

SSC CHSL 25 Jan 2017 Morning Shift

Reasoning

Instructions

For the following questions answer them individually

Question 1

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

Tropic of Cancer : Latitude :: Prime Meridian : ?

- A Equinox
- B Contour line
- C Longitude
- D Climatic zone

Answer: C

Explanation:

The Tropic of Cancer is the circle marking the latitude, similarly prime meridian is the line of 0° longitude.

=> Ans - (C)

Question 2

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

ECEIN :NIECE :: VANISH:?

- A HSINVA
- B SHINAV
- C HSINAV
- D HSNIIV

Answer: C

Explanation:

Expression = ECEIN :NIECE :: VANISH:?

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

Similarly, reverse of VANISH : **HSINAV**

=> Ans - (C)

Question 3

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

HNP :JPR :: QRS : ?

A KNO

B STU

C NQR

D TZA

Answer: B

Explanation:

Expression = HNP :JPR :: QRS : ?

The pattern followed is :

H	N	P
(+2)	(+2)	(+2)
J	P	R

Similarly, QRS : STU

Q	R	S
(+2)	(+2)	(+2)
S	T	U

=> Ans - (B)

Question 4

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

14 : 225 :: 17 : ?

A 225

B 324

C 342

D 569

Answer: B

Explanation:

Expression = 14 : 225 :: 17 : ?

The pattern followed is = $x : (x + 1)^2$

Eg :- $14 : (14 + 1)^2 = 14 : 225$

Similarly, $(17 + 1)^2 = (18)^2 = 324$

=> Ans - (B)

Question 5

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

- A Bridge
- B Escalator
- C Ladder
- D Staircase

Answer: A

Explanation:

Escalator, ladder and staircase are used to move up or down between floors, while a bridge is a structure carrying a road, hence it is the odd one out.

=> Ans - (A)

Question 6

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

- A VTR
- B JLO
- C PNL
- D HFD

Answer: B

Explanation:

(A) : V (-2 letters) = T (-2 letters) = R

(B) : J (+2 letters) = L (+3 letters) = O

(C) : P (-2 letters) = N (-2 letters) = L

(D) : H (-2 letters) = F (-2 letters) = D

=> Ans - (B)

Question 7

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

A 1256

B 5397

C 8765

D 9842

Answer: D

Explanation:

Sum of middle two digit and extreme two digits are same, but $9 + 2 \neq 8 + 4$, hence 9842 is the odd one out.

=> Ans - (D)

Question 8

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

A 1728

B 5789

C 6088

D 4321

Answer: A

Explanation:

Among the given numbers, only $1728 = (12)^3$ is a perfect cube, hence it is the odd one out.

=> Ans - (A)

Question 9

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

Zoo, National Park, Wildlife Sanctuary, ?

A Biosphere Reserve

B Forest

C Botanical Garden

D Prairie

Answer: A

Explanation:

Zoo, National park, wild life sanctuary and biosphere reserve, all are used to conserve and protect wild life.

=> Ans - (A)

Question 10

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

LMN, NPP, PSR, ?

A QRS

B RQT

C PQR

D RVT

Answer: D

Explanation:

Expression : LMN, NPP, PSR, ?

The pattern followed in each letter of the terms is :

1st letter : L (+2 letters) = N (+2 letters) = P (+2 letters) = R

2nd letter : M (+3 letters) = P (+3 letters) = S (+3 letters) = V

3rd letter : N (+2 letters) = P (+2 letters) = R (+2 letters) = T

Thus, missing term = **RVT**

=> Ans - (D)

Question 11

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

FD, HF, KH, OJ, ?

A GH

B EF

C RS

D TL

Answer: D

Explanation:

Expression : FD, HF, KH, OJ, ?

The pattern followed in each letter of the terms is :

1st letter : F (+2 letters) = H (+3 letters) = K (+4 letters) = O (+5 letters) = T

2nd letter : D (+2 letters) = F (+2 letters) = H (+2 letters) = J (+2 letters) = L

Thus, missing term = **TL**

=> Ans - (D)

Question 12

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

1, 6, 21, 66, ?

A 250

B 201

C 310

D 308

Answer: B

Explanation:

The pattern followed is :

$$1 \times 3 + 3 = 6$$

$$6 \times 3 + 3 = 21$$

$$21 \times 3 + 3 = 66$$

$$66 \times 3 + 3 = \mathbf{201}$$

=> Ans - (B)

Question 13

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

Statement :

(I) Demonetization has evolved need for leaning electronic payment system (EPS).

(II) EPS will enable people to go cashless and use plastic money for most of their transactions.

Conclusions :

(I) EPS is quick, safe, and easy way of transaction of money from one account to another.

(II) Cashless transactions will further curb the black marketing of money in upcoming time.

- A Only conclusion II follows
- B Conclusion I and II both follow
- C Neither I nor II follow
- D Only conclusion I follows

Answer: C

Question 14

If day before yesterday was Sunday, then which day of the week will the sixth day from today be?

- A Wednesday
- B Tuesday
- C Monday
- D Thursday

Answer: C

Explanation:

If day before yesterday was Sunday, then today is = Tuesday

Now, 6th day from today = Tuesday (+6) = Monday

=> Ans - (C)

Question 15

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

- i. Regulate
- ii. Remedy
- iii. Reassemble
- iv. Research

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

Answer: A

Explanation:

As per the order of dictionary :

= Reassemble -> Regulate -> Remedy -> Research

≡ iii,i,ii,iv

=> Ans - (A)

Question 16

In a certain code language, AUSTRALIA is written as @\$!#^@*?@. How is "STRAIT" written in that code language?

A !#^@?#

B !#@^?#

C !#^?@#

D !#^@#?

Answer: A

Explanation:

The codes for each letter is given :

S -> !

T -> #

R -> ^

A -> @

I -> ?

T -> #

Thus, STRAIT : !#^@?#

=> Ans - (A)

Question 17

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

P	M	Q
F	C	F
J	J	?

A R

B K

C L

D 0

Answer: B

Explanation:

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

$$F=6 \text{ and } J=10, \Rightarrow 6 + 10 = 16 \equiv P$$

$$C=3 \text{ and } J=10, \Rightarrow 3 + 10 = 13 \equiv M$$

$$\text{Similarly, } Q=17 \text{ and } F=6, \Rightarrow 17 - 6 = 11 \equiv K$$

\Rightarrow Ans - (B)

Question 18

If "+" means "subtraction", "x" means "division", "÷" means "addition" and "-" means "multiplication", then $154 \times 11 + 78 - 5 \div 45 = ?$

A -331

B -460

C -475

D -743

Answer: A

Explanation:

Expression : $154 \times 11 + 78 - 5 \div 45 = ?$

$$\equiv 154 \div 11 - 78 \times 5 + 45$$

$$= \left(\frac{154}{11}\right) + (-390) + 45$$

$$= 14 + 45 - 390 = -331$$

\Rightarrow Ans - (A)

Question 19

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

CDEF_EDC_DE_FED_

A FCFC

B FCCD

C DCCC

D DEFC

Answer: A

Explanation:

The pattern followed is that in groups of 4, the term 'CDEF' is alternatively repeated in this and reverse order.

= CDEF FEDC CDEF FEDC

=> Ans - (A)

Question 20

A boy leaves his home. He walks 45 m in south-west direction and then 145 m in north-east direction. Then, he moves 60 m in south direction. How far is he now from his initial position?

A 100 m

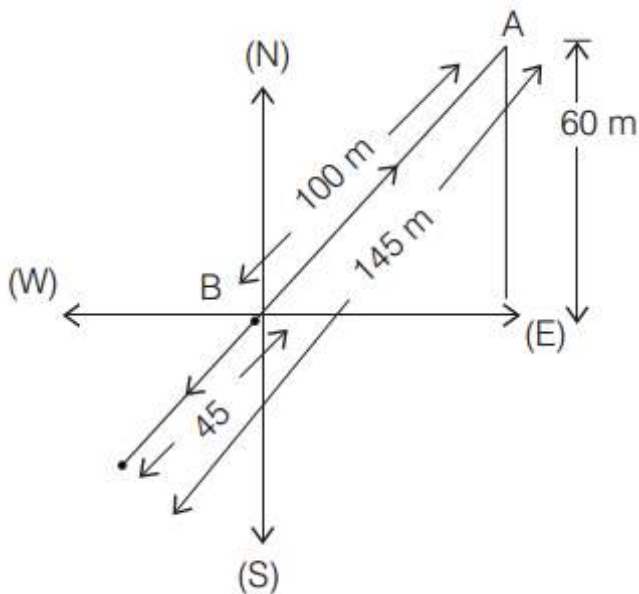
B 80 m

C 40 m

D 60 m

Answer: B

Explanation:



Let the boy leaves his home from origin and walks 45 m in south-west direction and then 145 m in north-east direction. Then, he moves 60 m in south direction.

Thus, distance between his initial and final position = $\sqrt{(100)^2 - (60)^2}$

= $\sqrt{10000 - 3600} = \sqrt{6400} = 80$ m

=> Ans - (B)

Question 21

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'N' can be represented by 21, 43 etc. and 'R' can be represented by 66, 57 etc. Similarly, you have to identify the set for the word 'GEAR'.

Matrix - I

	0	1	2	3	4
0	A	S	E	G	A
1	Q	D	H	L	S
2	W	N	T	K	D
3	H	D	Y	A	F
4	R	G	A	N	G

Matrix - II

	5	6	7	8	9
5	E	T	R	R	F
6	G	R	P	L	R
7	I	O	U	R	M
8	D	F	R	K	Q
9	S	R	W	D	E

A 03,99,57,77

B 44,55,42,66

C 41,00,02,78

D 65,02,00,43

Answer: B

Explanation:

(A) : 03,99,57,77 = GERU

(B) : 44,55,42,66 = **GEAR**

(C) : 41,00,02,78 = GAER

(D) : 65,02,00,43 = GEAN

=> Ans - (B)

Question 22

Introducing a boy, a girl says, "He is the son of the only sister of my mother's brother". How is the boy related to that girl?

A Father-in-law

B Brother

C Cousin

D Niece

Answer: B

Explanation:

Only sister of the girl's mother's brother, => girl's mother

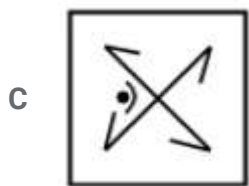
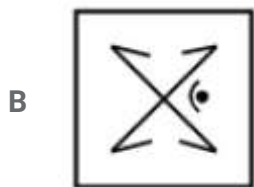
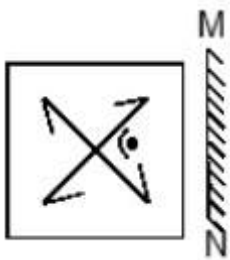
Now, son of girl's mother = girl's brother

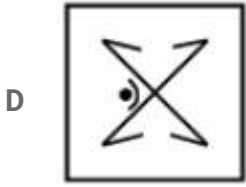
Thus, the boy is the brother of that girl.

=> Ans - (B)

Question 23

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

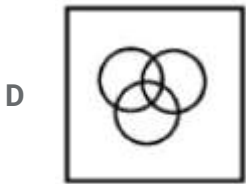
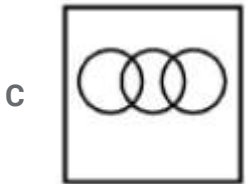
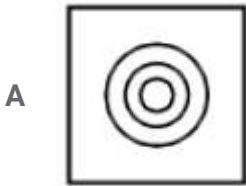




Answer: B

Question 24

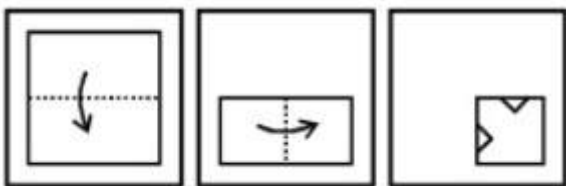
Identify the diagram that best represents the relationship among the given classes.
Society, Friends, Enemies

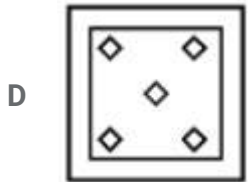
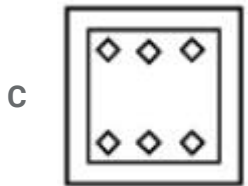
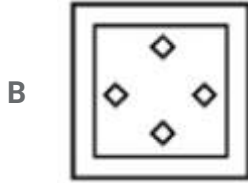
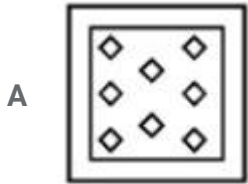


Answer: B

Question 25

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





Answer: C

General Awareness

Instructions

For the following questions answer them individually

Question 26

Who built the Buddhist Monuments at Sanchi?

- A Mughal Dynasty
- B Maurya Dynasty
- C Gupta Dynasty
- D Chola Dynasty

Answer: B

Question 27

Gulzar won Oscars for the movie "Slumdog Millionaire" in the category of ____ .

- A Best Sound Mixing
- B Best Original Score
- C Best Original Song
- D Best Foreign Language Film

Answer: C

Question 28

Which of the following is a primary function of haemoglobin?

- A Utilization of energy
- B Prevention of anaemia
- C Destruction of bacteria
- D To transport oxygen

Answer: D

Question 29

Vascular bundles are absent in_____.

- A Bryophyta
- B Pteridophyta
- C Gymnosperms
- D Angiosperms

Answer: A

Question 30

Sauria Lacertidae is the scientific name of_____.

- A Crocodile

B Hippopotamus

C Lizard

D House fly

Answer: C

Question 31

In chemistry, soap is a salt of a _____ .

A Fatty acid

B Glycol

C Phosphorus

D Ammonium Carbonate

Answer: A

Question 32

A _____ is a pair of forces, equal in magnitude, oppositely directed, and displaced by perpendicular distance or moment.

A bond

B couple

C pair

D duo

Answer: B

Question 33

Which of these is not an Operating System?

A Android

B iOS

C HTML

D Symbian

Answer: C

Question 34

Chapchar Kut is a festival of which state?

