \text{Area of square} = s^2 = (21)^2 = 441 \text{ cm}^2$$

\Rightarrow Ans - (D)

Question 60

Two successive discounts of 30% and 70% are given. What will be the net discount (in percentage)?

A 63

B 79

C 100

D 87

Answer: B

Explanation:

Let Marked price = Rs. 100

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

$$= 100 - 30 = 70$$

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

$$= 70 - 49 = 21$$

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

\Rightarrow Ans - (B)

Question 61

After giving a discount of 40% on an article, there is still a profit of 25%. If no discount is given, then what will be the profit percentage?

A 109.33

B 25

C 107.67

D 108.33

Answer: D

Explanation:

Let Marked price of the article = Rs. 100

Discount % = 40%

$$\Rightarrow \text{Selling price} = 100 - \left(\frac{40}{100} \times 100\right)$$

$$= 100 - 40 = \text{Rs. } 60$$

Profit % = 25%

$$\Rightarrow \text{Cost price} = \frac{60}{(100+25)} \times 100$$

$$= \frac{60}{5} \times 4 = \text{Rs. } 48$$

If no discount is given, \Rightarrow Selling price = Rs. 100

$$\begin{aligned}\therefore \text{Profit \%} &= \frac{(100-48)}{48} \times 100 \\ &= \frac{5200}{48} = 108.33\%\end{aligned}$$

\Rightarrow Ans - (D)

Question 62

Marks of A and B are in the ratio 5 : 7 respectively. If the marks of A is 25, then find the marks of B?

A 60

B 35

C 28

D 45

Answer: B

Explanation:

Let marks of A = $5x$ and B's marks = $7x$

According to ques, $\Rightarrow 5x = 25$

$$\Rightarrow x = \frac{25}{5} = 5$$

\therefore B's marks = $7 \times 5 = 35$

\Rightarrow Ans - (B)

Question 63

If A : B = 4 : 5 and B : C = 20 : 11, then find A : B : C ?

A 4 : 20 : 7

B 16 : 25 : 22

C 16 : 20 : 11

D 8 : 10 : 7

Answer: C

Explanation:

Given = A : B = 4 : 5 and B : C = 20 : 11

$$\Rightarrow \frac{A}{B} = \frac{4}{5} \text{ -----(i)}$$

$$\text{and } \frac{B}{C} = \frac{20}{11} \text{ -----(ii)}$$

Multiplying equation (i) by '4', we get : $\frac{A}{B} = \frac{16}{20}$

Now, the value of B is same in both equation, \Rightarrow A : B : C = 16 : 20 : 11

\Rightarrow Ans - (C)

Question 64

Average of 43, 57, 68, 32, 97 and x is 63. What is the value of x?

- A 83
- B 77
- C 81
- D 75

Answer: C

Explanation:

Number of terms = 6

$$\text{Average} = \frac{(43+57+68+32+97+x)}{6} = 63$$

$$\Rightarrow 297 + x = 63 \times 6$$

$$\Rightarrow 297 + x = 378$$

$$\Rightarrow x = 378 - 297 = 81$$

\Rightarrow Ans - (C)

Question 65

If the ratio of selling price and cost price is 3 : 4 respectively, then what is the loss percentage?

- A 10
- B 33.33
- C 20
- D 25

Answer: D

Explanation:

Let selling price = Rs. 3 and cost price = Rs. 4

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

$$= \frac{(4-3)}{4} \times 100$$

$$= \frac{100}{4} = 25\%$$

\Rightarrow Ans - (D)

Question 66

An article is sold at 30% loss. If the selling price is increased by 50%, then what is the profit percentage?

- A 5
- B 8
- C 12
- D 20

Answer: A

Explanation:

Let cost price = Rs. 100

Loss % = 30%

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

$$= 100 - 30 = \text{Rs. } 70$$

$$\text{If selling price is increased by 50\%, } \Rightarrow \text{New selling price} = 70 + \left(\frac{50}{100} \times 70\right)$$

$$= 70 + 35 = \text{Rs. } 105$$

$$\therefore \text{Profit \%} = \frac{(105-70)}{70} \times 100 = 50\%$$

\Rightarrow Ans - (A)

Question 67

What is the value of 20% of 30% of 7200?

A 480

B 432

C 412

D 360

Answer: B

Explanation:

Expression : 20% of 30% of 7200

$$= \frac{20}{100} \times \frac{30}{100} \times 7200$$

$$= 2 \times 3 \times 72 = 432$$

\Rightarrow Ans - (B)

Question 68

12% of what number is equal to 30% of 960?

A 2400

B 1720

C 1440

D 2880

Answer: A

Explanation:

Let number = x

According to ques,

$$\Rightarrow 12\% \text{ of } x = 30\% \text{ of } 960$$

$$\Rightarrow \frac{12}{100} \times x = \frac{30}{100} \times 960$$

$$\Rightarrow 12x = 30 \times 960$$

$$\Rightarrow x = \frac{30 \times 960}{12}$$

$$\Rightarrow x = 30 \times 80 = 2400$$

\Rightarrow Ans - (A)

Question 69

If a car travels a distance with 20% less speed, then it will reach 15 minutes late. What is the usual time (in minutes) taken by the car to travel the same distance?

