



## SSC CHSL 18 Jan 2017 Afternoon 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.

Gloomy : Dull :: Merciless : ?

- A Sympathetic
- B Calm
- C Flexible
- D Harsh

Answer: D

### Explanation:

Gloomy and dull are synonyms meaning dim, thus synonym of merciless is *harsh*.

=> Ans - (D)

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### Question 2

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

HI : MD :: UV : ?

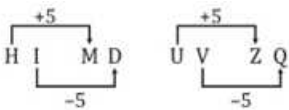
- A YR
- B WS
- C ZQ
- D ER

Answer: C

### Explanation:

Expression = HI : MD :: UV : ?

The pattern followed is :



Thus, UV : ZQ

=> Ans - (C)

### Question 3

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

JK : TV :: OP : ?

- A DF
- B WV
- C ST

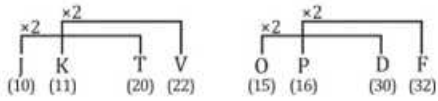
D QR

Answer: A

**Explanation:**

Expression = JK : TV :: OP : ?

The pattern followed is :



Thus, OP : DF

=> Ans - (A)

**Question 4**

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

76 : 42 :: 46 : ?

A 52

B 24

C 36

D 64

Answer: B

**Explanation:**

Expression = 76 : 42 :: 46 : ?

The second number is the product of digits of first number.

Eg :-  $7 \times 6 = 42$

Similarly,  $4 \times 6 = 24$

=> Ans - (B)

## SSC CHSL Free Mock Test

**Question 5**

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

A Tuberculosis

B Chikungunya

C Malaria

D Dengue

Answer: A

**Explanation:**

Chikungunya, Malaria, dengue, are three types of mosquito-borne diseases, hence tuberculosis is the odd one out.

=> Ans - (A)

**Question 6**

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

- A FHG
- B NOP
- C TVU
- D WYX

**Answer: B**

**Explanation:**

(A) : F (+2 letters) = H (-1 letter) = G

(B) : N (+1 letter) = O (+1 letter) = P

(C) : T (+2 letters) = V (-1 letter) = U

(D) : W (+2 letters) = Y (-1 letter) = X

=> Ans - (B)

**Question 7**

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

- A 8715
- B 5712
- C 9817
- D 6812

**Answer: D**

**Explanation:**

The sum of first two digits is equal to the last two digits, but  $6 + 8 \neq 12$ , hence 6812 is the odd one out.

=> Ans - (D)

## SSC CHSL Previous Papers (DOWNLOAD PDF)

**Question 8**

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

- A 961
- B 443
- C 361
- D 289

**Answer: B**

**Explanation:**

$961 = (31)^2$ ,  $361 = (19)^2$ ,  $289 = (17)^2$

443 is not a perfect square, hence it is the odd one out.

=> Ans - (B)

**Question 9**

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. Core, Photosphere, Chromosphere, ?

- A Mantle
- B Corona
- C Crust
- D Asthenosphere

**Answer: B**

**Explanation:**

Layers of the solar atmosphere.

= Core -> Photosphere -> Chromosphere -> Corona

=> Ans - (B)

**Question 10**

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. BDE, HJK, NPQ, ?

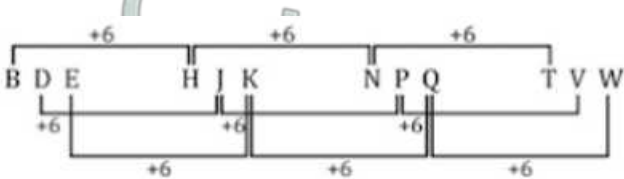
- A UWX
- B TVW
- C VXY
- D WYZ

**Answer: B**

**Explanation:**

Expression : BDE, HJK, NPQ, ?

The pattern followed is :



Thus, missing term = TVW

=> 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. RQ, ST, VU, WX, ?

- A ZY
- B OP
- C YZ
- D PO

Answer: A

**Explanation:**

Expression : RQ, ST, VU, WX, ?

Alternate pair of alphabets reversed.

QR -> RQ

UV -> VU

YZ -> ZY

=> Ans - (A)

**Question 12**

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.  
9, 1331, 18, 121, 27, ?