- A** Manipur
- B** Nagaland
- C** Mizoram
- D** Meghalaya

Answer: C

Question 35

Find arc elasticity of demand, if quantity demanded falls from 750 units to 650 units when price of the item is increased from Rs 15 to Rs 20?

- A** 0.5
- B** -0.5
- C** -2
- D** 2

Answer: B

Question 36

In which stage of the business cycle the inventory stock will be the highest?

- A** Boom
- B** Depression
- C** Recession
- D** Recovery

Answer: B

Question 37

Which type of pathogen causes the water-borne disease SARS (Severe Acute Respiratory Syndrome)?

- A Viral
- B Parasitic
- C Protozoan
- D Bacterial

Answer: A

Question 38

Excessive richness of nutrients in a lake or other body of water is called ____ .

- A Biomagnification
- B Global Warming
- C Salination
- D Eutrophication

Answer: D

Question 39

Which of the following is a Direct tax?

- A Excise Duty
- B Customs Duty
- C Service Tax
- D Wealth tax

Answer: D

Question 40

The boundary line between India and Pakistan is called _____.

- A Mc Mohan line
- B Maginot line
- C Radcliffe line

D Sir Creek

Answer: C

Question 41

Which city is located on the banks of the river Mahanadi?

A Bangalore

B Cuttack

C Badrinath

D Kota

Answer: B

Question 42

When was the battle of Haldighati fought?

A 1776

B 1676

C 1576

D 1476

Answer: C

Question 43

In 1498, which Portuguese explorer discovered a new sea route from Europe to India?

A Vasco da Gama

B Christopher Columbus

C Sir Francis Drake

D John Cabot

Answer: A

Question 44

Who Invented Aspirin?

- A Ruth Handler
- B John Harington
- C Rowland Hill
- D Felix Hoffmann

Answer: D

Question 45

A larger force on a rotating body results in larger _____.

- A mass
- B torque
- C axis of rotation
- D centre of mass

Answer: B

Question 46

What is the unit of the physical quantity, Magnetic flux density?

- A siemens
- B weber
- C henry
- D tesla

Answer: A

Question 47

Article 24 of the Indian Constitution "Prohibition of employment of children in factories, etc" deals with?

- A the fundamental rights of the Indian Citizen

- B the Union Government
- C the State Government
- D the directive principles of state policy

Answer: A

Question 48

Article 134A of the Indian Constitution "Certificate for appeal to the Supreme Court" deals with?

- A the State Government
- B the Union Government
- C the fundamental rights of the Indian Citizen
- D the directive principles of state policy

Answer: B

Question 49

Highest number of test hundreds is scored by _____.

- A Jacques Kallis
- B Sachin Tendulkar
- C Ricky Ponting
- D Brian Lara

Answer: B

Question 50

Who is the author of "Can Love Happen Twice"?

- A Keshav Aneel
- B Ravinder Singh
- C Sudeep Nagarkar
- D Aravind Adiga

Answer: B

English

Instructions

For the following questions answer them individually

Question 51

Select the word with the correct spelling.

- A isommetry
- B artfully
- C mudling
- D carkasses

Answer: B

Question 52

Select the antonym of privy

- A ulterior
- B obscure
- C covert
- D public

Answer: D

Question 53

Improve the bracketed part of the sentence.

It is essential (thorough cleaning) the mixer after each batch.

- A to clean thoroughly
- B to through clean

C to cleaning thoroughly

D no improvement

Answer: A

Question 54

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

"You can do this job" said Nikki to Jyoti

A Nikki told Jyoti she could do that job.

B Nikki told Jyoti she could do this job.

C Nikki told Jyoti that she could do that job.

D Nikki told Jyoti that, that she could do this job.

Answer: C

Question 55

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

The kitten sat up(A)/the glass roof, and yawned(B)/and blinked its round eyes.(C)/No error(D)

A A

B B

C C

D D

Answer: A

Question 56

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

to bend over backwards

A to accommodate every unreasonable request usually without getting anything back

B stepping away from an unpleasant situation

C to make every effort to achieve something, especially to be fair or helpful

D submitting oneself completely to a higher authority

Answer: C

Question 57

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

The office boy vacuums and dusts the office every morning.

A Every morning the office was vacuumed and dusted by the office boy.

B Every morning the office had been vacuumed and dusted by the office boy.

C Every morning the office is vacuumed and dusted by the office boy.

D Every morning the office has been vacuumed and dusted by the office boy.

Answer: C

Question 58

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

feeling or showing deep and solemn respect.

A pious

B reverent

C humble

D devout

Answer: B

Question 59

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

I have been paying taxes for the past five years yet I do not have the _____ to vote as I am not a citizen.

A authority

B responsibility

C right

D claim

Answer: C

Question 60

Select the antonym of to chuckle

A to snicker

B to guffaw

C to lament

D to chortle

Answer: C

Question 61

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

To declare invalid an official agreement, decision, or result.

A to annul

B to negate

C to efface

D to undo

Answer: A

Question 62

Rearrange the parts of the sentence in correct order.

This may sound like

P-the actual problem

Q-at the scale of

R-a lot, until one looks

A QRP

B RQP

C PRQ

D PQR

Answer: B

Question 63

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

Ajay glanced up(A)/at her laughing(B)/and watched her intently.(C)No error(D)

A A

B B

C C

D D

Answer: B

Question 64

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

I didn't know he had such an _____ collection of books.

A sweeping

B major

C elaborate

D extensive

Answer: D

Question 65

Select the synonym of caricature

A adulation

B eulogy

C cartoon

D hokum

Answer: C

Question 66

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

I didn't know he had such an _____ collection of books.

A life is always choosing between two options

B challenges are hidden opportunities

C escaping one difficulty but falling into another

D faced with two equally undesirable alternatives

Answer: D

Question 67

Select the word with the correct spelling.

A gondolas

B snubing

C smalters

D stradle

Answer: A

Question 68

Improve the bracketed part of the sentence.

Ravi (hadn't ought to) have done that to Shaina.

A ought not

B ought not to

C have not ought to

D no improvement

Answer: B

Question 69

Select the synonym of to predispose

- A to assail
- B to thwart
- C to defy
- D to incline

Answer: D

Question 70

Rearrange the parts of the sentence in correct order.

He must actually announce

P-how he intends to bring

Q-the businessman to book

R-a plan of action detailing

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

Answer: A

Explanation:

Start Group:

Instructions

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

There _____ three components to the UGC's package governing the faculty. Of these, mostly two have proved to be _____ of contention between the two parties. These have to do with the _____ workload for teachers and student evaluation of courses, including _____ the lecturer herself. But it is the third component that needs to be _____ for its suitability.

There _____ three components to the UGC's package governing the faculty.

Question 71

There _____ three components to the UGC's package governing the faculty.

- A is
- B have been
- C had been
- D are

Answer: D

Question 72

Of these, mostly two have proved to be _____ of contention between the two parties.

- A bones
- B muscles
- C teeth
- D nails

Answer: A

Question 73

_____ of contention between the two parties. These have to do with the _____ workload for teachers and student evaluation of courses

- A mandated
- B voluntary
- C charged
- D summoned

Answer: A

Question 74

including _____ the lecturer herself.

- A for
- B of

C with

D about

Answer: B

Question 75

But it is the third component that needs to be _____ for its suitability.

A pored over

B scrutinised

C scanned

D perused

Answer: B

Explanation:

End Group:

Mathematics

Instructions

For the following questions answer them individually

Question 76

The two numbers are 63 and 77, HCF is 7, Find the LCM.

A 668

B 693

C 674

D 680

Answer: B

Explanation:

$$\text{H.C.F. (a,b)} \times \text{L.C.M. (a,b)} = a \times b$$

The numbers $a = 63$ and $b = 77$ and $\text{HCF} = 7$

$$\Rightarrow \text{L.C.M.} = \frac{a \times b}{\text{HCF}}$$

$$= \frac{63 \times 77}{7} = 63 \times 11$$

= 693

Question 77

The total cost of a washing machine with an electric chimney was Rs 57,750. The electric chimney was sold at a profit of 34% and the washing machine at a loss of 24%. If the sale price was the same in both the items, then the cost price of the cheaper item was _____.

- A Rs 26850
- B Rs 20900
- C Rs 28875
- D Rs 25850

Answer: B

Explanation:

Let cost price of washing machine = $Rs. 100x$

=> Cost price of chimney = $Rs. (57,750 - 100x)$

Selling price of chimney (34% profit) = Selling price of washing machine (24% loss)

=> $\frac{134}{100} \times (57,750 - 100x) = \frac{76}{100} \times 100x$

=> $77385 - 134x = 76x$

=> $x = \frac{77385}{210} = 368.5$

=> Cost price of washing machine = $100 \times 368.5 = Rs. 36,850$

=> Cost price of cooker = $57,750 - 36,850 = Rs. 20,900$

∴ Cooker is cheaper with cost price = Rs. 20,900

Question 78

If $(7 - 12x) - (3x - 7) = 14$, then the value of x is _____ .

- A -4
- B 0
- C 5
- D 2

Answer: B

Explanation:

Expression : $(7 - 12x) - (3x - 7) = 14$

$\Rightarrow 7 - 12x - 3x + 7 = 14$

$\Rightarrow -15x = 14 - 14 = 0$

$\Rightarrow x = \frac{0}{15} = 0$

\Rightarrow Ans - (B)

Question 79

Find the roots of the quadratic equation $6x^2 - 11x - 35 = 0$

A $5/3, -7/2$

B $-5/3, 7/2$

C $-3/5, 2/7$

D $3/5, -2/7$

Answer: B

Explanation:

Expression : $6x^2 - 11x - 35 = 0$

$\Rightarrow 6x^2 - 21x + 10x - 35 = 0$

$\Rightarrow 3x(2x - 7) + 5(2x - 7) = 0$

$\Rightarrow (3x + 5)(2x - 7) = 0$

$\Rightarrow x = \frac{7}{2}, \frac{-5}{3}$

Question 80

If $5x + 2 < 4x + 1$ and $2(x - 4) - 2 \leq 4x - 1$ then x can take which of the following values?

A 0

B 2

C 4

D -2

Answer: D

Explanation:

Expression 1 : $5x + 2 < 4x + 1$

$$\Rightarrow 5x - 4x < 1 - 2$$

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

$$\text{Expression 2 : } 2(x - 4) - 2 \leq 4x - 1$$

$$\Rightarrow 2x - 10 \leq 4x - 1$$

$$\Rightarrow 4x - 2x \geq 1 - 10$$

$$\Rightarrow x \geq \frac{-9}{2} \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get : $\frac{-9}{2} \leq x < -1$

Thus, values that x can take = -4 , -3 , -2

\Rightarrow Ans - (D)

Question 81

Two students appeared for an examination. One of them secured 10 marks more than the other and his marks were 75% of the sum of their marks. The marks obtained by them are

A 52 and 42

B 68 and 58

C 63 and 53

D 15 and 5

Answer: D

Explanation:

Let marks scored by 1st student = x

\Rightarrow Marks scored by another student = $(x + 10)$

According to question, $\Rightarrow (x + 10) = \frac{75}{100} \times (x + x + 10)$

$$\Rightarrow x + 10 = \frac{3}{2} \times (x + 5)$$

$$\Rightarrow 2x + 20 = 3x + 15$$

$$\Rightarrow x = 20 - 15 = 5$$

\therefore Marks scored by other student = $5 + 10 = 15$

Question 82

By increasing the price of entry ticket to a fair in the ratio 3:7, the number of visitors to the fair has decreased in the ratio 16:13. In what ratio has the total collection increased or decreased?

A decreased in the ratio 91:48

B increased in the ratio 48:91

C increased in the ratio 39:112

D decreased in the ratio 112:39

Answer: B

Explanation:

Let cost of original ticket = Rs 3 and number of visitors = 160

=> Original revenue = $3 \times 160 = \text{Rs } 480$

After increase in cost of ticket

New cost of ticket = Rs 7 and number of visitors = 130

=> New Revenue = $7 \times 130 = \text{Rs } 910$

Since, new revenue is greater than original revenue, thus total collection has increased.

\therefore Increase of total collection ratio = $\frac{480}{910} = 48 : 91$

=> Ans - (B)

Question 83

To cover a distance of 315 km in 2.8 hours what should be the average speed of the car in meters/second?

A 112.5 m/s

B 56.25 m/s

C 62.5 m/s

D 31.25 m/s

Answer: D

Explanation:

Distance = 315 km and time = 2.8 hours

Speed = distance/time

=> Speed = $\frac{315}{2.8} = \frac{45}{0.4}$ km/hr

\therefore Speed in meters/second = $\frac{45}{0.4} \times \frac{5}{18}$

= $\frac{25}{0.8} = 31.25$ m/s

Question 84

In an arithmetic progression, if 17 is the 3rd term, -25 is the 17th term, then -1 is which term?

A 10

B 11

C 9

D 12

Answer: C

Explanation:

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

$$\text{3rd term, } A_3 = a + (3 - 1)d = 17$$

$$\Rightarrow a + 2d = 17 \text{ -----(i)}$$

$$\text{Similarly, 17th term, } A_{17} = a + 16d = -25 \text{ -----(ii)}$$

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

$$\Rightarrow (16d - 2d) = -25 - 17$$

$$\Rightarrow d = \frac{-42}{14} = -3$$

$$\text{Substituting it in equation (i), } \Rightarrow a - 6 = 17$$

$$\Rightarrow a = 17 + 6 = 23$$

Let n^{th} term = -1

$$\Rightarrow a + (n - 1)d = -1$$

$$\Rightarrow 23 + (n - 1)(-3) = -1$$

$$\Rightarrow (n - 1)(-3) = -1 - 23 = -24$$

$$\Rightarrow (n - 1) = \frac{-24}{-3} = 8$$

$$\Rightarrow n = 8 + 1 = 9$$

Question 85

The distance between the points (4,-8) and (k,0) is 10. Find k?

