



## SSC CHSL 8 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. Agra : Yamuna :: Varanasi : ?

- A Damodar
- B Betwa
- C Ganga
- D Son

Answer: C

### Explanation:

The river Yamuna flows through Agra, similarly river *Ganga* flows in Varanasi.

=> Ans - (C)

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### Question 2

Select the related word/letters/number from the given alternatives. IJ : PR :: ? : SU

- A IJ
- B LM
- C EF
- D LI

Answer: B

### Explanation:

Expression = IJ : PR :: ? : SU

The pattern followed is :



Thus, LM : SU

=> Ans - (B)

### Question 3

Select the related word/letters/number from the given alternatives. CD : IP :: EB : ?

- A HI
- B KN
- C YA
- D XY

Answer: B

**Explanation:**

Expression = CD : IP :: EB : ?

The pattern followed is :



Thus, EB : KN

=> Ans - (B)

**Question 4**

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

12 : 72 :: 14 : ?

A 98

B 91

C 42

D 60

**Answer: A**

**Explanation:**

Expression = 12 : 72 :: 14 : ?

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

Eg :-  $12 : \frac{12^2}{2} = 12 : 72$

Similarly,  $14 : \frac{14^2}{2} = 14 : 98$

=> Ans - (A)

## SSC CHSL Free Mock Test

**Question 5**

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

A Param Vir Chakra

B Ashoka Chakra

C Vir Chakra

D Maha Vir Chakra

**Answer: B**

**Explanation:**

Ashoka Chakra is present in Indian flag, hence it is the odd one out.

=> Ans - (B)

**Question 6**

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

A BG

B HN

C SY

D PV

Answer: A

**Explanation:**

(A) : B (+5 letters) = G

(B) : H (+6 letters) = N

(C) : S (+6 letters) = Y

(D) : P (+6 letters) = V

=> Ans - (A)

**Question 7**

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

A 4312

B 4216

C 9218

D 3618

Answer: B

**Explanation:**

The product of first two digits is equal to the last two digits, but  $4 \times 2 \neq 16$ , hence 4216 is the odd one out.

=> Ans - (B)

## SSC CHSL Previous Papers (DOWNLOAD PDF)

**Question 8**

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

A 64, 23

B 42, 12

C 63, 18

D 83, 20

Answer: D

**Explanation:**

Second number is multiplied by 2, and then it is reversed to get the first number.

$$23 \times 2 = 46 \equiv 64$$

$$12 \times 2 = 24 \equiv 42$$

$$18 \times 2 = 36 \equiv 63$$

$$20 \times 2 = 40 \equiv 04$$

=> Ans - (D)

**Question 9**

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. Beijing Olympics, London Olympics, Rio Olympics, ?

- A Moscow Olympics
- B Athens Olympics
- C Tokyo Olympics
- D Delhi Olympics

**Answer:** C

**Explanation:**

Sequence of summer Olympic games is given.

= Beijing Olympics -> London Olympics -> Rio Olympics -> Tokyo Olympics

=> Ans - (C)

**Question 10**

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. 5, 10, 13, 52, 57, ?

- A 285
- B 225
- C 342
- D 390

**Answer:** C

**Explanation:**

The pattern followed is :

$$5 \times 2 = 10$$

$$10 + 3 = 13$$

$$13 \times 4 = 52$$

$$52 + 5 = 57$$

$$57 \times 6 = 342$$

=> Ans - (C)

## SSC CGL Previous Papers (DOWNLOAD PDF)

**Question 11**

In the following question, two statements are given each followed by two conclusions I and II. You have to consider the statement 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) All hill-stations have a sunset point. (II) X is a hill station.

**Conclusion:**

(I) X has a sunset point.

(II) Place other than hill-station do not have sunset point.

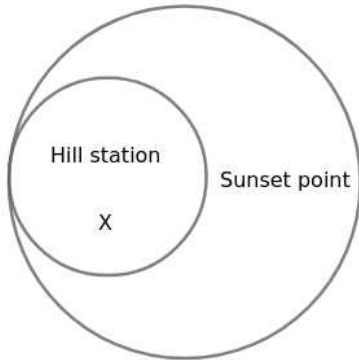
- A Conclusion I follows

- B Conclusion II follows
- C Neither I nor II follows
- D Both I and II follows

**Answer: A**

**Explanation:**

The basic diagram from the given statements is



From the figure, X has a sunset point and there is place other hill station which have sunset point. Hence Conclusion I follows the given statements.

Hence, the correct answer is Option A

**Question 12**

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. BE, HK, NQ, ?

- A ST
- B TU
- C TW
- D TS

**Answer: C**

**Explanation:**

Expression : BE, HK, NQ, ?

The pattern followed in each letter of the terms is :

1st letter : B (+6 letters) = H (+6 letters) = N (+6 letters) = T

2nd letter : E (+6 letters) = K (+6 letters) = Q (+6 letters) = W

Thus, missing term = **TW**

=> Ans - (C)

**Question 13**

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. ? , YV, BY, FC

- A MN
- B VS
- C XU

D WT

Answer: D

**Explanation:**

Expression : ?, YV, BY, FC

The pattern followed in each letter of the terms is :

1st letter : W (+2 letters) = Y (+3 letters) = B (+4 letters) = F

2nd letter : T (+2 letters) = V (+3 letters) = Y (+4 letters) = C

Thus, missing term = **WT**

=> Ans - (D)

## SSC CGL Free Mock Test (Latest Pattern)

**Question 14**

In a company all Mondays and Sundays are offs. If a month starts with a Monday and has 31 days then how many offs will be there in that month?