- A 80
- B 90
- C 75
- D 60

Answer: D

Explanation:

Let usual speed of car = $s_1 = 5$ km/hr and usual time taken = $t_1 = t$ hours

$$\text{New speed} = s_2 = 5 - \left(\frac{20}{100} \times 5\right)$$

$$= 5 - 1 = 4 \text{ km/hr}$$

$$\text{New time taken} = t_2 = \left(t + \frac{15}{60}\right) \text{ hours}$$

$$\therefore \text{speed} \propto \frac{1}{\text{time}} \Rightarrow \frac{s_1}{s_2} = \frac{t_2}{t_1}$$

$$\Rightarrow \frac{5}{4} = \frac{t + \frac{1}{4}}{t}$$

$$\Rightarrow 5t = 4t + 1$$

$$\Rightarrow 5t - 4t = 1$$

$$\Rightarrow t = 1 \text{ hour}$$

\therefore Usual time taken by the car to travel the same distance = 1 hour = 60 minutes

\Rightarrow Ans - (D)

Question 70

A goes from Point X to Point Y at a speed of 60 km/hr and comes back with a speed of 80 km/hr. What is the average speed (in km/hr) of A for going and coming back?

- A 66.66
- B 68.57
- C 67.33
- D 69.43

Answer: B

Explanation:

Speed of A from point X to Y = 60 km/hr

Speed on return journey = 80 km/hr

Since, equal distances are covered, average speed = harmonic mean of both speeds = $\frac{2xy}{x+y}$

$$= \frac{2 \times 60 \times 80}{(60+80)}$$

$$= \frac{120 \times 80}{140}$$

...

$$= \frac{480}{7} = 68.57 \text{ km/hr}$$

=> Ans - (B)

Question 71

A certain amount double in 5 years, when invested at simple interest. In how many years will it become 8 times?

A 35

B 40

C 30

D 45

Answer: A

Explanation:

Let rate of interest = $r\%$

Let principal sum = Rs. 100

Amount is doubled in 5 years = Rs. 200

=> Simple interest = $200 - 100 = \text{Rs. } 100$

$$\Rightarrow \frac{P \times R \times T}{100} = 100$$

$$\Rightarrow \frac{100 \times r \times 5}{100} = 100$$

$$\Rightarrow 5r = 100$$

$$\Rightarrow r = \frac{100}{5} = 20\%$$

Now, let time required so that amount becomes 8 times = t years

=> New interest = $800 - 100 = \text{Rs. } 700$

$$\Rightarrow \frac{100 \times 20 \times t}{100} = 700$$

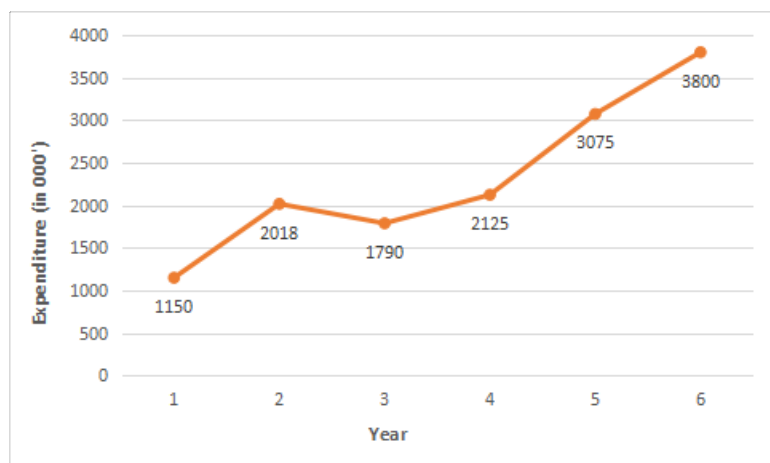
$$\Rightarrow 20t = 700$$

$$\Rightarrow t = \frac{700}{20} = 35 \text{ years}$$

=> Ans - (A)

Instructions

The line chart given below shows the expenditure on clothes (in 000') for the given years.



Question 72

Expenditure in year 2016 is how much percent more than the expenditure in year 2015?

- A 19.07
- B 23.57
- C 21.16
- D 17.64

Answer: B

Explanation:

Expenditure in year 2016 (in 000') = 3800

Expenditure in year 2015 (in 000') = 3075

$$\Rightarrow \text{Required \% increase} = \frac{(3800-3075)}{3075} \times 100$$

$$= \frac{725}{3075} = 1.23 = 23.57\%$$

\Rightarrow Ans - (B)

Question 73

What is the average expenditure (in 000') per year from the year 2014 to 2016?

- A 3120
- B 3080
- C 3000
- D 3430

Answer: C

Explanation:

Expenditure in year 2014 (in 000') = 2125

Expenditure in year 2015 (in 000') = 3075

Expenditure in year 2016 (in 000') = 3800

$$\Rightarrow \text{Average expenditure in the 3 years (in 000')} = \frac{(2125+3075+3800)}{3}$$

$$= \frac{9000}{3} = 3000$$

\Rightarrow Ans - (C)

Question 74

Expenditure in the year 2014 is what percent of the expenditure in year 2013?