A k = 6 or -2

B k = 10 or -2

C k = 10 or -4

D k = 6 or -4

Answer: B

Explanation:

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

Now, distance between points (4,-8) and (k,0) = 10

$$\Rightarrow \sqrt{(0 + 8)^2 + (k - 4)^2} = 10$$

$$\Rightarrow 64 + (k^2 - 8k + 16) = (10)^2 = 100$$

$$\Rightarrow k^2 - 8k = 100 - 64 - 16$$

$$\Rightarrow k^2 - 8k - 20 = 0$$

$$\Rightarrow k^2 + 2k - 10k - 20 = 0$$

$$\Rightarrow k(k + 2) - 10(k + 2) = 0$$

$$\Rightarrow (k + 2)(k - 10) = 0$$

$$\Rightarrow k = -2, 10$$

Question 86

Praful has done 1/2 of a job in 30 days, Sarabjit completes the rest of the job in 10 days. In how many days can they together do the job?

A 30 days

B 45 days

C 15 days

D 60 days

Answer: C

Explanation:

Let total work to be done = 60 units

Praful has done 1/2 of a job i.e. $\frac{60}{2} = 30$ units in 30 days

\Rightarrow Praful's efficiency = $\frac{30}{30} = 1$ unit/day

Work left = $60 - 30 = 30$ units which is done by Sarabjit in 10 days

\Rightarrow Sarabjit's efficiency = $\frac{30}{10} = 3$ units/day

Praful and Sarabjit 1 day's work = $1 + 3 = 4$ units/day

\therefore Time taken by them together to complete the work = $\frac{60}{4} = 15$ days

Question 87

Ticket for an adult is Rs 500 and a child is Rs 200. 1 child goes free with two adults. If a group has 20 adults and 8 children what will be the discount the group get?

A 53.43 percent

B 13.79 percent

C 32.2 percent

D 35.06 percent

Answer: B

Explanation:

Cost price of adult ticket = Rs. 500 and child ticket = Rs. 200

For 20 adults and 8 children, total cost = $(20 \times 500) + (8 \times 200)$

= Rs. $(10,000 + 1,600)$ = Rs. 11,600

If one child goes free with two adults, \Rightarrow 8 children will go with 16 adults, thus all the children will go for free.

Cost of 20 adults = $20 \times 500 = \text{Rs.}10,000$

Discount % = $\frac{11600-10000}{11600} \times 100$

= $\frac{1600}{116} = 13.79\%$

Question 88

A factory buys 8 machines. 3 Machine A, 2 Machine B and rest Machine C. Prices of the machines are Rs 100000, Rs 80000 and Rs 45000 respectively. Calculate the average cost of these machines?

A 74375

B 75000

C 75625

D 72875

Answer: A

Explanation:

Cost of machines A, B and C respectively are : Rs. 1,00,000 , 80,000 and 45,000

Number of machines A, B and C respectively are : 3 , 2 , 3

\Rightarrow Total cost = $(3 \times 100000) + (2 \times 80000) + (3 \times 45000)$

= $300000 + 160000 + 135000 = \text{Rs.} 5,95,000$

\therefore Average cost = $\frac{5,95,000}{8} = \text{Rs.} 74,375$

Question 89

What is the equation of the line which passes through the points (2,3) and (-4,1)?

A $x - 3y = -7$

B $x + 3y = 7$

C $x - 3y = 7$

D $x + 3y = -7$

Answer: A

Explanation:

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

Points given = (2,3) and (-4,1)

$$\Rightarrow \text{Equation of line} = (y - 3) = \frac{(1-3)}{(-4-2)}(x - 2)$$

$$\Rightarrow (y - 3) = \frac{1}{3}(x - 2)$$

$$\Rightarrow 3y - 9 = x - 2$$

$$\Rightarrow x - 3y = -9 + 2 = -7$$

Question 90

In $\triangle ABC$, the angle bisector of $\angle A$ cuts BC at E . Find length of AC , if lengths of AB , BE and EC are 9 cm, 3.6 cm and 2.4 cm?

A 5.4 cm

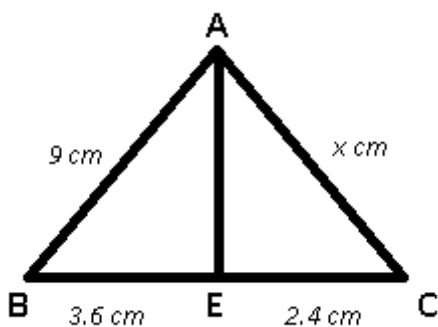
B 8 cm

C 4.8 cm

D 6 cm

Answer: D

Explanation:



AE is the angle bisector and let $AC = x$ cm

Using angle bisector theorem,

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

$$\Rightarrow \frac{9}{3.6} = \frac{x}{2.4}$$

$$\Rightarrow x = 2.4 \times 2.5 = 6 \text{ cm}$$

Question 91

The effective annual rate of interest corresponding to a nominal rate of 22% per annum payable half-yearly is

- A 44 percent
- B 23.21 percent
- C 46.42 percent
- D 22 percent

Answer: B

Explanation:

Let sum be = Rs. $100x$

Rate of interest = 22% under compound interest half yearly

$$\text{Amount after 1 year} = P\left(1 + \frac{R}{2 \times 100}\right)^{2 \times T}$$

$$= 100x\left(1 + \frac{22}{200}\right)^{2 \times 1}$$

$$= 100x\left(\frac{111}{100}\right)^2 = \frac{111 \times 111 \times x}{100}$$

$$= \text{Rs. } 123.21x$$

$$\Rightarrow \text{Compound Interest} = \text{Rs. } (123.21x - 100x) = \text{Rs. } 23.21x$$

$$\therefore \text{Effective rate of interest} = \frac{23.21x}{100x} \times 100$$

$$= 23.21\%$$

Question 92

In a triangle, the length of the opposite side of the angle which measures 45° is $8\sqrt{2}$ cm, what is the length of the side opposite to the angle which measures 90° ?

- A 16 cm
- B $4\sqrt{3}$ cm
- C $8\sqrt{3}$ cm
- D $6\sqrt{3}$ cm

Answer: A

Explanation:

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

=> The given triangle is isosceles right angled triangle with measure of equal sides = $8\sqrt{2}$ cm

Let length of hypotenuse = h cm

$$\Rightarrow h^2 = (8\sqrt{2})^2 + (8\sqrt{2})^2$$

$$\Rightarrow h^2 = 128 + 128 = 256$$

$$\Rightarrow h = \sqrt{256} = 16 \text{ cm}$$

Question 93

If the volume of a cylinder is 2156 cubic cm and height is 14 cm, find its radius?

A 14 cm

B 21 cm

C 3.5 cm

D 7 cm

Answer: D

Explanation:

Let radius = r cm and height = 14 cm

$$\text{Volume of cylinder} = \pi r^2 h = 2156$$

$$\Rightarrow \frac{22}{7} \times (r)^2 \times 14 = 2156$$

$$\Rightarrow 22 \times (r)^2 \times 2 = 2156$$

$$\Rightarrow (r)^2 = \frac{2156}{44} = 49$$

$$\Rightarrow r = \sqrt{49} = 7 \text{ cm}$$

Question 94

What is the value of $\cot 4\pi/3$?

A $1/\sqrt{3}$

B $-\sqrt{3}$

C -1

D $\sqrt{3}$

Answer: A

Explanation:

Expression : $\cot 4\pi/3$

$$= \cot\left(\pi + \frac{\pi}{3}\right)$$

$$= \cot\left(\frac{\pi}{3}\right) = \frac{1}{\sqrt{3}}$$

=> Ans - (A)

Question 95

$2\cos\left[\frac{(C+D)}{2}\right] \cdot \cos\left[\frac{(C-D)}{2}\right]$ is equal to

A $\cos C - \cos D$

B $\sin C + \sin D$

C $\cos C + \cos D$

D $\sin C - \sin D$

Answer: C

Explanation:

Expression : $2\cos\left[\frac{(C+D)}{2}\right] \cos\left[\frac{(C-D)}{2}\right]$

Using the formula : $\cos x \cdot \cos y = \frac{1}{2} [\cos(x+y) + \cos(x-y)]$ -----(i)

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

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

$$\Rightarrow \cos\left(\frac{C+D}{2}\right) \cdot \cos\left(\frac{C-D}{2}\right) = \frac{1}{2} [\cos C + \cos D]$$

$$\Rightarrow 2 \cdot \cos\left(\frac{C+D}{2}\right) \cdot \cos\left(\frac{C-D}{2}\right) = \cos C + \cos D$$

=> Ans - (C)

Question 96

$\cot^2 A \cos^2 A$ is equal to

A $\cot^2 A + \cos^2 A$

B $\tan^2 A - \cos^2 A$

C $\cot^2 A - \cos^2 A$

D $\tan^2 A + \cos^2 A$

Answer: C

Explanation:

Expression : $\cot^2 A \cos^2 A$

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

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

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

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

=> Ans - (C)

Question 97

Refer the below data table and answer the following question.

	Quantity of stock	Average cost
Mobile Phones	70	9000
Cameras	70	9000
TVs	82	49000
Refrigerators	88	49000
Acs	37	27000

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

A 1058.9

B 143

C 347

D 105.89

Answer: D

Explanation:

Total cost of mobiles = $70 \times 9000 = \text{Rs. } 6,30,000$

Total cost of Cameras = $70 \times 9000 = \text{Rs. } 6,30,000$

Total cost of TVs = $82 \times 49000 = \text{Rs. } 40,18,000$

Total cost of Refrigerator = $88 \times 49000 = \text{Rs. } 43,12,000$

Total cost of AC = $37 \times 27000 = \text{Rs. } 9,99,000$

\therefore Total cost = $6,30,000 + 6,30,000 + 40,18,000 + 43,12,000 + 9,99,000 = \text{Rs. } 1,05,89,000$

Total cost in lakhs = Rs 105.89 lakhs

=> Ans - (D)

Question 98

Refer the data table below and answer the following question ?

Year	Ratio Import/Export
2011	0.7
2012	1.1
2013	0.9
2014	1.5
2015	1.2

If the imports in 2012 was Rs. 1000 crores and the total exports in the years 2012 and 2013 together was Rs. 3200 crores, then the imports in 2013 was?

- A 2062
- B 2291
- C 909
- D 2545

Answer: A

Explanation:

Imports in 2012 = Rs. 1000 crores

Let Exports in 2012 = Rs. y crores

Ratio of imports and exports in 2012 = 1.1

$$\Rightarrow \frac{1000}{y} = 1.1$$

$$\Rightarrow y = \frac{1000}{1.1} = 909.09$$

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

\Rightarrow Exports in 2013 = Rs. $(3200 - 909.09)$ crores = Rs. 2290.91 crores

Let imports in 2013 = Rs. x crores

Ratio of imports and exports in 2013 = $\frac{x}{2290.91} = 0.9$

$$\Rightarrow x = 2290.91 \times 0.9 = 2061.819 \approx 2062$$

\therefore Imports in 2013 was Rs. 2062 crores

\Rightarrow Ans - (A)

Question 99

Refer the data table below and answer the following question ?

Measured on Birthday	Hight of the child (in cm)
4	100
5	105
6	110
7	120
8	130
9	140
10	145
11	155
12	165
13	170
14	175
15	185
16	195

What was the increase in the height of the children from the 5th Birthday to the 14th Birthday?

- A 75 cms
- B 80 cms
- C 65 cms
- D 70 cms

Answer: D

Explanation:

Height on 5th birthday = 105 cm

Height on 14th birthday = 175 cm

Increase in height = $175 - 105 = 70$ cm

=> Ans - (D)

Question 100

Refer the data table below and answer the following question ?

Deep Sleep	25
Dreaming	10
Light Sleep	5
Extremely light Sleep	25
Awake	35

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

- A 2.8 hours

B 2.3 hours

C 1.3 hours

D 3.3 hours

Answer: A

Explanation:

Total time between 10 pm to 6 am = 8 hours

% time spent in dreaming and in Extremely light sleep = $10 + 25 = 35\%$

=> Time spent in dreaming and in extremely light sleep = $\frac{35}{100} \times 8$

= $\frac{14}{5} = 2.8$ hours

=> Ans - (A)

SSC CHSL 25 Jan 2017 Afternoon Shift

English

Instructions

For the following questions answer them individually

Question 1

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

at the drop of a hat

- A to challenge someone
- B to give up very easily
- C to pick a fight for small reasons
- D without hesitation or good reason

Answer: D

Question 2

Rearrange the parts of the sentence in correct order.

There must be more oversight

P-which this is done

Q-and much more accountability

R-in the manner in

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

Answer: B

Question 3

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'.

Sorry to have(A)/troubled you; since(B)/it couldn't be helped.(C)/No error(D)

- A A

B B

C C

D D

Answer: B

Question 4

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

Rohit said, "Leela, when is the next bus?"

A Rohit asked Leela when the next bus was supposed to come.

B Rohit asked Leela when was the next bus coming.

C Rohit asked Leela when the next bus was.

D Rohit asked Leela when the next bus was coming.

Answer: C

Question 5

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

apple of my eye

A every thing looks enticing to a hungry person

B a very pleasant thing to watch

C someone that one cherishes above all others

D the ugliest child is still pretty for a mother

Answer: C

Question 6

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'.

Could you(A)/like to read(B)/his speech?(C)/No error(D)

A A

B B

C C

D D

Answer: C

Question 7

**Select the antonym of
atheist**

A skeptic

B pagan

C disciple

D agnostic

Answer: C

Question 8

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

It was hard tohim involved with anything illegal.

A snap

B draw

C photo

D picture

Answer: D

Question 9

Select the word with the correct spelling.

A cabinets

B basoons

C sprinckle

D esposes

Answer: A

Question 10

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

To proclaim widely or loudly.

A to trumpet

B to herald

C to manifest

D to blazon

Answer: A

Question 11

Select the word with the correct spelling.

A rosetes

B reaffirm

C estimat

D lunchon

Answer: B

Question 12

Select the synonym of ominous

A secure

B auspicious

C apocalyptic

D propitious

Answer: C

Question 13

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

A substance that has no therapeutic effect, used as a control in testing new drugs.