A 7

B 8

C 9

D 5

Answer: C

**Explanation:**

It is given that all Mondays and Sundays are offs.

If a month starts with a Monday and has 31 days, then number of Mondays = 5

But number of Sundays = 4

Thus, total off days = 4+5 = 9

=> Ans - (C)

**Question 15**

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

i. Speaker

ii. Surreptitious

iii. Spontaneous

iv. Spurious

A iv, ii, i, iii

B iii, ii, iv, i

C iv, iii, i, ii

D i, iii, iv, ii

Answer: D

**Explanation:**

As per the order of dictionary :

= Speaker -> Spontaneous -> Spurious -> Surreptitious

≡ i, iii, iv, ii

=> Ans - (D)

### Question 16

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

A ^#!\*^#

B ^!##\*#^

C ^#\*!#^

D ^#!\*#^

Answer: D

### Explanation:

The codes for each letter is given :

N -> ^

O -> #

T -> !

I -> \*

O -> #

N -> ^

Thus, NOTION : ^#!\*#^

=> Ans - (D)

## SSC CHSL Important Questions and Answers (Download PDF)

### Question 17

Find the missing number

8	5	6
7	?	8
57	46	49

A 4

B 2

C 9

D 5

Answer: C

### Explanation:

$$(8 \times 7) + 1 = 56 + 1 = 57$$

$$(6 \times 8) + 1 = 48 + 1 = 49$$

Let the required value = a

Using the same logic,

$$(5 \times a) + 1 = 46$$

$$\Rightarrow 5a = 45$$

$$\Rightarrow a = 9$$



∴ The required value = 9

Hence, the correct answer is Option C

#### Question 18

If "\*" denotes "added to", "&" denotes "divided by", "@" denotes "multiplied by" and "%" denotes "subtracted from", then  $135 \& 15 @ 10 \% 3 * 6 = ?$

- A 47
- B 89
- C 93
- D 100

**Answer: C**

#### Explanation:

Expression :  $135 \& 15 @ 10 \% 3 * 6 = ?$

$$\equiv 135 \div 15 \times 10 - 3 + 6$$

$$= (9 \times 10) + 3$$

$$= 90 + 3 = 93$$

=> Ans - (C)

#### Question 19

In the following question, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?  
m\_o\_mn\_p\_no\_

- A mmnno
- B ooppn
- C mnooo
- D npomp

**Answer: D**

#### Explanation:

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

= mnop mnop mnop

=> Ans - (D)

## SSC CHSL Study Material

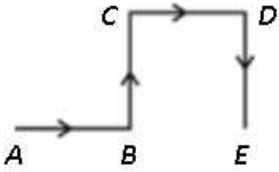
#### Question 20

A man moves towards the east and then takes a left turn. After covering some distance in that direction, he takes a right turn and finally, takes another right turn. Which direction is the man facing now?

- A West
- B East
- C South
- D North

Answer: C

Explanation:



Let the man starts from point A and moves towards the east to reach B and then takes a left turn and move northwards to reach C. Then, he takes a right turn and finally, takes another right turn to stop at point E.

Thus, the man is facing south direction at the end.

=> Ans - (C)

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, 67 etc. and 'R' can be represented by 66, 57 etc. Similarly, you have to identify the set for the word 'TOAST'.

MATRIX 1:

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

MATRIX 2:

	5	6	7	8	9
5	T	A	R	I	Q
6	X	R	N	W	B
7	C	S	O	E	U
8	S	N	T	M	S
9	G	B	E	R	A

A 41, 33, 02, 88, 87

B 55, 77, 56, 96, 00

C 87, 02, 11, 86, 55

D 00, 24, 44, 76, 41

Answer: D

Explanation:

(A) : 41, 33, 02, 88, 87 = TOAMT

(B) : 55, 77, 56, 96, 00 = TOABT

(C) : 87, 02, 11, 86, 55 = TAUNT

(D) : 00, 24, 44, 76, 41 = **TOAST**

=> Ans - (D)

Question 22

Introducing a boy Rahul says, "He is the son of the brother of the only daughter of my maternal grandfather". How is the boy related to the Rahul?

- A Grandfather
- B Son
- C Cousin
- D Father

Answer: C

Explanation:

Only daughter of Rahul's maternal grandfather = Rahul's mother

That boy is son of brother of Rahul's mother, => That boy is Rahul's mother's nephew.

=> The boy is Rahul's cousin.

=> Ans - (C)

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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?