- A 118.71
- B 18.71
- C 115.76
- D 15.76

Answer: A

Explanation:

Expenditure in year 2014 (in 000') = 2125

Expenditure in year 2013 (in 000') = 1790

$$\Rightarrow \text{Required \%} = \frac{2125}{1790} \times 100$$

$$= \frac{21250}{179} = 118.71\%$$

\Rightarrow Ans - (A)

Question 75

Expenditure in the year 2012 is how much more (in 000') than the expenditure in year 2013?

A 878

B 158

C 228

D 335

Answer: C

Explanation:

Expenditure in year 2013 (in 000') = 1790

Expenditure in year 2012 (in 000') = 2018

$$\Rightarrow \text{Required difference (in 000')} = 2018 - 1790 = 228$$

\Rightarrow Ans - (C)

General Awareness

Instructions

For the following questions answer them individually

Question 76

Which among the following is called a medium of exchange?

A Money

B Crops

C Gold

D Land

Answer: A

Question 77

In which kind of wants, both parties have agree to sell and buy each other commodities?

A Single coincidence

B Double coincidence

- C Triple coincidence
- D None of these

Answer: B

Question 78

Which among the following is/are organ/organs of Indian Government?

- I. The Legislature
- II. The Judiciary

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

Answer: C

Question 79

How many fundamental duties does part IV-A of Indian constitution specifies?

- A 5
- B 7
- C 11
- D 31

Answer: C

Question 80

Who was the most famous Kushan ruler?

- A Ashvaghosha
- B Kanishka
- C Heraios
- D Ban Yong

Answer: B

Question 81

Which Mughal emperor issued a 'Farman' granting the East India Company the right to trade duty free?

- A Shah Jahan
- B Aurangzeb
- C Bahadur Shah Zafar

D Shah Alam

Answer: B

Question 82

90 degrees south latitude marks what?

A South Pole

B North Pole

C Equator

D Prime Meridian

Answer: A

Question 83

What is the area of the Earth's surface covered with water called?

A Lithosphere

B Atmosphere

C Biosphere

D Hydrosphere

Answer: D

Question 84

Which of the metallic ions is essential for blood clotting?

A Na⁺

B Ca⁺⁺

C K⁺

D Fe⁺⁺

Answer: B

Question 85

The total number of bones in the body of an adult human is _____.

A 205

B 206

C 216

D 636

Answer: B

Question 86

Largest gland in human body is _____.

- A** Liver
- B** Pancreas
- C** Pituitary
- D** Thyroid

Answer: A

Question 87

A force may change _____ of an object.

- A** speed
- B** direction
- C** shape
- D** All options are correct

Answer: D

Question 88

Good conductors have many loosely bound _____.

- A** neutrons
- B** protons
- C** positron
- D** electrons

Answer: D

Question 89

What is the full form of URL?

- A** Universal Resource Locator
- B** Universal Resource Location
- C** Uniform Resource Locator
- D** Uniform Resource Location

Answer: C

Question 90

Isotopes differ in _____.

- A** No. of electrons
- B** No. of protons
- C** No. of neutrons
- D** Chemical reactivity

Answer: C

Question 91

Chlorine atom and chloride ions _____.

- A** Have an equal number of protons
- B** Have an equal number of electrons
- C** Unequal number neutrons
- D** react spontaneously with water

Answer: A

Question 92

Air pollution has harmful effect on which of the following?

- A** Living
- B** Non living
- C** Both living and non living
- D** Neither living nor not living

Answer: C

Question 93

What is Pradhan Mantri Suraksha Bima Yojana?

- A** A health insurance scheme
- B** A financial inclusion scheme
- C** A life insurance scheme
- D** A accident insurance scheme

Answer: D

Question 94

Who invented the 'world wide web'?

- A** Tim Berners-Lee
- B** John O'Sullivan
- C** Jan Koum
- D** Steve Jobs

Answer: A

Question 95

Sachin Tendulkar played his last test match in which stadium?

- A** Wankhede Stadium
- B** DY Patil Stadium
- C** Brabourne Stadium
- D** None of these

Answer: A

Question 96

The annual cultural festivals held at Surajkund, Faridabad is an International ____ Mela.

- A** Books
- B** Crafts
- C** Science
- D** Cattle

Answer: B

Question 97

Who among the following is a winner of 2016 Rajeev Gandhi Khel Ratna Award?

- A** Sania Mirza
- B** Sakshi Malik
- C** Deepa Kumari
- D** Dutee Chand

Answer: B

Question 98

Who is the author of the book named "Unbreakable"?

- A** Mary Kom
- B** Ahmed Faraz
- C** Vijay Dasda
- D** None of these

Answer: A

Question 99

In 1974, India became the ____ non-arab state to recognize Palestine Liberation Organisation as sole and legitimate representative of the people of palestine.

- A** First
- B** Second
- C** Third
- D** Fourth

Answer: A

Question 100

Which of the following neighbouring country does not share land border with India?

- A** Maldives
- B** Bangladesh
- C** Myanmar
- D** Pakistan

Answer: A