A sedentary

B placebo

C lax

D torpid

Answer: B

Question 14

Rearrange the parts of the sentence in correct order.

This is where clear,

P-well-publicized editorial guidelines are

Q-precisely formulated, and

R-badly needed in Indian newsrooms

A QPR

B RQP

C PQR

D PRQ

Answer: A

Question 15

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

The officer walked in front, leaning on a stick andlimping.

A marginally

B imperceptibly

C slightly

D a little

Answer: C

Question 16

Improve the bracketed part of the sentence.

The driver gave (advice) at the court during the murder trial.

A evidence

B proof

C witness

D no improvement

Answer: A

Question 17

Improve the bracketed part of the sentence. You can always count (at me) in difficult times.

A upon me

B on me

C on I

D no improvement

Answer: B

Question 18

**Select the antonym of
to scowl**

A to glower

B to smirk

C to grimace

D to grin

Answer: D

Question 19

**Select the synonym of
repentance**

- A** intransigent
- B** obdurate
- C** resolute
- D** remorse

Answer: D

Question 20

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

The baby really enjoys that music.

- A** That music was really enjoyed by the baby.
- B** That music was really being enjoyed by the baby.
- C** That music is really enjoyed by the baby.
- D** This music was really enjoyed by the baby.

Answer: C

Explanation:

Start Group:

Question 21

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.

Worldwide, journalism and the news industry are struggling, in this digital age, to(1).....their relevance and value under profoundly changed and(2).....circumstances. In response(3).....the challenge, a b view is forming within the profession that one way to ensure that the activities that(4).....journalism will continue to matter is to hone, strengthen, and develop its professional capabilities to perform certain(5).....tasks.

Worldwide, journalism and the news industry are struggling, in this digital age, to(6).....

- A veto
- B reassert
- C withhold
- D renounce

Answer: B

Instructions

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

There _____ three components to the UGC's package governing the faculty. Of these, mostly two have proved to be _____ of contention between the two parties. These have to do with the _____ workload for teachers and student evaluation of courses, including _____ the lecturer herself. But it is the third component that needs to be _____ for its suitability.

There _____ three components to the UGC's package governing the faculty.

Question 22

1

- A stagnant
- B plethora of
- C variety
- D changing

Answer: D

Question 23

2

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

Answer: A

Question 24

3

- A make
- B manufacture
- C constitute
- D collect

Answer: C

Question 25

4

- A trivial
- B core
- C trite
- D frivolous

Answer: B

Explanation:

End Group:

Mathematics

Instructions

For the following questions answer them individually

Question 26

If $\operatorname{cosec} 135^\circ = x$, then the value of x is

- A $\sqrt{2}$
- B 2
- C $-\sqrt{2}$
- D $1/\sqrt{3}$

Answer: A

Explanation:

Expression : $\operatorname{cosec} 135^\circ = x$

$$= \operatorname{cosec}(180^\circ - 45^\circ) = \operatorname{cosec} 45^\circ$$

$$= \sqrt{2}$$

=> Ans - (A)

Question 27

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

A -1

B 0

C -2

D 3

Answer: B

Explanation:

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

$$\Rightarrow 2x + x > 3 - 5$$

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

Expression 2 : $4(x + 1) - 3 < 3 - x$

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

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

$$\Rightarrow x < \frac{2}{5} \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get : $\frac{-2}{3} < x < \frac{2}{5}$

Thus, only value that x can take among the options = **0**

=> Ans - (B)

Question 28

A cone is hollowed out of a solid wooden cube of side 7 cm. The diameter and height of the cone is same as the side of the cube. What is the volume of the remaining cube?

A 253.17 cubic cms

B 228.84 cubic cms

C 143.26 cubic cms

D 257.68 cubic cms

Answer: A

Explanation:

Side of cube = 7 cm

Height of cone = 7 cm and radius of cone = $\frac{7}{2}$ cm

Volume of remaining cube = Volume of cube - Volume of cone

$$= (a)^3 - \frac{1}{3}\pi r^2 h$$

$$= (7)^3 - \frac{1}{3} \times \frac{22}{7} \times \left(\frac{7}{2}\right)^2 \times 7$$

$$= (7)^3 \times \left[1 - \left(\frac{1}{3} \times \frac{11}{7 \times 2}\right)\right]$$

$$= (7)^3 \times \left[1 - \frac{11}{42}\right]$$

$$= 343 \times \left(\frac{42-11}{42}\right)$$

$$= \frac{49 \times 31}{6} = 253.17 \text{ cm}^3$$

Question 29

Of the 3 numbers whose average is 72, the first is $\frac{2}{7}$ times the sum of other 2. The first number is

A 48

B 72

C 32

D 96

Answer: A

Explanation:

Let the three numbers be x, y, z

$$\text{Sum of three numbers} = x + y + z = 72 \times 3 = 216$$

$$\text{According to ques, } \Rightarrow x = \frac{2}{7} \times (y + z)$$

$$\Rightarrow x = \frac{2}{7} \times (216 - x)$$

$$\Rightarrow 7x = 432 - 2x$$

$$\Rightarrow 7x + 2x = 432$$

$$\Rightarrow x = \frac{432}{9} = 48$$

Question 30

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

- A $\sec A$
- B $\sin A$
- C $\operatorname{cosec} A$
- D $\cos A$

Answer: B

Explanation:

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

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

$$= \frac{1}{\sqrt{\operatorname{cosec}^2 A}}$$

$$= \frac{1}{\operatorname{cosec} A} = \sin A$$

=> Ans - (B)

Question 31

What is the value of $\tan^4 A + \tan^2 A$?

- A $\sec^4 A - \sec^2 A$
- B $\sec^4 A + \sec^2 A$
- C $\operatorname{cosec}^4 A - \sec^2 A$
- D $\sec^4 A + \operatorname{cosec}^2 A$

Answer: A

Explanation:

Expression : $\tan^4 A + \tan^2 A$

$$= \tan^2 A(\tan^2 A + 1)$$

Using $(\sec^2 A - \tan^2 A) = 1$

$$= (\sec^2 A - 1)\sec^2 A$$

$$= \sec^4 A - \sec^2 A$$

Question 32

The point $R(a,b)$ is first reflected in origin to R_1 and R_1 is reflected in x-axis to $(-3,4)$. The co-ordinates of point R are

A (3,4)

B (-3,-4)

C (-3,4)

D (3,-4)

Answer: A

Explanation:

$R(a,b)$ after reflection at the origin = $(-a,-b)$

Reflection of point $(-a,-b)$ in the x-axis is $(-a,b)$

According to ques,

$$\Rightarrow (-a, b) = (-3, 4)$$

$$\Rightarrow -a = -3 \text{ and } b = 4$$

\therefore Coordinates of Point R = (3,4)

\Rightarrow Ans - (A)

Question 33

Expand and simplify $(x + 5)^2 + (x - 3)^2$

A $2(x^2 + 2x - 17)$

B $2(x^2 - 2x + 17)$

C $2(x^2 - 2x - 17)$

D $2(x^2 + 2x + 17)$

Answer: D

Explanation:

Expression : $(x + 5)^2 + (x - 3)^2$

$$= (x^2 + 10x + 25) + (x^2 - 6x + 9)$$

$$= 2x^2 + 4x + 34$$

$$= 2(x^2 + 2x + 17)$$

Question 34

The simplest form of 3565/1495 is

A 31/13

B 43/19

C 23/13

D 31/23

Answer: A

Explanation:

Expression : $\frac{3565}{1495}$

Both are multiples of 5, thus dividing numerator and denominator by 5

$$= \frac{713}{299}$$

Now, dividing by 23, = $\frac{31}{13}$

=> Ans - (A)

Question 35

When a number is increased by 42, it becomes 121% of itself. What is the number?

A 504

B 200

C 630

D 378

Answer: B

Explanation:

Let the number be $100x$

According to ques, => $100x + 42 = \frac{121}{100} \times 100x$

$$\Rightarrow 100x + 42 = 121x$$

$$\Rightarrow 121x - 100x = 42$$

$$\Rightarrow x = \frac{42}{21} = 2$$

$$\therefore \text{Number} = 100 \times 2 = 200$$

Question 36

Rizvan walks at 15 km/hr and Ruchitha cycles at 20 km/hr towards each other. What was the distance between them when they started if they meet after 42 minutes?

- A 36.8 kms
- B 30.6 kms
- C 24.5 kms
- D 18.4 kms

Answer: C

Explanation:

Speed of Rizvan = 15 km/hr and Ruchitha = 20 km/hr

Since they are moving in opposite direction, => Relative speed = 20 + 15 = 35 km/hr

Let distance between them = d km and time = $\frac{42}{60}$ hr

=> time = distance/speed

$$\Rightarrow \frac{d}{35} = \frac{42}{60}$$

$$\Rightarrow d = \frac{42}{60} \times 35 = \frac{7 \times 7}{2}$$

$$\Rightarrow d = \frac{49}{2} = 24.5 \text{ km}$$

Question 37

The third proportional of two numbers 7 and 21 is

- A 35
- B 63
- C 42
- D 21

Answer: B

Explanation:

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

Here, a = 7 and b = 21

$$\Rightarrow (21)^2 = 7 \times c$$

$$\Rightarrow c = \frac{21 \times 21}{7} = 3 \times 21$$

$$\Rightarrow c = 63$$

Question 38

30% discount is offered on an item. By applying a promo code the customer wins 5% cash back. What is the effective discount?

- A 33.5 percent
- B 35.175 percent
- C 35 percent
- D 6.5 percent

Answer: A

Explanation:

Let the marked price of item = Rs. $100x$

$$\begin{aligned} \text{Amount after 30 \% discount} &= 100x - \frac{30}{100} \times 100x \\ &= 100x - 30x = \text{Rs.}70x \end{aligned}$$

$$\begin{aligned} \text{Selling price after 5 \% cashback} &= 70x - \frac{5}{100} \times 70x \\ &= 70x - 3.5x = \text{Rs.}66.5x \end{aligned}$$

$$\Rightarrow \text{Total discounted amount} = 100x - 66.5x = \text{Rs.}33.5x$$

$$\therefore \text{Effective discount} = \frac{33.5x}{100x} \times 100 = 33.5\%$$

Question 39

A sum fetched a total simple interest of Rs. 7056 at the rate of 8 percent per year in 7 years. What is the sum?

- A Rs 12600
- B Rs 15120
- C Rs 10080
- D Rs 7560

Answer: A

Explanation:

Let the sum = Rs. x

Rate of interest = 8% and time = 7 years

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

$$\Rightarrow \frac{x \times 8 \times 7}{100} = 7056$$

$$\Rightarrow x = 7056 \times \frac{25}{14}$$

$$\Rightarrow x = 504 \times 25 = \text{Rs.}12,600$$

Question 40

A mason can build a wall in 18 hours. After 9 hours he takes a break. What fraction of the wall is yet to be built?

- A 0.9
- B 0.25
- C 0.5
- D 0.2

Answer: C

Explanation:

Let total work to be done = 18 units

Mason's efficiency = $\frac{18}{18} = 1$ unit/hr

Work done by the mason in 9 hours = $9 \times 1 = 9$ units

=> Work left = $18 - 9 = 9$ units

∴ Fraction of work that is left = $\frac{9}{18} = \frac{1}{2}$

= 0.5

Question 41

For triangle ABC, find equation of median AD if co-ordinates of A, B and C are (-1,-3), (5,-4) and (3,2) respectively?

- A $2x - 5y = 17$
- B $2x - 5y = 13$
- C $2x + 5y = 13$
- D $2x + 5y = 17$

Answer: B

Explanation:

Coordinates of the triangle A (-1,-3), B (5,-4) and C (3,2)

D is the mid point of BC, => Coordinates of point D = $(\frac{5+3}{2}, \frac{-4+2}{2})$

=> D = (4, -1)

Now, equation of line AD = $(y + 3) = \frac{(-1+3)}{(4+1)}(x + 1)$

=> $(y + 3) = \frac{2}{5}(x + 1)$

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

$$\Rightarrow 2x - 5y = 13$$

Question 42

A shopkeeper by selling 8 iphones, earns a profit equal to the selling price of 3 iphones. His profit percentage is

- A 62.5 percent
- B 37.5 percent
- C 75 percent
- D 15 percent

Answer: A

Explanation:

Let Cost price of 1 iphone = Rs. x

Let Selling price of 1 iphone = Rs. y

Profit of 8 iphones = Rs. $8(y - x)$

According to ques, $\Rightarrow 8(y - x) = 3y$

$$\Rightarrow 8y - 8x = 3y$$

$$\Rightarrow 8x = 8y - 3y = 5y$$

$$\Rightarrow \frac{x}{y} = \frac{5}{8}$$

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

$$= \frac{5}{8} \times 100 = 62.5\%$$

Question 43

If $a + b = 10$ and $ab = 24$, then the value of $a^3 + b^3$ is

- A 280
- B 370
- C 520
- D 730

Answer: A

Explanation:

Equation 1 : $a + b = 10$

$$\Rightarrow a = 10 - b$$

$$\text{Equation 2 : } a \times b = 24$$

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

$$\Rightarrow (10 - b)b = 24$$

$$\Rightarrow 10b - b^2 = 24$$

$$\Rightarrow b^2 - 10b + 24 = 0$$

$$\Rightarrow b^2 - 4b - 6b + 24 = 0$$

$$\Rightarrow b(b - 4) - 6(b - 4) = 0$$

$$\Rightarrow (b - 4)(b - 6) = 0$$

$$\Rightarrow b = 4, 6$$

$$\Rightarrow a = 6, 4$$

$$\therefore a^3 + b^3 = (4)^3 + (6)^3$$

$$= 64 + 216 = 280$$

Question 44

An angle is greater than its complementary angle by 40° . Find the measure of the angle?