A 19

B 11

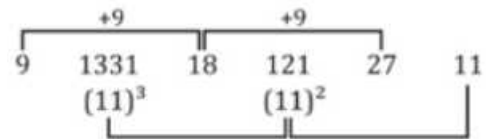
C 17

D 13

Answer: B

**Explanation:**

The pattern followed is for the alternate terms is :



Thus, missing number = 11

=> 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.

Statements:

(I) Most crops are machines.

(II) Some machines are fools.

Conclusion:

(I) Some fools are machines.

(II) Some crops are fools.

A Conclusion I follows

B Conclusion II follows

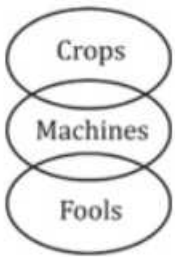
C Neither I nor II follows

D Both I and II follows

Answer: A

**Explanation:**

The venn diagram for above statements is :



Conclusion:

(I) Some fools are machines = true

(II) Some crops are fools = false

Thus, only conclusion I follows

=> Ans - (A)

## SSC CGL Free Mock Test (Latest Pattern)

### Question 14

The age of Ravi is twice the age of Prakash and three times the age of Kumar. If the age of Prakash is 24 years, then what will be the age of Kumar after 4 years ?

A 16 years

B 20 years

C 24 years

D 22 years

**Answer: B**

#### Explanation:

Prakash's present age = 24 years

=> Ravi's present age =  $2 \times 24 = 48$  years

=> Kumar's present age =  $\frac{48}{3} = 16$  years

∴ Kumar's age after 4 years =  $16 + 4 = 20$  years

=> Ans - (B)

### Question 15

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

i. Optimistic

ii. Opposition

iii. Organization

iv. Ordinary

A ii, i, iii, iv

B iv, iii, ii, i

C ii, i, iv, iii

D i, ii, iii, iv

**Answer: C**

#### Explanation:

As per the order of dictionary :

= Opposition -> Optimistic -> Ordinary -> Organization

≡ ii, i, iv, iii

=> Ans - (C)

#### Question 16

In a certain code language, "MOTHER" is written as "NPUGDQ". How is "ORANGE" written in that code language ?

A PSBMDF

B PSBMFD

C PBSMFD

D PSBDMF

Answer: B

#### Explanation:

"MOTHER" is written as "NPUGDQ"

The pattern followed is :

M	O	T	H	E	R
+1↓	+1↓	+1↓	+1↑	+1↑	+1↑
N	P	U	G	D	Q

Similarly, for ORANGE :

O	R	A	N	G	E
+1↓	+1↓	+1↓	+1↑	+1↑	+1↑
P	S	B	M	F	D

=> Ans - (B)

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

#### Question 17

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

289	10	7
169	?	5
361	11	8

A 9

B 8

C 16

D 14

Answer: B

#### Explanation:

In each row, the first number is the square of the sum of other two.

$$\text{Eg :- } (10 + 7)^2 = 17^2 = 289$$

$$(11 + 8)^2 = 19^2 = 361$$

$$\text{Similarly, } (x + 5)^2 = 169 = (13)^2$$



$$\Rightarrow x = 13 - 5 = 8$$

$\Rightarrow$  Ans - (B)

#### Question 18

If "S" denotes "multiplied by", "V" denotes "subtracted from", "M" denotes "added to" and "L" denotes "divided by", then  $12 \text{ V } 3 \text{ M } 441 \text{ L } 21 \text{ S } 8 = ?$

A 661

B 170

C 174

D 177

**Answer: D**

#### Explanation:

Expression :  $12 \text{ V } 3 \text{ M } 441 \text{ L } 21 \text{ S } 8 = ?$

$$\equiv 12 - 3 + 441 \div 21 \times 8$$

$$= 9 + (21 \times 8)$$

$$= 9 + 168 = 177$$

$\Rightarrow$  Ans - (D)

#### 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 ?  
LM\_L\_NL\_N\_M\_

A NNNLL

B NMMLN

C LMLMN

D NMLMM

**Answer: B**

#### Explanation:

The pattern followed is that in groups of 3, the term 'LMN' is repeated.

= LMN LMN LMN LMN

$\Rightarrow$  Ans - (B)

## SSC CHSL Study Material

#### Question 20

It is 10:30 by the clock. If the minute hand points towards the south direction, then which direction will the hour hand point to ?