- A
- B
- C
- D

Answer: C

Explanation:

If a mirror is placed on the line MN,

The facing of the figure to the left and right direction changes to opposite direction in mirror image(right facing changes to left and vice versa)

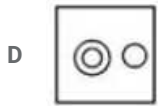
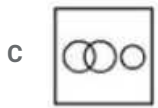
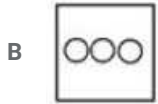
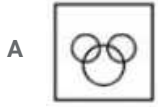
∴ The mirror image of word STUDIO is shown below



Hence, the correct answer is Option C

**Question 24**

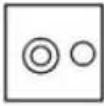
Identify the diagram that best represents the relationship among the given classes. Liquid, Pizza, Milk



Answer: D

**Explanation:**

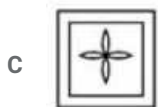
Milk is in liquid form, thus all milk is liquid, and pizza is neither related to milk nor liquid. Thus, the last diagram best represents the relationship among the given classes.



=> Ans - (D)

**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

**Explanation:**

When the paper is opened, the pattern of cutting will be similar in four parts of the paper.

When the paper is unfolded first to the left, a curve towards top and a curve towards right will appear in the left part.

When the paper is unfolded again to the top, the pattern will be similar in the top part like below part of the paper.

∴ When the paper is opened it will appear as shown below



Hence, the correct answer is Option C

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### General Awareness

**Instructions**

For the following questions answer them individually

**Question 26**

Which of the following is not an Operating System?

- A Windows Vista
- B Linux
- C Microsoft Office
- D Apple's Mac OS

Answer: C

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**Question 27**

Venn diagram was invented by

- A Lucien Vidi
- B John Venn
- C Theophilus Van Kannel
- D Lewis Urry

Answer: B

**Question 28**

What is the total number of bones in the human body?

- A 206

B 103

C 309

D 412

**Answer: A**

**Question 29**

**Emblica officinalis is the scientific name of**

A Peepal

B Mango

C Amla

D Drumstick

**Answer: C**

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**Question 30**

**Sponges belongs to the phylum**

A Protozoa

B Annelida

C Porifera

D Cnidaria

**Answer: C**

**Question 31**

**Release of which among the following is the primary reason for depletion of the ozone layer?**

A Nitrous oxide

B Hydrogen dioxide

C Chlorofluro carbon

D Carbon monoxide

**Answer: C**

**Question 32**

**Which of the following molecules is joined by a double covalent bond?**

A Cl<sub>2</sub>

B O<sub>2</sub>

C N<sub>2</sub>

D He<sub>2</sub>

Answer: B

## SSC Exam Update Videos & Free Study Material (YouTube Channel)

### Question 33

The renowned Temple at Ranakpur is a ..... Temple.

A Shiva

B Jain

C Krishna

D Ram

Answer: B

### Question 34

Jallikattu is associated with .....

A Trichur

B Karthigai

C Onam

D Pongal

Answer: D

### Question 35

If price of an article decreases from Rs. 12 to Rs. 10, quantity demanded increases from 1000 units to 1400 units. Find point elasticity of demand?

A 2.4

B -2

C -2.4

D 2

Answer: C

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### Question 36

Who generally presents the Finance Budget in Indian Parliament?

A RBI Governor

B Budget Minister

C Finance Minister

D Finance Secretary

Answer: C

**Question 37**

Which gas contributes most to the Greenhouse effect?

A Water vapour

B Ozone

C Oxygen

D Nitrogen

Answer: A

**Question 38**

Corbett National Park was established to protect which animal?

A Bengal Tigers

B Snow Leopards

C Asiatic Lions

D One-Horned Rhinos

Answer: A

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**Question 39**

Subramanya Bharthi was a noted .....

A Boxer

B Swimmer

C Poet

D Painter

Answer: C

**Question 40**

Which state does not share a common border with Chhattisgarh?

A Andhra Pradesh

B Odisha

C Jharkhand

D Maharashtra

Answer: A



**Question 41**

**Name the longest river in India.**

- A Brahmaputra
- B Ganga
- C Godavari
- D Krishna

**Answer: B**

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**Question 42**

**Quit India Movement was launched by Mahatma Gandhi in .....**

- A 1885
- B 1942
- C 1947
- D 1939

**Answer: B**

**Question 43**

**Which Freedom Fighter addressed Mahatma Gandhi as "Father of the Nation" for the 1st time?**

- A Jawaharlal Nehru
- B Subhash Chandra Bose
- C Sarojini Naidu
- D Chandra Shekhar Azad

**Answer: B**

**Question 44**

**Name the first Indian who got Nobel Prize in physics.**

- A CK Naidu
- B Rangnath Mishra
- C Amartya Sen
- D CV Raman

**Answer: D**

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**Question 45**

Which physical quantity is measured in 'siemens'?

- A Electric potential
- B Electrical conductance
- C Magnetic flux
- D Refractive index

**Answer: B**

**Question 46**

Rate of change of momentum is

- A Area
- B Pressure
- C Force
- D Velocity

**Answer: C**

**Question 47**

All of the following are the aims of Lok Adalat, except

- A Secure justice to the weaker sections
- B Mass disposal of the cases
- C Give the power to rule in the hands of the common man
- D Minimize cost and delay

**Answer: C**

**SSC CHSL Previous Papers (DOWNLOAD PDF)**

**Question 48**

What is the salary per month of the President of India?

- A Rs 1,50,000
- B Rs 1,00,000
- C Rs 75,000
- D Rs 50,000

**Answer: A**

**Question 49**

Shital Mahajan is associated with which sport?