A 25°

B 65°

C 130°

D 50°

Answer: B

Explanation:

Let the angle = θ

Its complementary angle = $(\theta - 40^\circ)$

Sum of an angle and its complementary angle = 90°

$$\Rightarrow \theta + (\theta - 40^\circ) = 90^\circ$$

$$\Rightarrow 2\theta = 90^\circ + 40^\circ = 130^\circ$$

$$\Rightarrow \theta = \frac{130}{2} = 65^\circ$$

Question 45

In a rhombus

- A opposite angles are supplementary
- B diagonals form two congruent triangles
- C diagonals are congruent
- D diagonals do not bisect opposite angles

Answer: B

Explanation:

In a rhombus, all sides are equal and opposite sides are parallel, thus there will be two pairs of alternate interior angles.

Also, both the diagonals will have vertically opposite angles between them which are equal.

Thus, Diagonals form two congruent triangles (by AAA criteria)

=> Ans - (B)

Question 46

The sum of thrice a number and twice its reciprocal is 97/4. What is the number?

- A 9
- B 10
- C 8
- D 7

Answer: C

Explanation:

Let the number be x

$$\text{According to ques, } \Rightarrow \left(3x + \frac{2}{x}\right) = \frac{97}{4}$$

$$\Rightarrow \frac{3x^2 + 2}{x} = \frac{97}{4}$$

$$\Rightarrow 12x^2 + 8 = 97x$$

$$\Rightarrow 12x^2 - 97x + 8 = 0$$

$$\Rightarrow 12x^2 - 96x - x + 8 = 0$$

$$\Rightarrow 12x(x - 8) - 1(x - 8) = 0$$

$$\Rightarrow (12x - 1)(x - 8) = 0$$

$$\Rightarrow x = \frac{1}{12}, 8$$

∴ The number is 8

Question 47

Read the data and answer the given data ?

	No of Employees	Annual salary in lakhs	Bonus Percent of salary
Manager	2	30	40%
Executive	12	8	20%
Trainee	1	4	10%

What is the average bonus in rupees?

- A 4360005
- B 280000
- C 290667
- D 140000

Answer: C

Explanation:

Total bonus of managers (in lakh) = $2 \times 30 \times \frac{40}{100} = 24$ lakhs

Total bonus of executive (in lakh) = $12 \times 8 \times \frac{20}{100} = 19.2$ lakhs

Total bonus of trainee (in lakh) = $1 \times 4 \times \frac{10}{100} = 0.4$ lakhs

=> Average bonus in rupees = $\frac{(24+19.2+0.4)}{(2+12+1)}$

= $\frac{43.6}{15} = 2.90667$ lakhs = 2,90,667

=> Ans - (C)

Question 48

Read the data and answer the given questions

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

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

- A 2011 & 2013
- B 2013 & 2015

C 2011 & 2012

D 2014 & 2015

Answer: D

Explanation:

Total exports from the three companies together in :

$$2011 = 1000 + 5000 + 1000 = 7000$$

$$2012 = 1000 + 1000 + 3000 = 5000$$

$$2013 = 1000 + 3000 + 2000 = 6000$$

$$2014 = 3000 + 2000 + 4000 = 9000$$

$$2015 = 1000 + 4000 + 4000 = 9000$$

Clearly, total exports in 2014 and 2015 are equal to 9000

=> Ans - (D)

Question 49

Read the given data and answer the questions ?

Years	Profit or (-loss)in crores
2011	10
2012	-25
2013	20
2014	-20
2015	25

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

A Profit of Rs 10 crores

B Profit of Rs 20 crores

C Loss of Rs 10 crores

D Loss of Rs 20 crores

Answer: A

Explanation:

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

$$= 10 - 25 + 20 - 20 + 25$$

$$= 10$$

Since, it is positive, thus profit of Rs. 10 crore

=> Ans - (A)

Question 50

Read the given data and answer the questions

India's Exports in 2015	Value in Million US \$
Jewellery	625
Softyware	550
Cotton	850
Steel	850
Electronics	525

Jewellery what percent of the total exports ?

- A 20.88 percent
- B 18.38 percent
- C 23.38 percent
- D 15.88 percent

Answer: B

Explanation:

Value in millions of Jewelry = 625

Total exports = 625 + 550 + 850 + 850 + 525 = 3400

=> % of Jewelry in total exports = $\frac{625}{3400} \times 100$

= $\frac{625}{34} = 18.382 \approx 18.38\%$

=> Ans - (B)

Reasoning

Instructions

For the following questions answer them individually

Question 51

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

Screw Gauge : Thickness : : Sphygmomanometer : ?

- A Blood pressure
- B Haemoglobin
- C Keratin

D Insulin

Answer: A

Explanation:

The screw gauge is an instrument used for measuring the thickness of a sheet of metal, similarly Sphygmomanometer is an instrument for measuring *blood pressure*.

=> Ans - (A)

Question 52

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

ENLARGE : EGRALNE :: ? : RETOOCS

A TERCSOO

B SCOOTER

C SCOTTER

D REOOTCS

Answer: B

Explanation:

Expression = ENLARGE : EGRALNE :: ? : RETOOCS

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

Similarly, reverse of **SCOOTER** : RETOOCS

=> Ans - (B)

Question 53

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

FG : 67 :: UV : ?

A 1926

B 2021

C 2122

D 2621

Answer: C

Explanation:

Expression = $FG : 67 :: UV : ?$

The pattern followed is that the numerical value of the alphabets is concatenated.

Eg :- $F = 6, G = 7 \equiv 67$

Similarly, $U = 21, V = 22 \equiv 2122$

=> Ans - (C)

Question 54

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

$867 : 21 :: 9164 : ?$

A 55

B 25

C 20

D 65

Answer: C

Explanation:

Expression = $867 : 21 :: 9164 : ?$

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

Eg :- $8 + 6 + 7 = 21$

Similarly, $9 + 1 + 6 + 4 = 20$

=> Ans - (C)

Question 55

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

A Pen drive

B Floppy disk

C CD ROM

D Mouse

Answer: D

Explanation:

Pen drive, floppy disk and CD ROM are storage devices, hence mouse is the odd one out.

=> Ans - (D)

Question 56

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

A BE

B VZ

C QU

D KO

Answer: A

Explanation:

(A) : B (+3 letters) = E

(B) : V (+4 letters) = Z

(C) : Q (+4 letters) = U

(D) : K (+4 letters) = O

=> Ans - (A)

Question 57

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

A 992

B 848

C 749

D 777

Answer: D

Explanation:

The sum of digits of all numbers but 777 is 20, hence it is the odd one out.

=> Ans - (D)

Question 58

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

A 550

B 945

C 963

D 320

Answer: D

Explanation:

The pattern followed is that the difference of first two digit is equal to the third digit, but $3 - 2 \neq 0$, hence 320 is the odd one out.

=> Ans - (D)

Question 59

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. Arctic Circle, Tropic of Cancer, ? , Tropic of Capricorn

A Temperate zone

B Equator

C Antarctic Circle

D Prime Meridian

Answer: B

Explanation:

The circle of latitude of Earth starting from northern hemisphere are given.

= Arctic Circle -> Tropic of Cancer -> Equator -> Tropic of Capricorn

=> Ans - (B)

Question 60

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

730, 1001, 1332, 1729, ?

A 1236

B 3256

C 2910

D 2198

Answer: D

Explanation:

The pattern followed is :

$$9^3 + 1 = 730$$

$$10^3 + 1 = 1001$$

$$11^3 + 1 = 1332$$

$$12^3 + 1 = 1729$$

$$13^3 + 1 = \mathbf{2198}$$

=> Ans - (D)

Question 61

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

Statement:

(I) Air purifier is the latest innovation of this decade.

(II) Marketers identified the need and grabbed the opportunity of polluted atmosphere and created a new product for people.

Conclusions:

(I) The reason for invention of air purifier is rising levels of pollution.

(II) The need is created in market about the product and then it is established.

- A Only conclusion II follows
- B Conclusion I and II both follow
- C Neither I nor II follow
- D Only conclusion I follows

Answer: D

Question 62

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. ABC, ZYX, DEF, WVU, ?

- A GHI
- B IJK
- C MN0
- D EFG

Answer: A

Explanation:

Expression : ABC, ZYX, DEF, WVU, ?

The odd terms are consecutive letters of English alphabetical series, while the even terms are in reverse order

Eg :- ZYX is preceded by WVU

Similarly, ABC, DEF is followed by **GHI**

=> Ans - (A)

Question 63

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. GB, ID, LG, ?

A NO

B BA

C PK

D XY

Answer: C

Explanation:

Expression : GB, ID, LG, ?

The pattern followed in each letter of the terms is :

1st letter : G (+2 letters) = I (+3 letters) = L (+4 letters) = P

2nd letter : B (+2 letters) = D (+3 letters) = G (+4 letters) = K

Thus, missing term = **PK**

=> Ans - (C)

Question 64

There are 150 residents in a society. Out of them, 50 residents own a motorcycle, 60 residents own a car and 20 residents own both a car and a motorcycle. How many residents neither own a motorcycle nor a car?

A 20

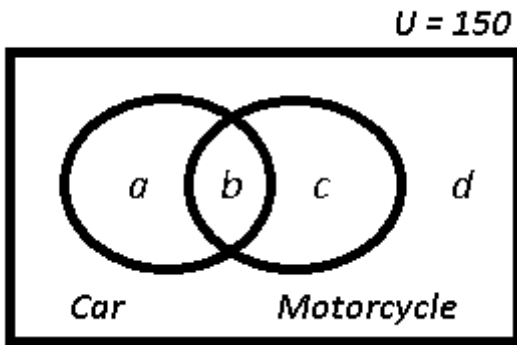
B 30

C 60

D 10

Answer: C

Explanation:



Total number of residents in the society = $a + b + c + d = 150$ -----(i)

Residents who own motorcycle = $b + c = 50$ -----(ii)

Residents who own car = $a + b = 60$ -----(iii)

Also, Residents who own both car and motorcycle = $b = 20$

Substituting above values in equations (ii) and (iii), $\Rightarrow c = 50 - 20 = 30$ and $a = 60 - 20 = 40$

\therefore From equation (i), we get : $40 + 20 + 30 + d = 150$

$\Rightarrow d = 150 - 90 = 60$

Thus, 60 residents neither own a motorcycle nor a car.

\Rightarrow Ans - (C)

Question 65

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

- i. Hunger**
- ii. Horse**
- iii. Hungry**
- iv. Handmade**

A iv, ii, i, iii

B iii, iv, ii, i

C iv, iii, i, ii

D i, iv, ii, iii

Answer: A

Explanation:

As per the order of dictionary :

= Handmade -> Horse -> Hunger -> Hungry

\equiv iv, ii, i, iii

\Rightarrow Ans - (A)

Question 66

In a certain code language, "ENERGETIC" is written as "ETICGENER". How is "CARTRIDGE" written in that code language?

- A IDGESCART
- B IDGERCRAT
- C IDEGRCART
- D IDGERCART

Answer: D

Explanation:

"ENERGETIC" is written as "ETICGENER"

The pattern followed is that the word is divided into 3 parts, i.e. = (ENER) (G) (ETIC) and the first part is swapped with the last one to get the desired code = ETIC G ENER

Similarly, for (CART) (R) (IDGE) : **IDGERCART**

=> Ans - (D)

Question 67

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

64	56	46
32	20	36
9	29	?

- A 45
- B 23
- C 20
- D 51

Answer: B

Explanation:

The sum of each column is same.

$$\text{Eg :- } 64 + 32 + 9 = 105$$

$$\text{and } 56 + 20 + 29 = 105$$

$$\text{Similarly, } 46 + 36 + x = 105$$

$$\Rightarrow x = 105 - 82 = 23$$

\Rightarrow Ans - (B)

Question 68

If "A" denotes "added to", "C" denotes "divided by", "D" denotes "multiplied by" and "B" denotes "subtracted from", then

$$81 \text{ C } 9 \text{ D } 11 \text{ B } 4 \text{ A } 6 = ?$$

A 101

B 150

C 102

D 132

Answer: A

Explanation:

Expression : $81 \text{ C } 9 \text{ D } 11 \text{ B } 4 \text{ A } 6 = ?$

$$\equiv 81 \div 9 \times 11 - 4 + 6$$

$$= (9 \times 11) + 2$$

$$= 99 + 2 = 101$$

\Rightarrow Ans - (A)

Question 69

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

t_vw_u_w_uvw

A ttvt

B vtvt

C utvt

D uttt

Answer: C

Explanation:

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

$$= \text{tuvw tuvw tuvw}$$

\Rightarrow Ans - (C)

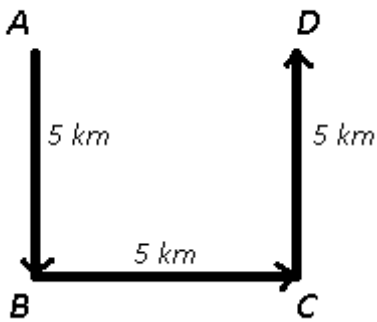
Question 70

Ram cycles 5 km in the south, and turns left to travel 5 km further. From there, he takes a left turn and travels 5 km more. How far is he from his original position?

- A 5 km
- B $5\sqrt{5}$ km
- C 10 km
- D 6 km

Answer: A

Explanation:



Let Ram start from point A and travels 5 km towards the south to reach B, and then takes a left, and travels 5 km to reach C. Again, he takes a left and travels 5 km northwards and finally stop at point D.

Thus, he is **5 km** from his original position.

=> Ans - (A)

Question 71

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'N' can be represented by 21, 67 etc. and 'R' can be represented by 66, 57 etc. Similarly, you have to identify the set for the word 'PUMP'.

