



SSC CHSL 9 Jan 2017 Evening Shift

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Reasoning

Instructions

For the following questions answer them individually

Question 1

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

PHOTOGRAPHER : CAMERA :: WRITER : ?

- A PEN
- B BALL
- C FRETSAW
- D KNIFE

Answer: A

Explanation:

A photographer uses camera to click pictures, similarly a writer uses a *pen* to write.

=> Ans - (A)

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Question 2

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

AB : YX :: LM : ?

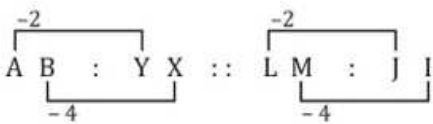
- A NM
- B OP
- C JI
- D GH

Answer: C

Explanation:

Expression = AB : YX :: LM : ?

The pattern followed is :



Thus, LM : JI

=> Ans - (C)

Question 3

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

DA : FE :: HI : ?

- A KO
- B JM
- C JK

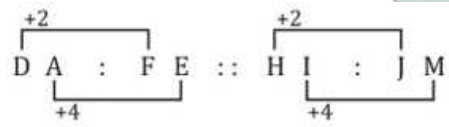
D KJ

Answer: B

Explanation:

Expression = DA : FE :: HI : ?

The pattern followed is :



Thus, HI : JM

=> Ans - (B)

Question 4

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

2 : 16 :: 3 : ?

A 340

B 81

C 243

D 122

Answer: B

Explanation:

Expression = 2 : 16 :: 3 : ?

The pattern followed is = $x : x^4$

Eg :- $2 : 2^4 = 2 : 16$

Similarly, $3^4 = 81$

=> Ans - (B)

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Question 5

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

A Aizawl

B Agartala

C Shillong

D Darjeeling

Answer: D

Explanation:

Aizawl is the capital of Mizoram, Agartala is the capital of Tripura and Shillong is capital of Meghalaya while Darjeeling is not a capital city, hence it is the odd one out.

=> Ans - (D)

Question 6

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

- A VT
- B FD
- C PN
- D JM

Answer: D

Explanation:

- (A) : V (-2 letters) = T
- (B) : F (-2 letters) = D
- (C) : P (-2 letters) = N
- (D) : J (+3 letters) = M

=> Ans - (D)

Question 7

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

- A 13981
- B 93172
- C 47542
- D 67325

Answer: D

Explanation:

The sum of digits of first three numbers is 22, while $6 + 7 + 3 + 2 + 5 = 23$, hence 67325 is the odd one out.

=> Ans - (D)

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Question 8

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

- A 5712
- B 6212
- C 3811
- D 7831

Answer: A

Explanation:

Among the given numbers, only 5712 is divisible by 3, 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.

Jallianwala Bagh Massacre, Simon Commission, Dandi March, ?

- A Quit-India Movement
- B Advent of British
- C Advent of French
- D Champaran Satyagraha

Answer: A

Explanation:

Historical events in periodical order are given.

= Jallianwala Bagh Massacre -> Simon Commission -> Dandi March -> Quit-India Movement

=> 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.

ZA, XC, TG, NM, ?

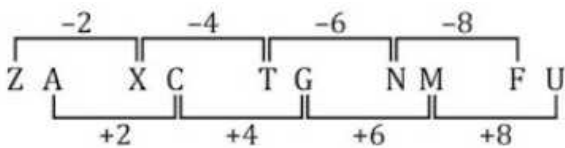
- A KL
- B FU
- C LM
- D TG

Answer: B

Explanation:

Expression : ZA, XC, TG, NM, ?

The pattern followed in each letter of the terms is :



Thus, missing term = FU

=> Ans - (B)

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Question 11

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

CD, ?, MN, UV, EF

- A EF
- B GH
- C KL

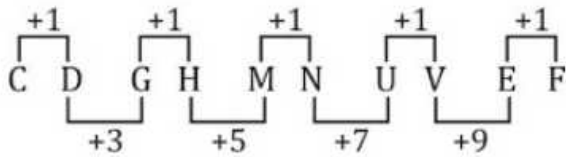
D MN

Answer: B

Explanation:

Expression : CD, ?, MN, UV, EF

The pattern followed is :



Thus, missing term = GH

=> Ans - (B)

Question 12

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

72, 56, 42, 30, 20, ?

A 22

B 20

C 12

D 64

Answer: C

Explanation:

Consecutive even numbers in decreasing order are subtracted.

$$72 - 16 = 56$$

$$56 - 14 = 42$$

$$42 - 12 = 30$$

$$30 - 10 = 20$$

$$20 - 8 = 12$$

=> Ans - (C)

Question 13

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

Statements:

(I) Some white is black.

(II) No black is green.

Conclusion:

(I) Some white is green.

(II) Some white is not green.

A Conclusion I follows

B Conclusion II follows

C Either 1 or 2 follows

D Both I and II follows

Answer: C

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Question 14

If 1st January 2013 was Wednesday, then what day of the week was it on 2nd January 2014?