- A Sky Diving
- B Shooting
- C Discus Throw
- D Cricket

**Answer: A**

**Question 50**

Who is the author of the book, 'A Suitable Boy'?

- A Vikram Seth
- B Arun Shourie
- C Amrita Pritam
- D Mahashweta Devi

**Answer: A**

**SSC CGL Previous Papers (DOWNLOAD PDF)**

**Mathematics**

**Instructions**

For the following questions answer them individually

**Question 51**

Simple interest on a certain sum of money for 3 years at 8% per annum is half the compound interest on Rs 1200 for 2 years at 10% per annum. The sum placed on simple interest is

- A Rs 525
- B Rs 1050
- C Rs 260
- D Rs 420

**Answer: A**

**Explanation:**

Sum for compound interest = Rs. 1200

Rate of interest = 10% and time period = 2 years

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

$$= 1200 \left[ \left( 1 + \frac{10}{100} \right)^2 - 1 \right]$$

$$= 1200 \left[ \left( \frac{11}{10} \right)^2 - 1 \right] = 1200 \left( \frac{121 - 100}{100} \right)$$

$$= 12 \times 21 = \text{Rs. } 252$$

$$\Rightarrow \text{Simple interest} = \frac{252}{2} = \text{Rs. } 126$$

Let sum under simple interest = Rs.  $x$

Rate of interest = 8% and time period = 3 years

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

$$= \frac{x \times 8 \times 3}{100} = 126$$

$$\Rightarrow x = \frac{126 \times 25}{6} = 21 \times 25 = \text{Rs.}525$$

## SSC CGL Free Mock Test (Latest Pattern)

### Question 52

If  $2x + 3(5-2x) > 2 - 3x < 2x - x/3$ , then  $x$  can take which of the following values?

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

Answer: D

### Explanation:

$$\text{Expression 1 : } 2 - 3x < 2x - \frac{x}{3}$$

$$\Rightarrow 2 - 3x < \frac{5x}{3}$$

$$\Rightarrow 5x > 6 - 9x$$

$$\Rightarrow 5x + 9x > 6$$

$$\Rightarrow x > \frac{3}{7} \text{ -----(i)}$$

$$\text{Expression 2 : } 2x + 3(5 - 2x) > 2 - 3x$$

$$\Rightarrow 2x + 15 - 6x > 2 - 3x$$

$$\Rightarrow 4x - 3x < 15 - 2$$

$$\Rightarrow x < 13 \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get :  $\frac{3}{7} < x < 13$

Thus, the values that  $x$  can take = 1, 2, 3, ..., 12

$\Rightarrow$  Ans - (D)

### Question 53

If  $x + y = 12$  and  $xy = 32$ , then what is the value of  $x^2 + y^2$

- A 24
- B 144
- C 128
- D 80

Answer: D

### Explanation:

$$\text{Given : } (x + y) = 12 \text{ and } xy = 32$$

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

$$\Rightarrow (12)^2 = (x^2 + y^2) + (2 \times 32)$$

$$\Rightarrow (x^2 + y^2) = 144 - 64 = 80$$

$\Rightarrow$  Ans - (D)

#### Question 54

Which of the following numbers is completely divisible by 99?

A 51579

B 51557

C 55036

D 49984

Answer: A

#### Explanation:

For a number to be divisible by 99, it must be divisible by 9 and 11

(A) :  $51579 = 5 + 1 + 5 + 7 + 9 = 27$  which is divisible by 9. This number is also divisible by 11.

(B) :  $51557 = 5 + 1 + 5 + 5 + 7 = 23$  which is not divisible by 9

(C) :  $55036 = 5 + 5 + 0 + 3 + 6 = 19$  which is not divisible by 9

(D) :  $49984 = 4 + 9 + 9 + 8 + 4 = 34$  which is not divisible by 9

Thus, only option (A) is divisible by 99

## SSC CHSL Important Questions and Answers (Download PDF)

#### Question 55

If  $\cos C + \cos D = x$ , then value of  $x$  is

A  $2\cos\left[\frac{C+D}{2}\right]\cos\left[\frac{C-D}{2}\right]$

B  $2\sin\left[\frac{C+D}{2}\right]\sin\left[\frac{C-D}{2}\right]$

C  $2\cos\left[\frac{C+D}{2}\right]\sin\left[\frac{C-D}{2}\right]$

D  $2\sin\left[\frac{C+D}{2}\right]\cos\left[\frac{C-D}{2}\right]$

Answer: A

#### Explanation:

We know that,  $\cos(x + y) = \cos x \cos y - \sin x \sin y$  -----(i)

and  $\cos(x - y) = \cos x \cos y + \sin x \sin y$  -----(ii)

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

$$\cos(x + y) + \cos(x - y) = 2\cos x \cos y$$
 -----(iii)

Let  $x + y = C$  and  $x - y = D$

$$\Rightarrow x = \frac{C+D}{2}$$

$$\text{and } y = \frac{C-D}{2}$$

Substituting above values in equation (iii)

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

$\Rightarrow$  Ans - (A)

**Question 56**

What is the length of the arc whose central angle is  $30^\circ$  and radius of the circle is 21 cm?