Matrix - I

	0	1	2	3	4
0	P	R	A	N	B
1	W	U	N	H	L
2	E	N	S	G	O
3	N	Y	P	O	M
4	M	T	O	F	A

Matrix - II

	5	6	7	8	9
5	Z	M	R	I	Q
6	X	R	N	W	P
7	C	S	Y	E	U
8	S	N	P	M	S
9	P	B	E	R	P

- A 23, 57, 11, 88
- B 69, 11, 40, 99
- C 32, 02, 11, 87
- D 00, 99, 87, 32

Answer: B

Explanation:

(A) : 23, 57, 11, 88 = GRUM

(B) : 69, 11, 40, 99 = **PUMP**

(C) : 32, 02, 11, 87 = PAUP

(D) : 00, 99, 87, 32 = PPPP

=> Ans - (B)

Question 72

Introducing a man, a woman says, "He is the son-in-law of the wife of my father and I am the only child of my parents". How is the man related to the woman?

- A Nephew

- B Husband
- C Brother-in-law
- D Cousin

Answer: B

Explanation:

Wife of the woman's father = woman's mother

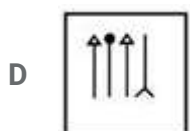
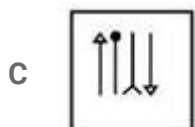
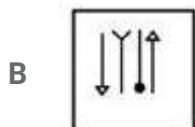
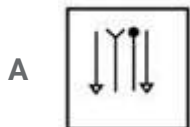
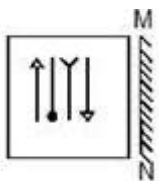
Now, son-in-law of woman's mother = woman's husband

Thus, that man is the woman's husband.

=> Ans - (B)

Question 73

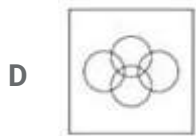
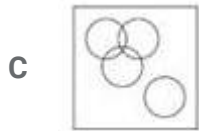
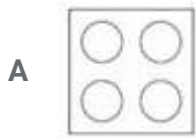
If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?



Answer: B

Question 74

Identify the diagram that best represents the relationship among the given classes. Search engines, Google, Bing, Yahoo



Answer: B

Question 75

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



Answer: C

General Awareness

Instructions

For the following questions answer them individually

Question 76

Buland Darwaza is the main entrance to the palace at?

- A Amer Fort
- B Gwalior Fort
- C Fatehpur Sikri
- D Agra Fort

Answer: C

Question 77

Highest Civilian Honour received by Dilip Kumar is

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

Answer: C

Question 78

Which of the following organs produces the enzyme lipase?

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

Answer: A

Question 79

Ais a long internode forming the basal part or the whole of a peduncle.

- A rhizome
- B rachis
- C floral axis
- D scape

Answer: D

Question 80

Which of the following organisms are considered to be both Living and Non-living?

- A Bacteria
- B Fungi
- C Algae
- D Virus

Answer: D

Question 81

The Chemical formula of Ammonium oxalate is

- A $\text{NH}_4\text{C}_2\text{O}_4$
- B $(\text{NH}_4)_2\text{C}_2\text{O}_4$
- C $(\text{NH}_4)_2\text{C}_2\text{O}_4$
- D c: $(\text{NH}_4)_2\text{C}_2\text{O}_4$
d: $(\text{NH}_4)_2\text{C}_2\text{O}_3$

Answer: C

Question 82

Benzene isin ethyl alcohol.

- A soluble
- B solute
- C insoluble
- D insolate

Answer: C

Question 83

VoIP in computer science stands for?

- A Virtual over Identifier Protocol
- B Voice over Internet Protocol
- C Voice over Interface Protocol
- D Voice over Instruction Protocol

Answer: B

Question 84

The Indian musical instrument 'Surbahar' is of which type?

- A Impact
- B Wind
- C String
- D Percussion

Answer: C

Question 85

For a certain shoe factory the fixed costs are Rs 200,000, selling price is Rs 2000 per pair of shoes and variable cost is Rs 1200 per pair, what is the breakeven quantity?

- A 100
- B 62.5

C 167

D 250

Answer: D

Question 86

Which of the following will cause an increase in the demand for coffee?

A Price of coffee falling in foreign markets

B Coffee prices are expected to fall rapidly in domestic markets

C Average income falls in the country

D Increase in price of tea

Answer: D

Question 87

Which of the following countries has the highest population density?

A China

B India

C Phillipines

D United Kingdom

Answer: B

Question 88

Which of the following constitutes highest percentage of Green House gases?

A Ethane

B Methane

C Carbon Dioxide

D Propane

Answer: C

Question 89

.....was a philosopher and theologian from India during early 8th century who consolidated the doctrine of Advaita Vedanta.

- A Adi Shankara
- B Dyaneshwar
- C Eknath
- D Madhvacharya

Answer: A

Question 90

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

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

Answer: A

Question 91

Which city is located on the banks of the river Ganges?

- A Mathura
- B Agra
- C Kanpur
- D Kota

Answer: C

Question 92

Who was the first ruler of Pala dynasty?

- A Gopala
- B Vivyanathan
- C Dharmapala
- D Bhaskaran

Answer: A

Question 93

Which empire is regarded as the Golden Age of Hinduism?

- A Maurya
- B Mughal
- C Gupta
- D Chola

Answer: C

Question 94

Who Invented Post-it note?

- A William Friese-Greene
- B Arthur Fry
- C Gordon Gould
- D Otto von Guericke

Answer: B

Question 95

.....states that the ratio of the potential difference across a conductor to the current flowing through it, is a constant, provided that its physical conditions, such as temperature, remain constant.

- A Lenz's Law
- B Hooke's Law

- C Ohm's Law
- D The coulomb's law

Answer: C

Question 96

.....mirror is used in the headlights of cars.

- A Semi-circular
- B Conical
- C Convex
- D Concave

Answer: D

Question 97

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

- A Nationalist Congress Party
- B National Congress Party
- C National Communist Party
- D Nationalist Communist Party

Answer: B

Question 98

United Progressive Alliance was founded in?

- A 1951
- B 1998
- C 2004
- D 1980

Answer: C

Question 99

In which country, 13th South Asian games will be held?

- A** India
- B** Australia
- C** Nepal
- D** Pakistan

Answer: C

Question 100

Who is the author of "The Immortals of Meluha (Shiva Trilogy)"?

- A** Amish Tripathi
- B** Durjoy Datta
- C** Keshav Aneel
- D** Savi Sharma

Answer: A

SSC CHSL 25 Jan 2017 Evening Shift

Reasoning

Instructions

For the following questions answer them individually

Question 1

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

Gambler : Casino :: Clerk : ?

- A Site
- B Restaurant
- C Office
- D Stage

Answer: C

Explanation:

Expression = Gambler : Casino :: Clerk : ?

A gambler plays in a casino, similarly a clerk works in an office.

=> Ans - (C)

Question 2

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

K x L : 11 x 12 :: F x R : ?

- A 13 x 4
- B 10 x 15
- C 18 x 6
- D 6 x 18

Answer: D

Explanation:

Expression = K x L : 11 x 12 :: F x R : ?

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

Eg :- K = 11 , L = 12 \equiv 11 \times 12

Similarly, F = 6 , R = 18 \equiv 6 \times 18

=> Ans - (D)

Question 3

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

CD: GH :: ?

A PQ: TU

B RS: UV

C MN: OR

D ST: XY

Answer: A

Explanation:

Expression = CD: GH :: ?

The pattern followed is :

C (+1 letter) = D (+3 letters) = G (+1 letter) = H

Similar pattern is only observed in = P (+1 letter) = Q (+3 letters) = T (+1 letter) = U

Thus, **PQ: TU**

=> Ans - (A)

Question 4

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

170 : 13 :: 257 : ?

A 20

B 16

C 22

D 13

Answer: B

Explanation:

Expression = 170 : 13 :: 257 : ?

The pattern followed is = $x^2 + 1 : x$

Eg :- $13^2 + 1 : 13 = 170 : 13$

Similarly, $(16)^2 + 1 = 256 + 1 = 257$

Thus, 257 : **16**

=> Ans - (B)

Question 5

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

- A Professor - College
- B Teacher - School
- C Beautician - Parlour
- D Engineer - Home

Answer: D

Explanation:

A professor works in college, teacher at school and a beautician in a parlour, hence engineer-home is the odd one out.

=> Ans - (D)

Question 6

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

- A BJRZ
- B MUCK
- C GOWE
- D SAIR

Answer: D

Explanation:

(A) : B (+8 letters) = J (+8 letters) = R (+8 letters) = Z

(B) : M (+8 letters) = U (+8 letters) = C (+8 letters) = K

(C) : G (+8 letters) = O (+8 letters) = W (+8 letters) = E

(D) : S (+8 letters) = A (+8 letters) = I (+9 letters) = R

=> Ans - (D)

Question 7

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

- A 168

B 198

C 196

D 191

Answer: D

Explanation:

Among the given numbers only 191 is prime and odd, hence it is the odd one out.

=> Ans - (D)

Question 8

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

A 51

B 76

C 96

D 92

Answer: A

Explanation:

Among the given numbers, only 51 is odd, hence it is the odd one out.

=> Ans - (A)

Question 9

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

CLNW, EJPU, GHRS, IFTQ, ?

A KOVD

B KODV

C KVDO

D KDVO

Answer: D

Explanation:

Expression : CLNW, EJPU, GHRS, IFTQ, ?

The pattern followed in each letter of the terms is :

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

2nd letter : L (-2 letters) = J (-2 letters) = H (-2 letters) = F (-2 letters) = D

3rd letter : N (+2 letters) = P (+2 letters) = R (+2 letters) = T (+2 letters) = V

4th letter : W (-2 letters) = U (-2 letters) = S (-2 letters) = Q (-2 letters) = O

Thus, missing term = **KDVO**

=> Ans - (D)

Question 10

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

DG, JM, PS, VY, ?

A BD

B BE

C CE

D CD

Answer: B

Explanation:

Expression : DG, JM, PS, VY, ?

The pattern followed in each letter of the terms is :

1st letter : D (+6 letters) = J (+6 letters) = P (+6 letters) = V (+6 letters) = B

2nd letter : G (+6 letters) = M (+6 letters) = S (+6 letters) = Y (+6 letters) = E

Thus, missing term = **BE**

=> Ans - (B)

Question 11

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

13, 24, 46, 79, ?

A 123

B 120

C 133

D 151

Answer: A

Explanation:

Multiples of 11 are added.

$$13 + 11 = 24$$

$$24 + 22 = 46$$

$$46 + 33 = 79$$

$$79 + 44 = \mathbf{123}$$

=> Ans - (A)

Question 12

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

Statement:

(I) Flowers give everything to the world before shedding off from the plant.

(II) Human beings should inherit these good qualities from flowers.

Conclusions:

(I) Imparting education and good learnings to the world is a noble deed.

(II) Flowers teach us to live a meaningful and significant life.

A Only conclusion II follows

B Conclusion I and II both follow

C Neither I nor II follow

D Only conclusion I follows

Answer: B

Question 13

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

Spring, Summer, Monsoon, ?

A PreWinter

B Rainy

C Autumn

D Winter

Answer: D

Explanation:

Order of weathers is given.

= Spring -> Summer -> Monsoon -> Winter

=> Ans - (D)

Question 14

Usha, Tulsi, Divya, Pooja, Rohit, Aakash and Aditi are facing north. Rohit is at the immediate left of Aakash, while Divya is the neighbour of Tulsi and Pooja. The one who is third to the left of Pooja is on one of the ends. Aditi is fourth to the left of Rohit. Who are the neighbours of Tulsi?

- A Aditi and Divya
- B Aakash and Pooja
- C Divya and Pooja
- D Aakash only

Answer: A

Explanation:

The one who is third to the left of Pooja is on one of the ends.

=> Pooja is sitting in the middle.

Rohit is at the immediate left of Aakash. Aditi is fourth to the left of Rohit.

=> Aditi _ _ _ Rohit Aakash

Also, Divya is the neighbour of Tulsi and Pooja.

=> Divya sits to the immediate left of Pooja.

Thus, arrangement :

Aditi	Tulsi	Divya	Pooja	Rohit	Aakash	Usha
-------	-------	-------	-------	-------	--------	------

∴ **Aditi and Divya** are the neighbours of Tulsi.

=> Ans - (A)

Question 15

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

- i. Carrier
- ii. Capability
- iii. Cause
- iv. Course

A ii, i, iii, iv

B i, ii, iii, iv

C ii, iii, i, iv

D ii, iv, i, iii

Answer: A

Explanation:

As per the order of dictionary :

= Capability -> Carrier -> Cause -> Course

≡ ii, i, iii, iv

=> Ans - (A)

Question 16

In a certain code language "POUCH" is written as "53461", and "PRAYERS" is written as "578902 ↑". How will "CHEES" be written in that code language?

A 6102 ↑

B 6100 ↑

C 610 ↑ 0

D 6001 ↑

Answer: B

Explanation:

The codes for each letter is given :

C -> 6

H -> 1

E -> 0

E -> 0

S -> ↑

Thus, CHESS : 6100 ↑

=> Ans - (B)

Question 17

Find the missing number in Given Series ?

9	4	1
36	25	1
144	81	?

A 3

B 2

C 63

D 68

Answer: A

Explanation:

In each row, for the numbers a , b and c , pattern is : $c = \sqrt{a} - \sqrt{b}$

$$\text{Eg :- } \sqrt{9} - \sqrt{4} = 3 - 2 = 1$$

$$\sqrt{36} - \sqrt{25} = 6 - 5 = 1$$

$$\text{Similarly, } \sqrt{144} - \sqrt{81} = 12 - 9 = 3$$

=> Ans - (A)

Question 18

If K denotes \times , T denotes \div , V denotes $+$ and R denotes $-$, then
16 V 24 T 8 R 6 T 2 K 3 = ?

A 10

B 9

C 12

D 11

Answer: A

Explanation:

Expression : 16 V 24 T 8 R 6 T 2 K 3 = ?

$$\equiv 16 + 24 \div 8 - 6 \div 2 \times 3$$

$$= 16 + \left(\frac{24}{8}\right) - (3 \times 3)$$

$$= 16 + 3 - 9 = 10$$

=> Ans - (A)

Question 19

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

x_za_yza_xy_aa_

A yxaza

B yxaxa

C xyazz

D yxazz

Answer: A

Explanation:

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

= xyza xyzaa xyzaaa

=> Ans - (A)

Question 20

If northwest becomes south, northeast becomes west and so on, then east will become which direction?