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

Answer: D

Explanation:

According to the question, 1st January 2013 is Wednesday

Number of days left in January = $31 - 1 = 30$

Similarly, odd days from 1st January 2013 till 2nd January 2014 =

$$= (30 + 28 + 31 + 30 + 31 + 30 + 31 + 31 + 30 + 31 + 30 + 31 + 2) \% 7$$

$$= (2 + 0 + 3 + 2 + 3 + 2 + 3 + 3 + 2 + 3 + 2 + 3 + 2) = 30$$

Now, dividing 30 by 7, remainder = 2

Thus, day on 2nd January 2014 = Wednesday (+2) = Friday

=> Ans - (D)

Question 15

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

- i. Victory
- ii. Victorious
- iii. Vaccine
- iv. Vacancy

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

Answer: D

Explanation:

As per the order of dictionary :

= Vacancy -> Vaccine -> Victorious -> Victory

≡ iv, iii, ii, i

=> Ans - (D)

Question 16

In a certain code language, 'TRUMPET' is written as '7591427' and 'SORROW' is written as '385586'. How is 'EMPRESS' written in that code language?

- A 2145237
- B 2145233
- C 2154323
- D 3154233

Answer: B

Explanation:

The codes for each letter is given :

- E -> 2
- M -> 1
- P -> 4
- R -> 5
- E -> 2
- S -> 3
- S -> 3

Thus, EMPRESS : 2145233

=> Ans - (B)

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Question 17

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

7	13	17
5	?	3
35	104	51

- A 8
- B 12
- C 7
- D 9

Answer: A

Explanation:

The number at the end in each column is obtained by multiplying the other two.

Eg :- $7 \times 5 = 35$ and $17 \times 3 = 51$

Similarly, $13 \times x = 104$

=> $x = \frac{104}{13} = 8$

=> Ans - (A)

Question 18

If "P" denotes "multiplied by", "R" denotes "subtracted from", "S" denotes "added to" and "Q" denotes "divided by", then 6 P 7 S 169 Q 13 R 5 = ?

- A 55

B 50

C 45

D 43

Answer: B

Explanation:

Expression : $6 P 7 S 169 Q 13 R 5 = ?$

$$\equiv 6 \times 7 + 169 \div 13 - 5$$

$$= 42 + \frac{169}{13} - 5$$

$$= 37 + 13 = 50$$

=> Ans - (B)

Question 19

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

T_ST_S_U_T_S

A UUSTT

B TUUTS

C TTSTU

D UUTSU

Answer: D

Explanation:

The pattern followed is that in groups of 3, the terms 'TUS' is repeated.

= TUS TUS TUS TUS

=> Ans - (D)

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Question 20

Vishal travels 8 km towards east, then turns left and travels another 5 km, and then he turns 270 degrees anticlockwise. Which direction is he facing now?

A West

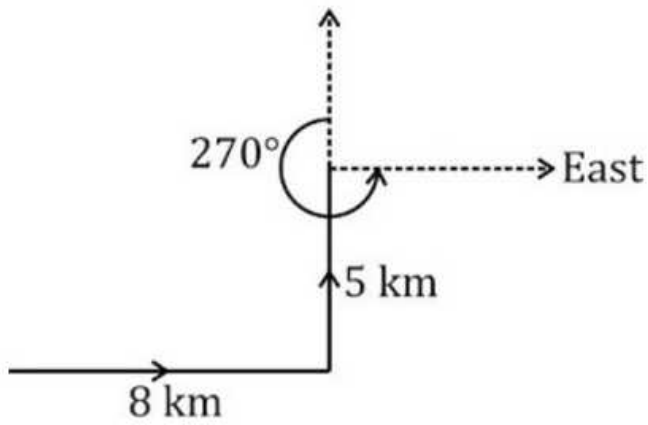
B East

C North

D South

Answer: B

Explanation:



Vishal travels 8 km towards east, then turns left and travels towards north for another 5 km, and then he turns 270 degrees anticlockwise.

Thus, he is facing east direction at the end.

=> Ans - (B)

Question 21

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'E' can be represented by 11, 00 etc. and 'S' can be represented by 20, 75 etc. Similarly, you have to identify the set for the word 'FLOW'.

Matrix - I

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

Matrix - II

	5	6	7	8	9
5	F	Q	R	S	I
6	L	R	S	Y	E
7	S	L	R	E	F
8	G	J	L	S	P
9	H	E	W	L	O

A 22, 23, 98, 11

B 79, 65, 11, 77

C 40, 87, 99, 97

D 55, 66, 11, 58

Answer: C

Explanation:

(A) : 22, 23, 98, 11 = FLLE

(B) : 79, 65, 11, 77 = FLER

(C) : 40, 87, 99, 97 = **FLOW**

(D) : 55, 66, 11, 58 = FRES

=> Ans - (C)

Question 22

Ramesh and Suresh are brothers. Dharmendra is the father of Ramesh and Sunita is the wife of Suresh's only brother. Sapna is the daughter of Sunita. How is Sapna related to Dharmendra?