- A 22 cm
- B 16.5 cm
- C 28.5 cm
- D 11 cm

**Answer:** D

**Explanation:**

Central angle =  $\theta = 30^\circ$  and radius =  $r = 21$  cm

Length of arc =  $\frac{\theta}{360} \times 2\pi r$

$$= \frac{30}{360} \times 2 \times \frac{22}{7} \times 21$$

$$= \frac{1}{12} \times 44 \times 3 = 11 \text{ cm}$$

=> Ans - (D)

**Question 57**

A solid copper sphere of radius 9 cm is melted and reformed into a wire of radius 1 mm. What will be the length of this wire? (Take  $\pi = 22/7$ )

- A 1166.4 metres
- B 1458 metres
- C 777.6 metres
- D 972 metres

**Answer:** D

**Explanation:**

Radius of sphere =  $R = 9$  cm

Let length of wire =  $h$  cm and radius of wire =  $r = 0.1$  cm

Volume of sphere = Volume of wire

$$\Rightarrow \frac{4}{3}\pi(R)^3 = \pi(r)^2h$$

$$\Rightarrow \frac{4}{3} \times (9)^3 = (0.1)^2h$$

$$\Rightarrow h = 12 \times 81 \times 100 \text{ cm}$$

$$\Rightarrow h = \frac{972 \times 100}{100} = 972 \text{ metres}$$

**SSC CHSL Study Material**

**Question 58**

The simplified form of  $(4x + 3)^2(3x - 5) - (4x^3 - 12x^2 + 9x - 20)$  is

- A  $6x^2 - 48x - 50$
- B  $24x^3 + 2x^2 - 32x - 15$

C  $44x^3 + 4x^2 - 102x - 25$

D  $24x^3 + 8x^2 - 42x - 50$

Answer: C

Explanation:

Expression :  $(4x + 3)^2(3x - 5) - (4x^3 - 12x^2 + 9x - 20)$

$= [(16x^2 + 24x + 9)(3x - 5)] - (4x^3 - 12x^2 + 9x - 20)$

$= [(48x^3 - 80x^2) + (72x^2 - 120x) + (27x - 45)] + (-4x^3 + 12x^2 - 9x + 20)$

$= (48x^3 - 4x^3) + (-80x^2 + 72x^2 + 12x^2) + (-120x + 27x - 9x) + (-45 + 20)$

$= 44x^3 + 4x^2 - 102x - 25$

Question 59

The sum of a non-zero number and its reciprocal is 2. What is the number?

A 1

B 2

C 0

D 4

Answer: A

Explanation:

Let the number be  $x$

According to ques,  $\Rightarrow x + \frac{1}{x} = 2$

$\Rightarrow \frac{x^2+1}{x} = 2$

$\Rightarrow x^2 - 2x + 1 = 0$

$\Rightarrow (x - 1)^2 = 0$

$\Rightarrow x = 1$

$\Rightarrow$  Ans - (A)

Question 60

What is the value of cosec  $-150^\circ$ ?

A -2

B  $2/\sqrt{3}$

C 2

D  $-2/\sqrt{3}$

Answer: A

Explanation:

Expression : cosec  $-150^\circ$

$= -\text{cosec}(150^\circ) = -\text{cosec}(180^\circ - 30^\circ)$

$= -\text{cosec}(30^\circ) = -2$

$\Rightarrow$  Ans - (A)

Question 61

If  $\tan A - \cot A = x$ , then value of  $x$  is?

- A  $(1 + 2\cos^2 A) / (\sin A \cos A)$
- B  $(\sin A \cos A) / (1 - 2\cos^2 A)$
- C  $(\sin A \cos A) / (1 + 2\cos^2 A)$
- D  $(1 - 2\cos^2 A) / (\sin A \cos A)$

Answer: D

Explanation:

Expression :  $\tan A - \cot A = x$

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

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

Using,  $\sin^2 A = 1 - \cos^2 A$

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

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

Question 62

What is the equation of the line passing through the point  $(-1, 3)$  and having x-intercept of 4 units?

- A  $3x - 5y = 12$
- B  $3x + 5y = 12$
- C  $3x + 5y = -12$
- D  $3x - 5y = -12$

Answer: B

Explanation:

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

x-intercept of 4 units implies that the line passes through  $(4, 0)$

Points given =  $(-1, 3)$  and  $(4, 0)$

$$\Rightarrow \text{Equation of line} = (y - 3) = \frac{(0 - 3)}{(4 + 1)}(x + 1)$$

$$\Rightarrow (y - 3) = \frac{-3}{5}(x + 1)$$

$$\Rightarrow 5y - 15 = -3x - 3$$

$$\Rightarrow 3x + 5y = 12$$

$\Rightarrow$  Ans - (B)

Question 63

25% discount is offered on an item. By applying a promo code the customer wins 8% cash back. What is the effective discount?