A North-west

B South-east

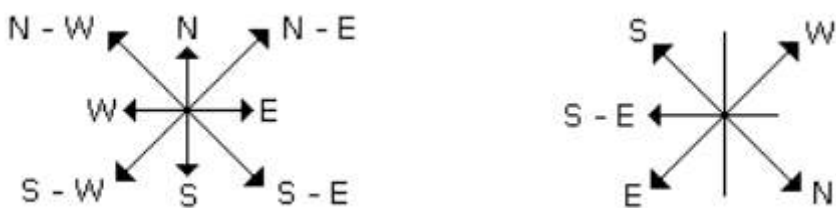
C South

D North

Answer: A

Explanation:

If north-west becomes south, north-east becomes west and so on, then :



It is clear from the diagrams that new name of East will become North-west.

=> Ans - (A)

Question 21

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'D' can be represented by 20, 44 etc., and can be represented by 57,76 etc. Similarly, you have to identify the set for the word 'MOUSE'.

MATRIX 1:

	0	1	2	3	4
0	D	E	R	U	M
1	M	R	E	D	U
2	D	M	U	R	E
3	U	D	M	E	R
4	E	U	R	M	D

MATRIX 2:

	5	6	7	8	9
5	S	N	T	N	O
6	T	S	A	O	N
7	O	T	N	S	A
8	A	O	S	N	T
9	N	A	O	T	S

- A 21, 59, 03, 99, 40
- B 32, 68, 13, 66, 01
- C 04, 75, 41, 86, 12
- D 43, 86, 30, 55, 32

Answer: A

Explanation:

(A) : 21, 59, 03, 99, 40 = **MOUSE**

(B) : 32, 68, 13, 66, 01 = MODSE

(C) : 04, 75, 41, 86, 12 = MOUOE

(D) : 43, 86, 30, 55, 32 = MOUSM

=> Ans - (A)

Question 22

Pointing towards a lady in a photograph, Ram says, "Her mother is the mother-in-law of my father's brother". How is the lady related to Ram?

- A Mother
- B Sister
- C Aunt
- D Mother-in-law

Answer: C

Explanation:

Ram's father's brother = Ram's uncle

Mother-in-law of Ram's uncle = Ram's uncle wife's mother

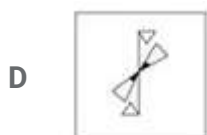
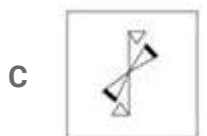
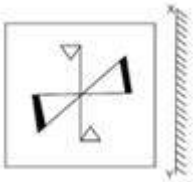
Thus, the lady is the wife of Ram's uncle

=> That lady is Ram's aunt.

=> Ans - (C)

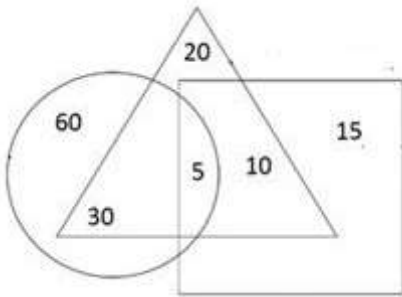
Question 23

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



Answer: B

Question 24



A 30

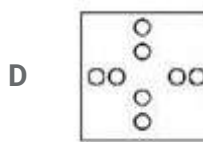
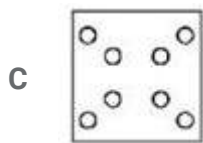
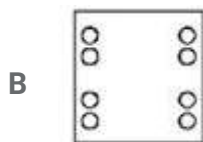
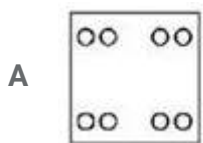
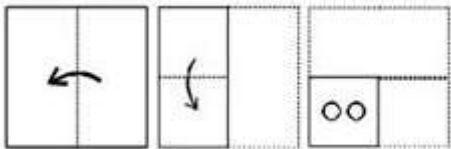
B 20

C 60

D 10

Answer: B

Question 25



Answer: A

General Awareness

Instructions

For the following questions answer them individually

Question 26

In 2007, which monument was declared a winner of the New 7 Wonders of the World?

- A Taj Mahal
- B Hawa Mahal
- C Agra Fort
- D Lotus Temple

Answer: A

Question 27

Deepa Mehta was nominated for Oscars for the movie "Water" in the category of

- A Best Sound Mixing
- B Best Original Score
- C Best Original Song
- D Best Foreign Language Film

Answer: D

Question 28

Myopia affects which of the following organs?

- A Heart
- B Skin
- C Eyes
- D Mouth

Answer: C

Question 29

Which of the following bears flowers?

- A** Bryophyta
- B** Pteridophyta
- C** Gymnosperms
- D** Angiosperms

Answer: D

Question 30

Oxygenated blood flows out of the heart through the

- A** aorta
- B** pulmonary artery
- C** vena cava
- D** atrium

Answer: A

Question 31

Covalent Bond is also called

- A** Molecular Bond
- B** Proton Bond
- C** Nucleus Bond
- D** Electron Bond

Answer: A

Question 32

Sulphur and Chlorine can have what type of a bond?

- A Polar covalent
- B Polyionic
- C Nonpolar covalent
- D Ionic

Answer: A

Question 33

Which of these is not a database management system (DBMS)?

- A Sybase
- B SAP HANA
- C MySQL
- D Cosmos

Answer: D

Question 34

Losar festival is celebrated in which state?

- A Assam
- B Orissa
- C Nagaland
- D Sikkim

Answer: D

Question 35

If for the year a country's GDP was \$ 1315 million, consumer spending was \$900 million, investment by businesses was \$180 million, exports were \$85 million and imports were \$100 million, calculate government spending?

- A \$220 million

- B \$250 million
- C \$580 million
- D \$610 million

Answer: B

Question 36

Stagflation exists when

- A price indices and output both decrease.
- B price indices increase but output decreases.
- C price indices and output both increase.
- D price indices decrease but output increases.

Answer: B

Question 37

Kanha Tiger Reserve is in which state?

- A Maharashtra
- B Andhra Pradesh
- C Chhattisgarh
- D Madhya Pradesh

Answer: D

Question 38

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

- A Ar
- B HN3
- C CO2
- D C4H6

Answer: C

Question 39

ABM stands for

- A** Anti Belligerent Mine
- B** Anti Base Machine
- C** Anti Body Mechanics
- D** Anti Ballistic Missile

Answer: A

Question 40

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

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

Answer: B

Question 41

Who was the first to measure the circumference of earth?

- A** Erechtheus
- B** Aegeus
- C** Eratosthenes
- D** Apheidas

Answer: C

Question 42

When did the first Huna invasion take place?

- A 358 AD
- B 458 AD
- C 558 AD
- D 658 AD

Answer: B

Question 43

Chandragupta (322-298 BC) was the ruler of which dynasty?

- A Maurya
- B Mewar
- C Mughal
- D Peshwas

Answer: A

Question 44

Who Invented Electric Stove?

- A Lloyd Groff Copeman
- B Bartolomeo Cristofori
- C Leonardo da Vinci
- D Philip Diehl

Answer: A

Question 45

Instrument used for measuring specific gravity is called

- A Bathymeter

- B Cryometer
- C Areometer
- D Cymometer

Answer: C

Question 46

Cryogenics is a branch of Physics that deal with

- A very high temperatures
- B very low temperatures
- C growth of extremely small crystals
- D growth of extremely large crystals

Answer: B

Question 47

Indian Constitution has how many Articles?

- A 95
- B 195
- C 295
- D 395

Answer: D

Question 48

Article 31A of the Indian Constitution "Saving of Laws providing for acquisition of estates, etc" deals with?

- A the State Government
- B the Union Government
- C the fundamental rights of the Indian Citizen
- D the directive principles of state policy

Answer: C

Question 49

What is the full name of Sachin Tendulkar?

- A Sachin Suresh Tendulkar
- B Sachin Mahesh Tendulkar
- C Sachin Ramesh Tendulkar
- D Sachin Lokesh Tendulkar

Answer: C

Question 50

Who is the author of "The Lowland"?

- A Amitav Ghosh
- B kiran Desai
- C Jhumpa Lahiri
- D Aravind Adiga

Answer: C

English

Instructions

For the following questions answer them individually

Question 51

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

disgusting and an unpleasant smell.

- A oops
- B ouch
- C darn

D rancid

Answer: D

Question 52

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'.

Maya was not promoted to(A)/the post of a manager(B)/till for a few months of her resignation.(C)/No error(D)

A A

B B

C C

D D

Answer: C

Question 53

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

No man is an island

A a man is self sufficient only when he gets married

B no one is selfsufficient; everyone relies on others

C nobody prefers to live alone

D to not marry is like living on an island

Answer: B

Question 54

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.

This letter is toyou with the problems faced by the society members.

A acquaint

B illustrate

C convince

D demonstrate

Answer: A

Question 55

Select the antonym of brawl

A truce

B fracas

C altercation

D bicker

Answer: A

Question 56

Select the word with the correct spelling.

A thankfuel

B chancer

C nibbling

D pollyglot

Answer: C

Question 57

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

a person who can endure pain or hardship without showing their feelings or complaining.

A agitate

B fluster

C stoic

D upset

Answer: C

Question 58

**Select the synonym of
antagonize**

- A alienate
- B placid
- C sync
- D serene

Answer: A

Question 59

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

The professor said to Suraj, "Who were you waiting for?"

- A The professor asked Suraj who he was waiting for.
- B The professor asked Suraj who he had been waiting for.
- C The professor inquired with Suraj who he was waiting for.
- D The professor asked Suraj who he has been waiting for.

Answer: B

Question 60

**Select the antonym of
offensive**

- A obnoxious
- B agreeable
- C repugnant
- D odious

Answer: B

Question 61

**Select the synonym of:
incisive**

- A daffy
- B concise
- C stolid
- D tedious

Answer: B

Question 62

Rearrange the parts of the sentence in correct order.

I am raising these questions

Pare early warning signs

Qof a deeper crisis

Rbecause such events

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

Answer: C

Question 63

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

The squeaky wheel gets the grease

- A the most noticeable problems are the ones most likely to get attention
- B one unfortunate child always keep getting punished
- C the person who complains the most is hated the most
- D the favourite child or student gets the most attention

Answer: A

Question 64

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'.

One who perpetually hesitates(A)/which of the two things he will do first(B)/will ultimately do neither.(C)No error(D)

A A

B B

C C

D D

Answer: D

Question 65

Improve the bracketed part of the sentence. The other shirt (will cost) you more.

A would cost

B will be costing

C could be costing

D no improvement

Answer: D

Question 66

Rearrange the parts of the sentence in correct order.

Even the knowledge

Pfor less disastrous policies

Qthe Census would make

Rof elementary facts from

A QRP

B QPR

C PRQ

D RQP

Answer: D

Question 67

Select the word with the correct spelling.

A mongose

B salavaged

C belives

D although

Answer: D

Question 68

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

I will wash the car every Sunday.

A The car would be washed by me every Sunday.

B The car will be washed by me every Sunday.

C Every Sunday the car would be washed by me.

D The car will have been washed by me every Sunday.

Answer: B

Question 69

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

If you exercisefor half an hour daily, then you will rid yourself from the problem of hypertension.

A recurrently

B regularly

C routinely

D continuously

Answer: B

Question 70

Improve the bracketed part of the sentence.

Having finished the voluminous novel, (it was being put away by him).

- A it was put away by him
- B he has had put it away
- C he put it away
- D no improvement

Answer: C

Explanation:

Start Group:

Instructions

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

The chasm(1).....the needs of the people who struggle(2)..... survival, action and inaction by representatives, and lack of remedial justice has compromised representative democracy(3)..... Defections from one party to another indicate.....(4).....of the basic obligations of representatives, even (5).....their own people starve.

Question 71

The chasmthe needs of the people

- A between
- B of
- C about
- D in

Answer: A

Question 72

Who strugglesurvival, action

- A for

B with

C from

D of

Answer: A

Question 73

Lack of remedial justice has compromised representative democracy

A really

B superlatively

C enormously

D too much

Answer: C

Question 74

Defections from one party to another indicateof the basic obligations of representatives

A renouncing

B renunciation

C renunciate

D the renunciation

Answer: B

Question 75

Eventheir own people starve.

A like

B so

C whereas

D as

Answer: D

Mathematics

Instructions

For the following questions answer them individually

Question 76

If $5(4x) - 4 < 3x - 2 > 4x - 6$; then the value of x is

A 3

B 1

C 2

D 5

Answer: A

Question 77

Mother can bake 20 cakes in 4 hours, Mother and Dadima together can bake 60 cakes in 10 hours. How many cakes Dadima can bake in 30 hours?

A 30

B 75

C 60

D 25

Answer: A

Explanation:

Cakes baked by Mother in 1 hour = $\frac{20}{4} = 5$

Cakes baked by Mother and Dadima together in 1 hour = $\frac{60}{10} = 6$

=> Cakes baked by Dadima in 1 hour = $6 - 5 = 1$

∴ Cakes baked by Dadima in 30 hours = $30 \times 1 = 30$

Question 78

What is the value of 99992×100008 ?

A 9999999936

B 9999899936

C 9999999836

D 9999999926

Answer: A

Explanation:

Expression : 99992×100008

$$= (100000 - 8) \times (100000 + 8)$$

$$= (100000)^2 - (8)^2$$

$$= 10000000000 - 64 = 9999999936$$

=> Ans - (A)

Question 79

Of the 3 numbers whose average is 70, the first is $\frac{1}{9}$ times the sum of other 2. The first number is

A 32

B 21

C 14

D 42

Answer: B

Explanation:

Let the three numbers be x, y, z

$$\text{Sum of three numbers} = x + y + z = 70 \times 3 = 210$$

$$\text{According to ques, } \Rightarrow x = \frac{1}{9} \times (y + z)$$

$$\Rightarrow x = \frac{1}{9} \times (210 - x)$$

$$\Rightarrow 9x = 210 - x$$

$$\Rightarrow 9x + x = 10x = 210$$

$$\Rightarrow x = \frac{210}{10} = 21$$

Question 80

Point P is the midpoint of seg AB. Coordinates of P are (1,1) and A are (4,3). What are the coordinates of point B?