A Daughter

B Sister-in-law

C Niece

D Granddaughter

Answer: D

Explanation:

Ramesh and Suresh are brothers and Dharmendra is the father of Ramesh.

Sunita is the wife of Suresh's only brother, => Sunita is the wife of Ramesh.

Sapna is the daughter of Sunita, => Ramesh is father of Sapna.

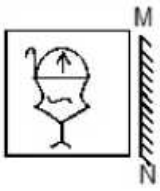
Thus, Sapna is granddaughter of Dharmendra.

=> Ans - (D)

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Question 23

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



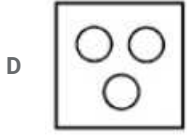
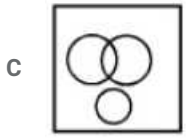
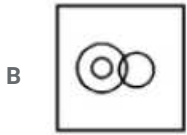
Answer: D

Question 24

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

Utensils, Mugs, Calculator

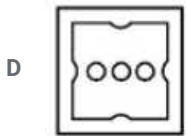
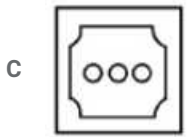
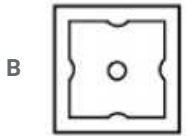
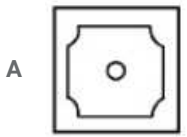
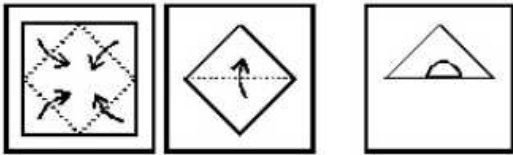




Answer: A

Question 25

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



Answer: A

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General Awareness

Instructions

For the following questions answer them individually

Question 26

The tag line "Do no Evil" is owned by

- A Yahoo
- B Bing
- C Google
- D Start page

Answer: C

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Question 27

Electric chair was invented by

- A Alfred P. Southwick
- B Isaac Singer
- C Murasaki Shikibu
- D Hanaoka Seish?

Answer: A

Question 28

Brain fever is a disease spread through which of the following?

- A Flies
- B Mosquito
- C Virus
- D Cockroach

Answer: B

Question 29

Mangroves are plants that have

- A Modified Roots
- B Modified Stems
- C Respiratory Roots
- D Respiratory Stems

Answer: C

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Question 30

Rodentia Sciurus is the scientific name of

- A Rat
- B Platypus
- C Squirrel
- D Beaver

Answer: C

Question 31

The reactions in which oxidation and reduction occur simultaneously are called _____.

- A Feral reactions
- B Redox reactions
- C Demug reactions
- D Kerol reactions

Answer: B

Question 32

Who discovered Nitrogen?

- A Faraday
- B Heisenberg
- C Hooke
- D Rutherford

Answer: D

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Question 33

Odisha's World famous Konark Sun Temple was built by

- A Krushadevray
- B Ashoka
- C Chandragupta
- D Narasimhadeva I

Answer: D

Question 34

Nepali is primarily spoken in which State?

- A Karnataka
- B Rajasthan

- C Sikkim
- D Andhra Pradesh

Answer: C

Question 35

A manufacturer faces price elasticity of demand of a -2 for its product. If it lowers its price by 5%, the increase in quantity sold will be

- A 3%
- B 10%
- C 2.50%
- D 7%

Answer: B

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Question 36

If cash reserve ratio decreases, credit creation will _____.

- A increase
- B decrease
- C does not change
- D first decreases than increases

Answer: A

Question 37

Device used for the detection and measurement of all types of radiation (alpha, beta and gamma)

- A Geiger counter
- B Polarimeter
- C Calorimeter
- D Radiometer

Answer: A

Question 38

Haematite is an ore/mineral of

- A Zinc
- B Iron
- C Lead
- D Manganese

Answer: B

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Question 39

Name the lead actor in the hollywood movie "Top Gun"?

- A Harrison Ford
- B Tom Cruise
- C Mel Gibson
- D Nicolas Cage

Answer: B

Question 40

The study of universe is known as _____.

- A Cosmology
- B Astrology
- C Seismology
- D Limnology

Answer: A

Question 41

Shortest day in the Northern hemisphere is _____.

- A 22nd November
- B 22nd December
- C 22nd March
- D 22nd June

Answer: B

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Question 42

Adolf Hitler, the _____ Politician was responsible for genocide of millions of Jews.

- A German
- B French
- C Austrian
- D British

Answer: A

Question 43

Prithviraj Chauhan married _____. She was the daughter of his enemy Jaichandra Gahadwal.

- A Krishnavati
- B Purvavati
- C Somyukta
- D Saumyavati

Answer: C

Question 44

_____ is the 2016 Oscar Winner for Best Foreign Language Film.

- A Son of Saul
- B Embrace of the Serpent
- C Mustang
- D A War

Answer: A

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Question 45

If a ball is thrown up, which of the following does not change?