- A 35.75 percent



- B 35 percent
- C 31 percent
- D 12.5 percent

**Answer: C**

**Explanation:**

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

$$\begin{aligned} \text{Amount after 25 \% discount} &= 100x - \frac{25}{100} \times 100x \\ &= 100x - 25x = \text{Rs. } 75x \end{aligned}$$

$$\begin{aligned} \text{Selling price after 8 \% cashback} &= 75x - \frac{8}{100} \times 75x \\ &= 75x - 6x = \text{Rs. } 69x \end{aligned}$$

$$\Rightarrow \text{Total discounted amount} = 100x - 69x = \text{Rs. } 31x$$

$$\therefore \text{Effective discount} = \frac{31x}{100x} \times 100 = 31\%$$

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**Question 64**

Prabhat has done  $\frac{1}{2}$  of a job in 12 days. Santosh completes the rest of the job in 6 days. In how many days can they together do the job?

- A 12 days
- B 4 days
- C 8 days
- D 16 days

**Answer: C**

**Explanation:**

Let total work to be done = 24 units

$$\text{Prabhat has done } \frac{1}{2} \text{ of a job i.e. } \frac{24}{2} = 12 \text{ units in 12 days}$$

$$\Rightarrow \text{Prabhat's efficiency} = \frac{12}{12} = 1 \text{ unit/day}$$

Work left =  $24 - 12 = 12$  units which is done by Santosh in 6 days.

$$\Rightarrow \text{Santosh's efficiency} = \frac{12}{6} = 2 \text{ units/day}$$

$$\text{Prabhat and Santosh 1 day's work} = 1 + 2 = 3 \text{ units/day}$$

$$\therefore \text{Time taken by them together to complete the work} = \frac{24}{3} = 8 \text{ days}$$

**Question 65**

x and y are two numbers such that their mean proportion is 16 and third proportion is 128. What is the value of x and y?

- A 8 and 16
- B 16 and 32
- C 8 and 32
- D 16 and 16

Answer: C

Explanation:

Three numbers  $a, b, c$  are in proportion iff  $b^2 = ac$  where  $b$  is the mean proportion and  $c$  is the third proportion

Mean proportion of two numbers  $x$  and  $y = 16$

$$\Rightarrow xy = (16)^2 = 256 \text{ -----(i)}$$

Third proportion = 128

$$\Rightarrow y^2 = x \times 128 \text{ -----(ii)}$$

Substituting value of  $x$  from equation(i) in equation(ii), we get :

$$\Rightarrow y^2 = \frac{256}{y} \times 128$$

$$\Rightarrow y^3 = (2)^8 \times (2)^7 = (2)^{8+7}$$

$$\Rightarrow y = (2)^{\frac{15}{3}} = 2^5 = 32$$

Substituting it in equation(i),  $\Rightarrow x = \frac{256}{32} = 8$

Question 66

In the first 32 overs of a cricket match, the run rate was 7.2 runs/over. What is the required run rate in the remaining 18 overs to reach the target of 297 runs?

A 4.3

B 4.9

C 3.1

D 3.7

Answer: D

Explanation:

Run rate in 32 overs = 7.2 runs/over

$$\Rightarrow \text{Runs scored in 32 overs} = 32 \times 7.2 = 230.4$$

Runs needed to score in 18 overs =  $297 - 230.4 = 67.4$

$$\Rightarrow \text{Run rate required} = \frac{67.4}{18} = 3.7$$

$\Rightarrow$  Ans - (D)

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Question 67

Chord AB of a circle when extended meets the tangent to the circle at point P. PT is the tangent touching the circle at point T. If lengths of PT and PB are 6 cm and 4 cm respectively, what is the length of PA?

A 12 cm

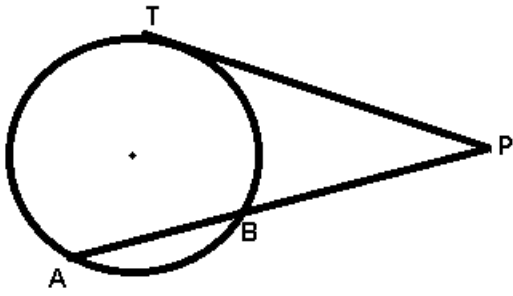
B 18 cm

C 27 cm

D 9 cm

Answer: D

Explanation:



Given :  $PT = 6$  cm and  $PB = 4$  cm

To find :  $PA = ?$

Solution : Using properties of tangents,  $(PT)^2 = PA \times PB$

$$\Rightarrow (6)^2 = (PA) \times 4$$

$$\Rightarrow PA = \frac{36}{4} = 9 \text{ cm}$$

$\Rightarrow$  Ans - (D)

#### Question 68

A student multiplied a number by  $\frac{4}{5}$  instead of  $\frac{5}{4}$ . What is the percentage error in the calculation?

- A 56.25 percent
- B 18 percent
- C 28.13 percent
- D 36 percent

**Answer:** D

#### Explanation:

Let the number be 100

When the student multiplied it by  $\frac{4}{5}$ ,  $\Rightarrow$  original result =  $\frac{4}{5} \times 100 = 80$

When the student multiply it by  $\frac{5}{4}$ ,  $\Rightarrow$  New result =  $\frac{5}{4} \times 100 = 125$

$\Rightarrow$  Percentage error in calculation =  $\frac{(125-80)}{125} \times 100$

$$= \frac{45}{5} \times 4 = 36\%$$

$\Rightarrow$  Ans - (D)

#### Question 69

Ruchir walks at 20 km/hr and Rukma cycles at 25 km/hr towards each other. What was the distance between them when they started if they meet after 48 minutes?