A (2, 1)

B (-2, -1)

C (2, -1)

D (-2, 1)

Answer: B

Explanation:

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

Let coordinates of B (x, y)

A = (4,3) and P = (1,1)

$$\Rightarrow 1 = \frac{4+x}{2}$$

$$\Rightarrow x = 2 - 4 = -2$$

Similarly, $1 = \frac{3+y}{2}$

$$\Rightarrow y = 2 - 3 = -1$$

Thus, coordinates of B (-2,-1)

Question 81

If the amount received at the end of 2nd and 3rd year at Compound Interest on a certain Principal is Rs 33708, and Rs 35730.48 respectively, what is the rate of interest?

A 6 percent

B 3 percent

C 12 percent

D 10 percent

Answer: A

Explanation:

Compound interest at the end of 2nd year = Rs. 33,708

Compound interest at the end of 3rd year = Rs. 35,730.48

$$\Rightarrow \text{Difference} = 35730.48 - 33708 = \text{Rs. } 2022.48$$

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

$$\therefore \text{Rate of interest, } r = \frac{2022.48}{33708} \times 100 = 6\%$$

=> Ans - (A)

Question 82

Slope of the side DA of the rectangle ABCD is 1/3. What is the slope of the side AB?

A 3

B 1/3

C -1/3

D -3

Answer: D

Explanation:

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

Let slope of side AB = m and slope of side DA = $\frac{1}{3}$

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

$$\Rightarrow m = -3$$

=> Ans - (D)

Question 83

If the radius of a circle is increased by 29% its area increases by

A 58 percent

B 29 percent

C 33.205 percent

D 66.41 percent

Answer: D

Explanation:

Let radius = 10 cm

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

If radius is increased by 29%, => New radius = 12.9 cm

$$\text{New area} = \pi(12.9)^2 = 166.41\pi \text{ sq. cm}$$

$$\Rightarrow \% \text{ increase in area} = \frac{166.41 - 100}{100} \times 100$$

= 66.41 %

Question 84

A shopkeeper by selling 23 Lotto shoes, earns a profit equal to the selling price of 7 Lotto shoes. His profit percentage is

A 43.75 percent

B 30.4 percent

C 60.8 percent

D 17.05 percent

Answer: A

Explanation:

Let Cost price of 1 shoe = Rs. x

Let Selling price of 1 shoe = Rs. y

Profit of 23 shoes = Rs. $23(y - x)$

According to ques, $\Rightarrow 23(y - x) = 7y$

$$\Rightarrow 23y - 23x = 7y$$

$$\Rightarrow 23x = 23y - 7y = 16y$$

$$\Rightarrow \frac{x}{y} = \frac{16}{23}$$

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

$$= \frac{16}{23} \times 100 = 43.75\%$$

Question 85

If $3x + 7 = 5x + 1$, then the numerical value of $(x + 4)^2$ is

A -1

B 49

C -49

D 1

Answer: B

Explanation:

Expression : $3x + 7 = 5x + 1$

$$\Rightarrow 5x - 3x = 7 - 1 = 6$$

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

$$\begin{aligned} \text{To find : } & (x + 4)^2 \\ & = (3 + 4)^2 = (7)^2 = 49 \end{aligned}$$

Question 86

If Giri's salary is $\frac{9}{5}$ times of Hariprasad's and Shaukat's is $\frac{9}{2}$ times of Hariprasad's, what is the ratio of Giri's salary to Shaukat's?

- A 10:81
- B 81:10
- C 5:2
- D 2:5

Answer: D

Explanation:

Let Hariprasad's salary = $10x$

$$\Rightarrow \text{Giri's salary} = \frac{9}{5} \times 10x = 18x$$

$$\Rightarrow \text{Shaukat's salary} = \frac{9}{2} \times 10x = 45x$$

$$\therefore \text{Ratio of Giri's salary to Shaukat's} = \frac{18x}{45x}$$

$$= 2 : 5$$

Question 87

If $\sin 330^\circ = x$, then the value of x is

- A $-\sqrt{3}/2$
- B $-1/2$
- C $2/\sqrt{3}$
- D $\sqrt{2}$

Answer: B

Explanation:

Expression : $\sin 330^\circ = x$

$$= \sin(360 - 30)$$

$$= -\sin 30 = -\frac{1}{2}$$

\Rightarrow Ans - (B)

Question 88

If $x - y = 7$ and $x + y = 13$, then $x^2 - y^2$ is

- A 104
- B 30
- C 30
- D 91

Answer: D

Explanation:

Equation 1 : $x - y = 7$

Equation 2 : $x + y = 13$

Adding both equations, we get : $2x = 7 + 13 = 20$

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

Substituting value of 'x' in equation 1, $\Rightarrow y = 10 - 7 = 3$

To find : $x^2 - y^2 = (10^2 - 3^2)$

$$= 100 - 9 = 91$$

Question 89

A car travels a certain distance at 34 km/h and comes back at 66 km/h. What is the average speed for total journey?

- A 50 km/hr
- B 39.76 km/hr
- C 55.12 km/hr
- D 44.88 km/hr

Answer: D

Explanation:

Average speed of the journey is the harmonic mean of the speeds 34 and 66 km/hr

Harmonic mean of two numbers 'x' and 'y' = $\frac{2}{\frac{1}{x} + \frac{1}{y}}$

$$\text{Average speed} = \frac{2}{\frac{1}{34} + \frac{1}{66}}$$

$$= 2 \div \frac{66+34}{66 \times 34} = \frac{2 \times 66 \times 34}{100}$$

$$= \frac{4488}{100} = 44.88 \text{ km/hr}$$

=> Ans - (D)

Question 90

30% discount is offered on an item. By applying a promo code the customer wins 10% cash back. What is the effective discount?

A 40.7 percent

B 40 percent

C 37 percent

D 13 percent

Answer: C

Explanation:

Let the marked price of item = Rs. $100x$

$$\text{Amount after 30 \% discount} = 100x - \frac{30}{100} \times 100x$$

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

$$\text{Selling price after 10 \% cashback} = 70x - \frac{10}{100} \times 70x$$

$$= 70x - 7x = \text{Rs.}63x$$

$$\Rightarrow \text{Total discounted amount} = 100x - 63x = \text{Rs.}37x$$

$$\therefore \text{Effective discount} = \frac{37x}{100x} \times 100 = 37\%$$

Question 91

A cylindrical vessel of height 7 cm and radius 5 cm is completely filled with sand. When this sand is poured out it forms a right circular cone of radius 8 cm what will be the height of this cone?

A 8.2 cm

B 16.4 cm

C 24.6 cm

D 32.8 cm

Answer: A

Explanation:

Let height of cone = h cm and radius, $r = 8$ cm

Height of cylinder, $H = 7$ cm and Radius, $R = 5$ cm

Volume of cylinder = Volume of cone

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

$$\Rightarrow (5)^2 \times 7 = \frac{1}{3} \times (8)^2 \times h$$

$$\Rightarrow h = \frac{25 \times 7 \times 3}{64} = \frac{525}{64}$$

$$\Rightarrow h = 8.2 \text{ cm}$$

Question 92

What is the value of $\frac{\operatorname{cosec} A}{\sqrt{(\operatorname{cosec}^2 A - 1)}}$?

A $\sin A$

B $\sec A$

C $\tan A$

D $\cos A$

Answer: B

Explanation:

$$\text{Expression : } \frac{\operatorname{cosec} A}{\sqrt{(\operatorname{cosec}^2 A - 1)}}$$

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

$$= \frac{\operatorname{cosec} A}{\sqrt{\cot^2 A}} = \frac{\operatorname{cosec} A}{\cot A}$$

$$= \frac{1}{\sin A} \div \frac{\cos A}{\sin A}$$

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

$$= \frac{1}{\cos A} = \sec A$$

\Rightarrow Ans - (B)

Question 93

$\triangle ABC$ is right angled at B. BD is the altitude. AD is 8 cm and DC is 50 cm. What is the length of BD?

A 25 cm

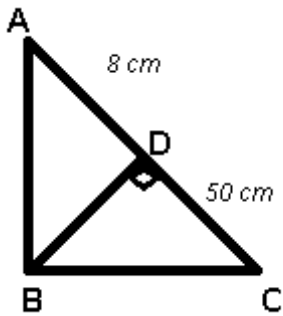
B 20 cm

C 16 cm

D 15 cm

Answer: B

Explanation:



Let $BD = x$ cm

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

$$\Rightarrow (x)^2 = 8 \times 50 = 400$$

$$\Rightarrow x = \sqrt{400} = 20 \text{ cm}$$

\Rightarrow Ans - (B)

Question 94

If $\sec A - \tan A = x$, then the value of x is

A $\sqrt{[(1 + \sin A)/(1 - \sin A)]}$

B $\sqrt{[(1 - \sin A)/(1 + \sin A)]}$

C $(1 - \sin A)/(1 + \sin A)$

D $(1 + \sin A)/(1 - \sin A)$

Answer: B

Explanation:

Expression : $\sec A - \tan A = x$

$$= \frac{1}{\cos A} - \frac{\sin A}{\cos A}$$

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

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

$$= \sqrt{\frac{1 - \sin A}{1 + \sin A}}$$

\Rightarrow Ans - (B)

Question 95

In a rectangle

- A Diagonals bisect opposite angles
- B Consecutive sides are congruent
- C All sides are congruent
- D Diagonals form two congruent triangles

Answer: D

Explanation:

In a rectangle, diagonals are of equal length and they bisect each other.

Also, both the diagonals will have vertically opposite angles between them which are equal.

Thus, Diagonals form two congruent triangles (by SAS criteria)

=> Ans - (D)

Question 96

Two fractions are such that their product is 4 and sum is 68/15. Find the two fractions.

- A 6/15, 10/3
- B 6/5, 10/3
- C 7/2, 8/7
- D 10/7, 14/5

Answer: B

Explanation:

Let the two numbers be x and y

$$\Rightarrow x + y = \frac{68}{15} \text{ and } x \cdot y = 4$$

$$\Rightarrow x\left(\frac{68}{15} - x\right) = 4$$

$$\Rightarrow x\left(\frac{68-15x}{15}\right) = 4$$

$$\Rightarrow 68x - 15x^2 = 60$$

$$\Rightarrow 15x^2 - 68x + 60 = 0$$

$$\Rightarrow 15x^2 - 50x - 18x + 60 = 0$$

$$\Rightarrow 5x(3x - 10) - 6(3x - 10) = 0$$

$$\Rightarrow (5x - 6)(3x - 10) = 0$$

$$\Rightarrow x = \frac{6}{5}, \frac{10}{3}$$

Question 97

Read the data answer the given questions

	Quantity of cost	Average cost
MOBILES	52	15000
CAMERAS	76	8000
TVs	31	51000
REFRIGERATOR	71	26000
AC	70	20000

What is the total value of the stocks in lakhs rupees?

A 621.5

B 120

C 62.15

D 300

Answer: C

Explanation:

Total cost of mobiles = $52 \times 15000 = \text{Rs. } 7,80,000$

Total cost of Cameras = $76 \times 8000 = \text{Rs. } 6,08,000$

Total cost of TVs = $31 \times 51000 = \text{Rs. } 15,81,000$

Total cost of Refrigerator = $71 \times 26000 = \text{Rs. } 18,46,000$

Total cost of AC = $70 \times 20000 = \text{Rs. } 14,00,000$

\therefore Total cost = $7,80,000 + 6,08,000 + 15,81,000 + 18,46,000 + 14,00,000 = \text{Rs. } 62,15,000$

Total cost in lakhs = Rs 62.15 lakhs

=> Ans - (C)

Question 98

Read the data and answer the given questions

Years	Ratio import/export
2011	0.8
2012	0.8
2013	1.2
2014	1.2
2015	1.5

If the Imports In 2012 was Rs. 1200 crores and the total exports In the years 2012 and 2013 together was Rs. 3200 crores, then the Imports in 2013 was?

- A 1700
- B 1500
- C 1417
- D 2040

Answer: D

Explanation:

Imports in 2012 = Rs. 1200 crores

Let Exports in 2012 = Rs. y crores

Ratio of imports and exports in 2012 = 0.8

$$\Rightarrow \frac{1200}{y} = 0.8$$

$$\Rightarrow y = \frac{1200}{0.8} = 1500$$

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

\Rightarrow Exports in 2013 = Rs. (3200 - 1500) crores = Rs. 1700 crores

Let imports in 2013 = Rs. x crores

Ratio of imports and exports in 2013 = $\frac{x}{1700} = 1.2$

$$\Rightarrow x = 1700 \times 1.2 = 2040$$

\therefore Imports in 2013 was Rs. 2040 crores

\Rightarrow Ans - (D)

Question 99

Read the given data and answer the questions ?

Measured On Birthday	Hieght of Children in CMs
4	100
5	105
6	110
7	115
8	125
9	135
10	140
11	145
12	155
13	160
14	165
15	170
16	175

What is the increase in height of child from 5th birthday to 16 birthday ?

- A 75 cms
- B 70 cms
- C 65 cms
- D 80 cms

Answer: B

Explanation:

Height on 5th birthday = 105 cm

Height on 16th birthday = 175 cm

Increase in height = 175 - 105 = 70 cm

=> Ans - (B)

Question 100

Read the data answer the given questions

Deep Sleep	25
Dreaming	10
Light Sleep	10
Exreamly Sleep	15
Awake	40

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

- A 4 hours
- B 3 hours
- C 2 hours
- D 4.5 hours

Answer: A

Explanation:

Total time between 10 pm to 6 am = 8 hours

% time spent on dreaming and being awake = 10 + 40 = 50%

=> Time spent on dreaming and being awake = $\frac{50}{100} \times 8$

= $\frac{8}{2} = 4$ hours

=> Ans - (A)