A Southwest

B Northwest

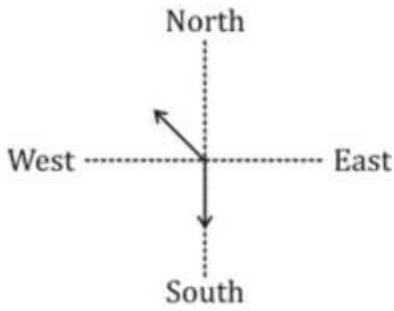
C Northeast

D Southeast

**Answer: B**

**Explanation:**

At 10:30, the clock will look like :



Minute hand points towards the south direction, and thus the hour hand will point at North-west direction.

=> 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, D can be represented by 24, 13, etc., and R can be represented by 68, 69, etc. Similarly, you have to identify the set for the word TIGHT.

**Matrix - I**

	0	1	2	3	4
0	E	G	D	T	I
1	C	E	A	D	I
2	D	T	D	A	E
3	I	H	C	E	A
4	T	I	H	C	E

**Matrix - II**

	5	6	7	8	9
5	G	L	B	H	S
6	S	Y	L	R	R
7	J	H	Y	L	Q
8	J	Q	S	Y	T
9	H	K	G	S	Y

- A 40, 30, 21, 55, 11
- B 89, 14, 76, 13, 89
- C 21, 04, 55, 89, 03
- D 03, 41, 97, 76, 40

**Answer: D**

**Explanation:**

- (A) : 40, 30, 21, 55, 11 = TITGE
- (B) : 89, 14, 76, 13, 89 = TIHDT
- (C) : 21, 04, 55, 89, 03 = TIGTT
- (D) : 03, 41, 97, 76, 40 = **TIGHT**

=> Ans - (D)

**Question 22**

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

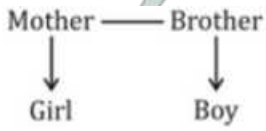
- A Grandmother
- B Mother
- C Cousin
- D Aunt

Answer: C

**Explanation:**

The girl's mother's brother = girl's uncle

Relation is :



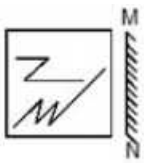
Thus, son of girl's uncle is her cousin.

=> Ans - (C)

### SSC CHSL Free App

**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

**Explanation:**

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

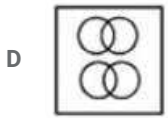
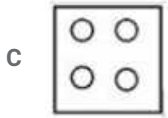
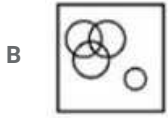
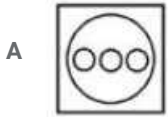
So the 'Z' shaped figure in the middle will be reversed, thus the first two options will be eliminated.

Also, in the question figure, the figure at the bottom has 6 lines, so it will still appear combination of 6 lines but its position will be reversed, hence the fourth option is the right image.

=> Ans - (D)

**Question 24**

Identify the diagram that best represents the relationship among the given classes. Festival, Durga Puja, Diwali, Eid



Answer: A

**Explanation:**

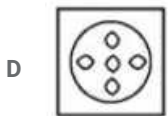
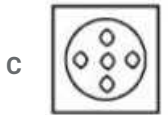
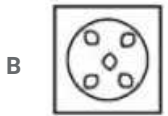
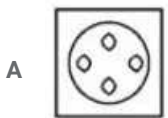
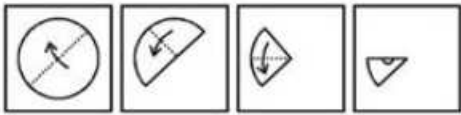
Durga Puja, Diwali and Eid are all different types of Indian festivals, hence the venn diagram that best describes above relation is :



=> Ans - (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

**Explanation:**

When the paper is unfolded first to the top, a circle will appear at the center of the part.

When the paper is unfolded again to the top, a circle will appear at the top side of the part.

When the paper is unfolded completely to the bottom, two circles one each will appear at the right and bottom of the paper.

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



Hence, the correct answer is Option A

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### General Awareness

#### Instructions

For the following questions answer them individually

#### Question 26

Isfahan, the Persian Capital is said to have provided the inspiration to build which monument?

- A Humayun's Tomb
- B Mahabodhi Temple Complex
- C Qutub Minar
- D Red Fort Complex

Answer: D

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#### Question 27

Which one of the following is the name of Nobel Prize winning Indian?