- A 54 km
- B 45 km
- C 36 km
- D 27 km

**Answer:** C

#### Explanation:

Speed of Rizvan = 20 km/hr and Ruchitha = 25 km/hr

Since they are moving in opposite direction,  $\Rightarrow$  Relative speed =  $20 + 25 = 45$  km/hr

Let distance between them =  $d$  km and time =  $\frac{48}{60} = \frac{4}{5}$  hr

=> time = distance/speed

$$\Rightarrow \frac{d}{45} = \frac{4}{5}$$

$$\Rightarrow d = \frac{4}{5} \times 45 = 4 \times 9$$

$$\Rightarrow d = 36 \text{ km}$$

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### Question 70

A vendor buys chikoos at 15 for Rs 8 and then sells at 10 for Rs 6. What will be the result?

- A 12.5 percent loss
- B 11.11 percent gain
- C 12.5 percent gain
- D 11.1 percent loss

Answer: C

#### Explanation:

The Vendor buys chikoos at 15 for Rs. 8

$$\Rightarrow \text{Cost price of 1 chikoo} = \text{Rs. } \frac{8}{15}$$

The Vendor sells chikoos at 10 for Rs. 6

$$\Rightarrow \text{Selling price of 1 chikoo} = \text{Rs. } \frac{6}{10}$$

$$\Rightarrow \text{Total profit} = \frac{6}{10} - \frac{8}{15} = \frac{18-16}{30} = \frac{1}{15}$$

$$\therefore \text{Profit \%} = \frac{\frac{1}{15}}{\frac{8}{15}} \times 100$$

$$= \frac{100}{8} = 12.5\%$$

### Question 71

Point Q(b,-1) is the midpoint of segment EF. Co-ordinates of point E are (-4,a) and point F are (2,0). What is the value of a and b?

- A a = 2; b = 1
- B a = -2; b = -1
- C a = -4; b = -8
- D a = 4; b = 8

Answer: B

#### Explanation:

Coordinates of mid point of line joining A  $(x_1, y_1)$  and B  $(x_2, y_2) = \left( \frac{x_1+x_2}{2}, \frac{y_1+y_2}{2} \right)$

Coordinates of E  $(-4, a)$  and F  $(2, 0)$

Q  $(b, -1)$  is the mid point of EF

$$\Rightarrow b = \frac{-4+2}{2}$$

$$\Rightarrow b = \frac{-2}{2} = -1$$

Similarly,  $-1 = \frac{a+0}{2}$

$$\Rightarrow a = -1 \times 2 = -2$$

$\Rightarrow$  Ans - (B)

### Question 72

Refer the below data table and answer the following question.

	Weight in (kg)	Height (M)
Ali	50	1.52
Alok	59	1.67
Amit	73	1.8
Amol	64	1.72

Who has the least weight to height ratio ?

- A Ali
- B Alok
- C Amit
- D Amol

Answer: A

#### Explanation:

Ratio of weight to height

$$\text{Ali : } \frac{50}{1.52} = 32.9 \quad \text{[LEAST]}$$

$$\text{Alok : } \frac{59}{1.67} = 35.3$$

$$\text{Amit : } \frac{73}{1.8} = 40.5$$

$$\text{Amol : } \frac{64}{1.72} = 37.2$$

$\Rightarrow$  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	15
2013	25
2014	5
2015	10

What was the revenue of the company if its expenditure was Rs. 675 crore in the year when its % profit was the least ?

- A 742.5
- B 776.25
- C 675
- D 708.75

Answer: D

#### Explanation:

Profit % was least in 2014 = 5%

Let revenue = Rs.  $x$  crore and expenditure = Rs. 675 crore

$$\Rightarrow \text{Profit \%} = \frac{x-675}{675} \times 100 = 5$$

$$\Rightarrow \frac{x-675}{675} = \frac{5}{100} = \frac{1}{20}$$

$$\Rightarrow 20x - 13500 = 675$$

$$\Rightarrow 20x = 675 + 13500 = 14175$$

$$\Rightarrow x = \frac{14175}{20} = 708.75 \text{ crore}$$

#### Question 74

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

No of Children	No of houses
0	6
1	16
2	15
3	3

What is the average number of children per house?

A 1.38

B 1.63

C 1.88

D 1.13

Answer: A

#### Explanation:

Total number of houses =  $6 + 16 + 15 + 3 = 40$

Total children =  $(0 \times 6) + (1 \times 16) + (2 \times 15) + (3 \times 3)$

=  $16 + 30 + 9 = 55$

$\therefore$  Average number of children per house =  $\frac{55}{40} = 1.38$

$\Rightarrow$  Ans - (A)

#### Question 75

Refer the below data table and answer the following question.

Partners	Present % share
Anand	5
Basu	5
Chinmay	15
Dhiraj	20
Ejaz	55

If the company has issued six lakh shares between its five partners and If Anand offers to sell 15000 of his shares to Ejaz, then Ejaz will have how many shares?