- A Acceleration
- B Speed
- C Potential energy
- D Distance

Answer: A

Question 46

If a body is moving on a circular path, what is its average velocity if it completes one cycle in one second?

- A Average velocity depends upon time taken to complete one cycle
- B One
- C Average velocity is same as average speed
- D Zero

Answer: D

Question 47

What is the maximum number of Members of the Rajya Sabha?

- A 150
- B 200
- C 250
- D 300

Answer: C

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Question 48

What does the wheel in the National Flag represent?

- A Speed
- B Truth
- C Growth
- D Future

Answer: B

Question 49

K Srikanth has won Arjuna Award for which sport in India?

- A Badminton
- B Billiards
- C Boxing
- D Chess

Answer: A

Question 50

Who is the author of the book "A Life Less Ordinary : A Memoir"?

- A Salman Rushdie
- B Arundhati Roy
- C Baby Halder
- D Rohinton Mistry

Answer: C

SSC CHSL Study Material

Mathematics

Instructions

For the following questions answer them individually

Question 51

On dividing $24a^2b^2$ by $6b^2$, we will get

- A $4b^2$
- B $4a^2$
- C $4a^2b^2$
- D 4

Answer: B

Explanation:

On dividing $24a^2b^2$ by $6b^2$

$$= \frac{24 \cdot a^2 \cdot b^2}{6 \cdot b^2}$$

$$= 4a^2$$

=> Ans - (B)

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Question 52

To travel 612 km, an Express train takes 9 hours more than Rajdhani. If the speed of the Express train is doubled, it takes 3 hours less than Rajdhani. The speed (in km/hr) of Rajdhani is

- A 40.8
- B 51
- C 30.6
- D 61

Answer: A

Explanation:

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

Using, time = distance/speed

$$\text{Acc. to ques, } \Rightarrow \frac{612}{y} - \frac{612}{x} = 9$$

$$\Rightarrow \frac{1}{y} - \frac{1}{x} = \frac{9}{612} = \frac{1}{68} \text{ -----(i)}$$

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

$$\Rightarrow \frac{612}{x} - \frac{612}{2y} = 3$$

$$\Rightarrow \frac{1}{x} - \frac{1}{2y} = \frac{3}{612} = \frac{1}{204} \text{ -----(ii)}$$

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

$$\Rightarrow \frac{1}{y} - \frac{1}{2y} = \frac{1}{68} + \frac{1}{204}$$

$$\Rightarrow \frac{1}{2y} = \frac{4}{204}$$

$$\Rightarrow y = \frac{102}{4} = \frac{51}{2} \text{ km/hr}$$

$$\therefore \text{Speed of Rajdhani} = \frac{1}{x} = \frac{2}{51} - \frac{1}{68}$$

$$\Rightarrow \frac{1}{x} = \frac{1}{17} \times \frac{5}{12}$$

$$\Rightarrow x = \frac{204}{5} = 40.8 \text{ km/hr}$$

Question 53

If $\sqrt{\frac{1}{(\operatorname{Cosec}^2 A - 1)}} = x$, then value of x is

A $\cot A$

B $\tan A$

C $\sin A$

D $\cos A$

Answer: B

Explanation:

$$\text{Expression: } \sqrt{\frac{1}{(\operatorname{Cosec}^2 A - 1)}} = x$$

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

$$= \frac{1}{\sqrt{\cot^2 A}}$$

$$= \frac{1}{\cot A} = \tan A$$

\Rightarrow Ans - (B)

Question 54

Pradeep has done $\frac{1}{4}$ th of a job in 14 days, Saquib completes the rest of the job in 56 days. In how many days can they together complete the job?

A 64 days

B 32 days

C 16 days

D 8 days

Answer: B

Explanation:

Let total work to be done = 56 units

Pradeep has done $\frac{1}{4}$ of a job i.e. $\frac{56}{4} = 14$ units in 14 days

\Rightarrow Pradeep's efficiency = $\frac{14}{14} = 1$ unit/day

Work left = $56 - 14 = 42$ units which is done by Saquib in 56 days

\Rightarrow Saquib's efficiency = $\frac{42}{56} = 0.75$ units/day

Pradeep and Saquib 1 day's work = $1 + 0.75 = 1.75$ units/day

\therefore Time taken by them together to complete the work = $\frac{56}{1.75} = 32$ days

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Question 55

What is the value of $\operatorname{cosec} \frac{3\pi}{4}$?

A $-\sqrt{2}$

B $\sqrt{2}$

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

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

Answer: B

Explanation:

Expression : cosec $\frac{3\pi}{4}$

$$= \operatorname{cosec}\left(\pi - \frac{\pi}{4}\right)$$

$$= \operatorname{cosec}\frac{\pi}{4} = \sqrt{2}$$

=> Ans - (B)

Question 56

What is the value of 2 consecutive natural numbers, sum of whose squares is 145?