- A Vikram Sarabhai
- B APJ Abdul Kalam
- C S. Pancharatnam
- D C.V. Raman

Answer: D

#### Question 28

How many layers does Human Skin have?

- A 5
- B 7
- C 11
- D 3

Answer: D

**Question 29**

**Allium Cepa is the scientific name of .....**

- A Carrot
- B Tomato
- C Potato
- D Onion

**Answer: D**

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**Question 30**

**DNA stands for .....**

- A Di Nucleic Acid
- B Deoxy Nucleic Acid
- C Diribonucleic Acid
- D Deoxyribonucleic Acid

**Answer: D**

**Question 31**

**Which among the following is false about natural rubber?**

- A It is an elastomer
- B It is a monomer of cisoprene
- C Natural rubber is a polymer of chloroprene
- D It is heated with sulphur compounds to improve its properties

**Answer: B**

**Question 32**

**Why does carbon tetrachloride have no dipole moment?**

- A Because of same size of carbon and chlorine atoms
- B Because of regular tetrahedral structure
- C Because of planar structure
- D Because of similar electron affinities of carbon and chlorine

**Answer: B**

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**Question 33**

Convert decimal number 101 to binary.

- A 1100101
- B 1100111
- C 1101001
- D 1101011

**Answer: A**

**Question 34**

'Vallam Kali Boat Race' is held in which state?

- A Kerala
- B Tamil Nadu
- C West Bengal
- D Andhra Pradesh

**Answer: A**

**Question 35**

If price of an article decreases from Rs P1 to Rs 75, quantity demanded increases from 1000 units to 1200 units. If point elasticity of demand is 3.2 find P1?

- A Rs 85
- B Rs 80
- C Rs 90
- D Rs 95

**Answer: B**

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**Question 36**

Match the characteristics with their market structure:

- (a) Differentiated products, but close substitutes for consumers so their demand curves are elastic
- (b) Homogeneous product, all goods are perfect substitutes for consumers

- A (a) Monopolistic Competition, (b) Pure Competition
- B (a) Monopolistic Competition, (b) Pure Monopoly
- C (a) Pure Competition, (b) Monopolistic Competition
- D (a) Pure Monopoly, (b) Pure Competition

**Answer: A**

**Question 37**

**Which gas is produced due to incomplete combustion of fuel?**

- A Carbon Dioxide
- B Carbon Monoxide
- C Methane
- D Ethane

**Answer: B**

**Question 38**

**Organisms that generate energy using light are known as .....**

- A Chaemolithotrophs
- B Oligotrophs
- C Bacteria
- D Photoautotrophs

**Answer: D**

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**Question 39**

**Which is the first Hindi newspaper of India?**

- A Udaan
- B Azad Vichaar
- C Udant Martand
- D Vichaar Vyakti

**Answer: C**

**Question 40**

**What is the capital of Portugal?**

- A Lisbon
- B Minsk
- C Vienna
- D Buenos Aires

**Answer: A**

**Question 41**

**Madrid is the Capital City of .....**



- A Philippines
- B Maldives
- C Spain
- D United Kingdom

Answer: C

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### Question 42

Alexander the Great was born in .....

- A 356 BC
- B 189 BC
- C 189 AD
- D 356 AD

Answer: A

### Question 43

Akbar (1556-1605 AD) was the ruler of which dynasty?

- A Nanda
- B Maurya
- C Mughal
- D Haryanka

Answer: C

### Question 44

Who invented Rocket?

- A Rich K Goyle
- B E M Forster
- C Robert Goddard
- D James Anderson

Answer: C

## SSC CHSL Free Mock Test

### Question 45

Weight of a person at a height of  $2R$  from the centre of the earth, where  $R$  is the radius of the earth .....

- A remains same
- B becomes half
- C becomes twice
- D becomes onefourth

**Answer: D**

**Question 46**

**How can we measure specific gravity of milk?**

- A Using a viscometer
- B Using an odometer
- C Using a hygrometer
- D Using a hydrometer

**Answer: D**

**Question 47**

**Constitution Day of India is on .....**

- A 26th January
- B 23rd June
- C 15th August
- D 26th November

**Answer: D**

## **SSC CHSL Prevoius Papers (DOWNLOAD PDF)**

**Question 48**

**Article 44 of the Indian Constitution "Uniform civil code for the citizens" deals with .....**

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

**Answer: A**

**Question 49**

**Who is the first Indian cricketer to have scored a triple hundred in test cricket?**

- A Rahul Dravid
- B Sachin Tendulkar

C VVS Laxman

D Virender Sehwag

Answer: D

Question 50

Who wrote the book "The Arabian Nights"?