A 360000 shares

B 330000 shares

C 345000 shares

D 315000 shares

Answer: C

**Explanation:**

Total shares = Rs. 6,00,000

Original shares with Ejaz =  $\frac{55}{100} \times 600000 = 3,30,000$

If Anand offers to sell 15000 of his shares to Ejaz,

=> Shares with Ejaz =  $3,30,000 + 15,000 = 3,45,000$

=> Ans - (C)

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**English**

**Instructions**

For the following questions answer them individually

**Question 76**

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'.

Their luggages which were(A)/kept at the station's(B)/ restroom's lockers, were later retrieved.(C)/No error(D)

A A

B B

C C

D D

Answer: A

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**Question 77**

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 warning bells .....several times before anyone realized the danger.

A were ringing

B had rung

C had rang

D would have rung

Answer: B

**Question 78**

Select the antonym of sacred

A pious

B hallowed

C divine

D profane

Answer: D

**Question 79**

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.  
Rub a part of the body to restore warmth or sensation.

- A Fuzz
- B Chafe
- C Scum
- D Oblique

Answer: B

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**Question 80**

Improve the bracketed part of the sentence. Human beings are social animals, (who are living in communities), regulated by social norms and laws.

- A living in communities
- B living amongst a community
- C living in midst of communities
- D no improvement

Answer: A

**Question 81**

Select the synonym of astonish

- A mundane
- B empress
- C overwhelm
- D calm

Answer: C

**Question 82**

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 never go shopping on weekends as on those days the malls are .....of people.

- A full
- B busy
- C crowded
- D packed



Answer: A

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Question 83

Rearrange the parts of the sentence in correct order.

Williamson shoveled scorn on

P-the low-income white Republican voters who, Q-were most responsible for the rise of Trump

R-as he saw it,

A PRQ

B RQP

C QPR

D QRP

Answer: A

Question 84

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'.

That summer, elections were(A)/held at many a place(B)/without any untoward incident.(C)/No error

A A

B B

C C

D D

Answer: B

Question 85

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.

Sahil said, "Where will I be this time next year!"

A Sahil asked where he should be that time the following year.

B Sahil worried where he would be that time the next year.

C Sahil wondered where he would be that time the following year.

D Sahil said where he would be that time the next year.

Answer: C

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Question 86

Improve the bracketed part of the sentence. Virat bats very well, (didn't he)?

A isn't it

- B doesn't he
- C wasn't it
- D no improvement

**Answer: B**

**Question 87**

**In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase. Add fuel to the fire**

- A Go from one bad situation to another
- B A cause becomes better when more people join
- C The flame will extinguish if it runs out of oil
- D Cause a situation to become worse

**Answer: D**

**Question 88**

**Select the antonym of outlandish**

- A droll
- B kinky
- C common
- D grotesque

**Answer: C**

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**Question 89**

**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 Marathas surrendered their fort to the Mughals after the war.**

- A After the war the Marathas had to surrender their fort to the Mughals.
- B The Mughals after the war took the fort surrendered by the Marathas.
- C Their fort was surrendered by the Marathas to the Mughals after the war.
- D The Marathas after the war surrendered their fort to the Mughals.

**Answer: C**

**Question 90**

**Select the word with the correct spelling.**

- A fememism

- B accesses
- C permuted
- D vacuols

Answer: C

**Question 91**

Rearrange the parts of the sentence in correct order.

Amartya Sen lays claim

P-to a history of writing

Q-some of the finest research papers

R-that have been published

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

Answer: B

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**Question 92**

Select the word with the correct spelling.

- A arobics
- B chosers
- C bateded
- D eternity

Answer: D

**Question 93**

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

The punishment of being kept in school after hours.

- A Pretension
- B Isolate
- C Detention
- D Blender

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. A slap on the wrist

- A A mild punishment
- B Punishing the wrong person
- C To hit someone where it hurts the most
- D To threaten someone

Answer: A

## SSC CHSL Important Questions and Answers (Download PDF)

### Question 95

Select the synonym of gaudy

- A modest
- B showy
- C refined
- D sophisticated

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.

Did you think that colouring books were a .....of your childhood? Here's something that will come as a surprise. Colouring books for adults have been steadily gaining popularity since last year. While some focus on .....and floral designs, others have patterns .....by nature, animals and even angels. The most popular books are those which feature mandalas. Mandalas refer to sacred circles in Sanskrit, which have ..... qualities. Deeply ....., mandalas have a rich history and are even associated with healing. Several studies say that mandalas increase self-awareness, improve concentration and promote harmony. Colour therapists reckon that different colours have different qualities and therefore, have different effects on the human mind. Did you think that colouring books were a .....of your childhood?

### Question 96

Did you think that colouring books were a .....of your childhood?

- A blast from the past
- B remnant
- C fond memory
- D activity

Answer: C

### Question 97

While some focus on .....and floral designs,

- A deep
- B philosophical

- C ideal
  - D abstract
- Answer: D

## SSC CHSL Study Material

### Question 98

others have patterns .....by nature, animals and even angels.

- A inspired
- B roused
- C excited
- D encouraged

Answer: A

### Question 99

which have .....qualities.

- A prayerful
- B pensive
- C thoughtful
- D meditative

Answer: D

### Question 100

Deeply ....., mandalas have a rich history

- A sacred
- B holy
- C spiritual
- D religiously

Answer: C

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