A 8, 9

B 6, 7

C 13, 14

D 9, 1

Answer: A

Explanation:

Let the consecutive natural numbers be (x) and $(x + 1)$

$$\text{Sum of squares} = (x)^2 + (x + 1)^2 = 145$$

$$\Rightarrow x^2 + x^2 + 2x + 1 = 145$$

$$\Rightarrow 2x^2 + 2x - 144 = 0$$

$$\Rightarrow x^2 + x - 72 = 0$$

$$\Rightarrow x^2 + 9x - 8x - 72 = 0$$

$$\Rightarrow x(x + 9) - 8(x + 9) = 0$$

$$\Rightarrow (x - 8)(x + 9) = 0$$

$$\Rightarrow x = 8, -9$$

Since, x is a natural number, it can't be negative.

∴ The natural numbers are 8 and 9

Question 57

$\left[\frac{\sin A}{(1+\cos A)}\right] + \left[\frac{(1+\cos A)}{\sin A}\right]$ is equal to

A $2\sec A$

B $2\operatorname{cosec} A$

C $2\tan A$

D $2\cot A$

Answer: B

Explanation:

$$\text{Expression : } \left[\frac{\sin A}{1+\cos A} \right] + \left[\frac{(1+\cos A)}{\sin A} \right]$$

Taking L.C.M, we get :

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

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

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

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

$$= \frac{2}{\sin A} = 2\operatorname{cosec} A$$

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Question 58

If in a two digit number, the digit at unit place is z and the digit at tens place is 8, then the number is

A $80z + z$

B $80 + z$

C $8z + 8$

D $80z + 1$

Answer: B

Explanation:

Digit at unit's place = z

Digit at ten's place = 8

$$\Rightarrow \text{2-digit number} = (10 \times 8) + (1 \times z)$$

$$= 80 + z$$

\Rightarrow Ans - (B)

Question 59

A shopkeeper by selling 17 Omega watches, earns a profit equal to the selling price of 7 Omega watches. What is his profit percentage?

A 41.1 percent

B 82.2 percent

C 58.82 percent

D 12.2 percent

Answer: C

Explanation:

Let Cost price of 1 watch = Rs. x

Let Selling price of 1 watch = Rs. y

Profit of 17 watches = Rs. $17(y - x)$

According to ques, $\Rightarrow 17(y - x) = 7y$

$$\Rightarrow 17y - 17x = 7y$$

$$\Rightarrow 17x = 17y - 7y = 10y$$

$$\Rightarrow \frac{x}{y} = \frac{10}{17}$$

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

$$= \frac{10}{17} \times 100 = 58.82\%$$

Question 60

The mean of marks secured by 30 students in division-A of class X is 67, 55 students of division-B is 63 and that of 40 students of division-C is 61. What is the mean of marks of the students of three divisions of Class X?

A 63.32

B 62.62

C 61.92

D 64.72

Answer: A

Explanation:

Total marks secured by 35 students in division A = $30 \times 67 = 2010$

Total marks secured by 45 students in division B = $55 \times 63 = 3465$

Total marks secured by 70 students in division C = $40 \times 61 = 2440$

$$\Rightarrow \text{Mean of marks of the students of three divisions of Class X} = \frac{(2010+3465+2440)}{(30+55+40)}$$

$$= \frac{7915}{125} = 63.32$$

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Question 61

ABCD is a parallelogram. Co-ordinates of A, B and C are (5,0), (-2,3) and (-1,4) respectively. What will be the equation of line AD?

A $y = 2x - 5$

B $y = x + 5$

C $y = 2x + 5$

D $y = x - 5$

Answer: D

Explanation:

Coordinates of A (5,0), B (-2,3) and C (-1,4). Let coordinates of D = (x,y)

ABCD is a parallelogram and AB is parallel to CD, thus slopes of AB and CD are equal.

$$\Rightarrow \frac{3-0}{-2-5} = \frac{4-y}{-1-x}$$

$$\Rightarrow \frac{-3}{7} = \frac{4-y}{-1-x}$$

$$\Rightarrow 3 + 3x = 28 - 7y$$

$$\Rightarrow 3x + 7y = 25 \text{ -----(i)}$$

Also, BC is parallel to AD

$$\Rightarrow \frac{3-4}{-2+1} = \frac{y-0}{x-5}$$

$$\Rightarrow x - 5 = y \text{ -----(ii)}$$

Substituting value of 'y' in equation (i), we get : $3x + 7(x - 5) = 25$

$$\Rightarrow 3x + 7x - 35 = 25$$

$$\Rightarrow x = \frac{60}{10} = 6$$

Putting it in equation (ii), $\Rightarrow y = 6 - 5 = 1$

Now, equation of line AD with coordinates (5,0) and (6,1)

$$\Rightarrow (y - 0) = \frac{1-0}{6-5}(x - 5)$$

$$\Rightarrow y = x - 5$$

Question 62

At what rate of compound interest per annum will a sum of Rs 50000 become Rs 73205 in 2 years?

- A 21 percent
- B 19 percent
- C 17 percent
- D 15 percent

Answer: A

Explanation:

Let rate of interest = $r\%$

Sum = Rs. 50,000

Amount after 2 years = Rs. 73,205

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

$$\Rightarrow 50000(1 + \frac{r}{100})^2 = 73205$$

$$\Rightarrow (1 + \frac{r}{100})^2 = \frac{73205}{50000} = 1.4641$$

$$\Rightarrow 1 + \frac{r}{100} = \sqrt{1.4641} = 1.21$$

$$\Rightarrow \frac{r}{100} = 1.21 - 1 = 0.21$$

$$\Rightarrow r = 0.21 \times 100 = 21\%$$

Question 63

A bag has Rs 30.8 in the form of 1 rupee, 50 paise and 10 paise coins in the ratio of 6:3:2. What is the number of 50 paise coins?

- A 8
- B 24
- C 12
- D 16

Answer: C

Explanation:

Let the number of 1 rupee, 50 paise and 10 paise coins be $6x, 3x, 2x$ respectively

Total amount in the bag = Rs 30.8

$$\Rightarrow (1 \times 6x) + \left(\frac{50}{100} \times 3x\right) + \left(\frac{10}{100} \times 2x\right) = 30.8$$

$$\Rightarrow 6x + \frac{3x}{2} + \frac{x}{5} = 30.8$$

$$\Rightarrow \frac{60x + 15x + 2x}{10} = 30.8$$

$$\Rightarrow 77x = 30.8 \times 10 = 308$$

$$\Rightarrow x = \frac{308}{77} = 4$$

\therefore Number of 50 paise coins = $3 \times 4 = 12$

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Question 64

Reflection of the point $(-3,6)$ in the x-axis is

- A $(3,6)$
- B $(6,-3)$
- C $(-3,-6)$
- D $(-6,3)$

Answer: C

Explanation:

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

\Rightarrow Reflection of point $(-3,6) = (-3,-6)$

\Rightarrow Ans - (C)

Question 65

The Simplified form of $\frac{(b^3x^2a^4z^3) \times (b^4x^3a^3z^2)}{(a^2b^4z^3)}$ is

- A $b^2x^4a^6z$
- B $b^3x^2a^4z^3$
- C $b^3x^5a^5z^2$
- D b^3a^5z

Answer: C

Explanation:

Expression : $\frac{(b^3x^2a^4z^3) \times (b^4x^3a^3z^2)}{(a^2b^4z^3)}$

$$= (a)^{4+3-2} \times (b)^{3+4-4} \times (x)^{2+3} \times (z)^{3+2-3}$$

$$= (a)^5(b)^3(x)^5(z)^2$$

\Rightarrow Ans - (C)

Question 66

Two students appeared for an examination. One of them secured 13 marks more than the other and his marks were 76% of the sum of their marks. The marks obtained by them are

- A 19 and 6
- B 34 and 21
- C 102 and 89
- D 92 and 79

Answer: A

Explanation:

Let marks scored by 1st student = x

=> Marks scored by another student = $(x + 13)$

According to question, => $(x + 13) = \frac{76}{100} \times (x + x + 13)$

=> $x + 13 = \frac{19}{25} \times (2x + 13)$

=> $25x + 325 = 38x + 247$

=> $38x - 25x = 325 - 247 = 78$

=> $x = \frac{78}{13} = 6$

∴ Marks scored by other student = $6 + 13 = 19$

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Question 67

What least number must be added to 1039, so that the sum obtained is completely divisible by 29?

- A 4
- B 5
- C 8
- D 6

Answer: B

Explanation:

Factorizing $1039 = 29 \times 35 + 24$

Thus, on dividing 1039 by 29, the remainder is 24

∴ The number that must be added to 1039 so that the sum obtained is completely divisible by 29

= $29 - 24 = 5$

=> Ans - (B)

Question 68

If a merchant offers a discount of 4% on the list price, then she makes a loss of 10%. What % profit or % loss will she make if she sells at a discount of 20% of the list price?

- A 25 percent loss
- B 4 percent loss
- C 50 percent profit
- D 26 percent profit

Answer: A

Explanation:

Let list price = Rs. $100x$

After 4% discount, selling price = $\frac{96}{100} \times 100x = \text{Rs. } 96x$

Let Cost price = Rs. y

$$\Rightarrow \text{Loss \%} = \frac{y-96x}{y} \times 100 = 10$$

$$\Rightarrow \frac{y-96x}{y} = \frac{10}{100} = \frac{1}{10}$$

$$\Rightarrow 10y - 960x = y$$

$$\Rightarrow 10y - y = 960x$$

$$\Rightarrow y = \frac{960x}{9} = 106.67x$$

If discount = 20%, \Rightarrow Selling price = $\frac{80}{100} \times 100x = \text{Rs. } 80x$

$$\therefore \text{Loss \%} = \frac{106.67x-80x}{106.67x} \times 100$$

$$\approx 25\%$$

Question 69

An angle is smaller than its supplementary by 30° . What is the measure of the angle?

- A 75°
- B 105°
- C 60°
- D 30°

Answer: A

Explanation:

Let the angle = θ

Its supplementary angle = $(\theta + 30^\circ)$

Sum of an angle and its supplementary angle = 180°

$$\Rightarrow \theta + (\theta + 30^\circ) = 180^\circ$$

$$\Rightarrow 2\theta = 180^\circ - 30^\circ = 150^\circ$$

$$\Rightarrow \theta = \frac{150}{2} = 75^\circ$$

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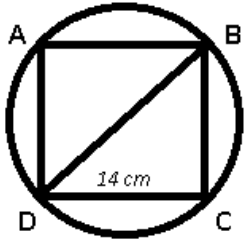
Question 70

A square is inscribed in a circle. If the side of the square is 14 cm, what is the area (in sq.cm) of the circle?

- A 49π
- B 77π
- C 121π
- D 98π

Answer: D

Explanation:



Square is inscribed in circle, thus diagonal of square = diameter of circle

Side of square = BC = CD = 14 cm

In $\triangle BCD$

$$\Rightarrow BD = \sqrt{(BC)^2 + (CD)^2}$$

$$\Rightarrow BD = \sqrt{(14)^2 + (14)^2} = \sqrt{196 + 196}$$

$$\Rightarrow BD = \sqrt{392} = 14\sqrt{2}$$

$$\Rightarrow \text{Radius of circle } r = 7\sqrt{2} \text{ cm}$$

$$\therefore \text{Area of circle} = \pi r^2$$

$$= \pi(7\sqrt{2})^2 = 98\pi \text{ cm}^2$$

Question 71

A wooden bowl is in shape of a hollow hemisphere of internal radius 7 cm and thickness 1 cm. What is the total surface area (in sq.cm) of the bowl? (Take: $\pi = 22/7$)

A 710.29

B 757.43

C 355.14

D 908.9

Answer: B

Explanation:

The hemispherical bowl has three surfaces to calculate: the interior hemisphere ($r_{int} = 7$) cm, the exterior hemisphere ($r_{ext} = 7 + 1 = 8$) cm and the annular (ring shaped) top edge (r_{ext}, r_{int})

Area of hemisphere = $2\pi r^2$ and area of annular = $\pi(r_{ext}^2 - r_{int}^2)$

Total surface area of hemisphere is the sum of these 3 areas

$$= [2\pi(7)^2] + [2\pi(8)^2] + [\pi(8^2 - 7^2)]$$

$$= \pi(98 + 128 + 64 - 49) = 241\pi$$

$$= 241 \times \frac{22}{7} = 757.43 \text{ cm}^2$$

Question 72

Refer the below data table and answer the following Question.

	Weight (kg)	Height (m)
Ananya	59	1.63
Anchal	67	1.74
Anchita	66	1.66
Anisha	72	1.68

Who has the least weight to height ratio?

- A Ananya
- B Anchal
- C Anchita
- D Anisha

Answer: A

Explanation:

Ratio of weight to height

$$\text{Ananya : } \frac{59}{1.63} = 36.2 \quad \text{[LEAST]}$$

$$\text{Anchal : } \frac{67}{1.74} = 38.5$$

$$\text{Anchita : } \frac{66}{1.66} = 39.75$$

$$\text{Anisha : } \frac{72}{1.68} = 42.85$$

=> Ans - (A)

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Question 73

Refer the below data table and answer the following Question.

Year	Company's % Profit
2011	20
2012	10
2013	15
2014	15
2015	20

What was the revenue of the company if its expenditure was Rs 425 crore in the year when its % profit was the least?

- A 510
- B 467.5
- C 552.5
- D 42

Answer: B

Explanation:

Profit % was least in 2012 = 10%

Let revenue = Rs. x crore and expenditure = Rs. 425 crore

$$\Rightarrow \text{Profit \%} = \frac{x-425}{425} \times 100 = 10$$

$$\Rightarrow \frac{x-425}{425} = \frac{10}{100} = \frac{1}{10}$$

$$\Rightarrow x - 425 = \frac{425}{10} = 42.5$$

$$\Rightarrow x = 425 + 42.5 = 467.5 \text{ crore}$$

Question 74

The following table shows the number of children in each house of a society.

Number of Children	Number of Houses
0	5
1	14
2	10
3	3

What is the average number of children per house?

- A 1.34
- B 1.59
- C 1.84
- D 1.08

Answer: A

Explanation:

Total number of houses = $5 + 14 + 10 + 3 = 32$

Total children = $(0 \times 5) + (1 \times 14) + (2 \times 10) + (3 \times 3)$

= $14 + 20 + 9 = 43$

\therefore Average number of children per house = $\frac{43}{32} = 1.34$

=> Ans - (A)

Question 75

Refer the below data table and answer the following Question.

Partners	Present % Share
Anand	15
Basu	15
Chinmay	10
Dhiraj	15
Ejaz	45

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

- A 300000 shares
- B 270000 shares
- C 285000 shares
- D 255000 shares

Answer: C

Explanation:

Total shares = Rs. 6,00,000

Original shares with Ejaz = $\frac{45}{100} \times 600000 = 2,70,000$

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

=> Shares with Ejaz = $2,70,000 + 15,000 = 2,85,000$

=> Ans - (C)

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English

Instructions

For the following questions answer them individually

Question 76

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

Make something seem less important, significant, or trifling.

- A superintend
- B optimality
- C trivialize
- D dumb down

Answer: C

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Question 77

Select the antonym of fidget

- A composed
- B restive
- C twitchy
- D ants

Answer: A

Question 78

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

Against the cloc

- A To do a job fast to finish it before a deadline
- B Time is money
- C Man is a victim of time
- D It is useless to fight destin

Answer: A

Question 79

Select the word with the correct spelling

- A karnages
- B halogram

C demagogy

D comand

Answer: C

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Question 80

Select the antonym of blan

A blah

B insipid

C tame

D livel

Answer: D

Question 81

Improve the bracketed part of the sentence.

The parents gave their children some (advice) before they left for the picnic

A advices

B advise

C advises

D no improvement

Answer: D

Question 82

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'.

She was annoyed (A)/when she found that(B)/the chewing gum was stuck to her hair.(C)/No error(D)

A A

B B

C C

D D

Answer: D

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Question 83

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'.

It is not easy for an actor(A)/to earn respect from both, the fans(B)/as well as critic.(D)/No error

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

Answer: C

Question 84

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase
A gesture expressing respect, such as a bow.

- A Consensual
- B Obeisance
- C Perk
- D Germinat

Answer: B

Question 85

Select the word with the correct spelling

- A preecher
- B hygenic
- C paralel
- D blottin

Answer: D

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Question 86

Select the synonym of bedevilment

- A delight
- B beset
- C facilitate
- D contentmen

Answer: B

Question 87

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.

Someone gave the old man a push

- A The old man got a push from someone.
- B Somebody had given a push to the old man.
- C The old man was being pushed by someone.
- D A push was given to the old man

Answer: D

Question 88

Rearrange the parts of the sentence in correct order.

The white American underclass is in thrall

P-and used heroin needles

Q-to a vicious, selfish culture

R-whose main products are miser

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

Answer: B

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Question 89

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.

She deserved the accolades as she _____ for it.

- A hardly worked
- B had hard worked
- C was working hard
- D had worked har

Answer: D

Question 90

Rearrange the parts of the sentence in correct order.

But the most important thing is,

P-I'll always be

Q-even if we're apart

R-with you

- A QPR
- B RPQ

C PQR

D PRQ

Answer: D

Question 91

Improve the bracketed part of the sentence.

The passengers (were waited) for the flight at the emigration lobby, for long

A had wait

B had been waited

C have been waiting

D no improvemen

Answer: C

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Question 92

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.

Geetal said, " I bought a Honda City yesterday.

A Geetal said that I have bought a Honda City yesterday.

B Geetal told me that she had bought a Honda City yesterday.

C Geetal said she had bought a Honda City the previous day.

D Geetal said that she had bought a Honda City the previous day

Answer: D

Question 93

Select the synonym of deprive

A bestow

B confer

C dispossess

D endo

Answer: C

Question 94

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

Scapegoat

A Animal sacrifice as an offering to God

- B The most useful animal or person
- C A lucky person who is forgiven for his crimes
- D A person who is blamed for the mistakes of other

Answer: D

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Question 95

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.

Let the cat out of the _____.

- A house
- B well
- C bag
- D car

Answer: C

Instructions

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

The _____ of gurudakshina is very ancient and it is _____ to the Indian culture and tradition. If you are absolutely _____ about India, then it's advisable that you first try to understand the meaning of a guru and the _____ of his presence in the lives of those around him. This, in turn, will help you to understand what guru dakshina is. In ancient India, a teacher or a guru was a spiritually _____ guide.

The _____ of gurudakshina is very ancient

Question 96

The _____ of gurudakshina is very ancient

- A habit
- B approach
- C perception
- D concept

Answer: D

Question 97

it is _____ to the Indian culture

- A unique
- B rare
- C different
- D particular

Answer: A

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Question 98

If you are absolutely _____ about India

- A unknowing
- B unknowledgeable
- C naive
- D blind

Answer: C

Question 99

the _____ of his presence in the lives of those around him.

- A connotation
- B implication
- C understanding
- D significance

Answer: D

Question 100

a teacher or a guru was a spiritually _____ guide

- A enlarged
- B evolved
- C grown
- D enhance

Answer: B

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