A Stephen Hawkings

B Vikram Seth

C Zoya Hasan

D Richard Burton

Answer: D

## SSC CGL Previous Papers (DOWNLOAD PDF)

### English

#### Instructions

For the following questions answer them individually

Question 51

In the following question, sentence given with blank is 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 professor .....over just one point for full two hours.

A deliberated

B mentioned

C conversed

D stated

Answer: A

## SSC CGL Free Mock Test (Latest Pattern)

Question 52

Rearrange the parts of the sentence in correct order.

Statistics show

Pfigures over the last three decades

Qin several parts of India

Ra steady rise in the turnout

A RPQ

B RQP

C PQR

D QPR

Answer: A

**Question 53**

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'.

Priya got good grades(A)/not in Hindi essay(B)/but also in arithmetic.(C)/No error(D)

A A

B B

C C

D D

Answer: B

**Question 54**

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

A oblivate

B deceased

C euthanized

D reposed

Answer: B

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

**Question 55**

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

A To live like a saint so that you are the best in the living world as well as the heavens

B To be lucky in life as well as in death

C The benefits of widely differing situations, enjoyed at the same time

D To be popular amongst both the opposing groups

Answer: C

**Question 56**

Select the antonym of vigour

A lethargy

B fettle

C kilter

D robust

Answer: A

Question 57

Select the synonym of: streak

- A freak
- B bright
- C immaculate
- D smear

Answer: D

## SSC CHSL Study Material

Question 58

Select the antonym of: skeptic

- A profaner
- B heretic
- C atheist
- D devotee

Answer: D

Question 59

Select the word with the correct spelling.

- A humanoid
- B spiling
- C amigrate
- D referrent

Answer: A

Question 60

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'.

I told to the coach(A)/that I won't be able(B)/to come for the practice.(C)/No error(D)

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

Answer: A

## SSC CHSL Free App

Question 61

Select the synonym of sentry

- A bandit
- B competitor
- C sentinel
- D foe

Answer: C

Question 62

Improve the bracketed part of the sentence.

If a person (studied) the history of the Maratha empire, he would have wondered how a small warrior tribe could have challenged the mighty Mughals.

- A has studied
- B had studied
- C could study
- D no improvement

Answer: B

Question 63

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

- A To have something unexpectedly good to eat
- B To get a lovely gift
- C To grab the prize before others
- D To to be especially good; outstanding

Answer: D

## Daily Free SSC Practice Set

Question 64

Select the word with the correct spelling.

- A revolver
- B culpable
- C vegetate
- D rhythmic

Answer: B

**Question 65**

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.  
Father said to Rahul, "Are you in such a hurry to cross the road?"

- A Father asked Rahul if he was in such a hurry to cross the road.
- B Father asked Rahul whether he was in a big hurry to cross the road.
- C Father asked Rahul that if he was in such a hurry to cross the road.
- D Father ask Rahul whether he was in such a hurry to cross the road.

Answer: C

**Question 66**

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 most useful gift of my wedding was given to me by my aunt.

- A My aunt gave me the most useful gift of my wedding.
- B My aunt had given me the most useful gift of my wedding.
- C The gift which has been most useful has been given to me by my aunt.
- D My aunt has given me the most useful gift of my wedding.

Answer: A

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**Question 67**

Rearrange the parts of the sentence in correct order.

A dissent in a court

Pthe intelligence of a future day

Qto the brooding spirit of law, to

Rof last resort is an appeal

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

Answer: B

**Question 68**

Improve the bracketed part of the sentence.

By 2030 India (would) have become the most populous country in the world.

- A will

- B should
- C shall
- D no improvement

Answer: A

**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.

I won't be able to come to the party, as I have certain .....to meet.

- A promises
- B commitments
- C assurances
- D tasks

Answer: B

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**Question 70**

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

To cut off a branch, limb, or twig from the main body of a tree

- A dollop
- B clop
- C lop
- D slop

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.

Restorative justice is .....(1).....from mediation though it involves meetings and dialogues to fix responsibility for wrongdoing and to find a solution acceptable to .....(2).....three parties. More importantly, it directly addresses victim needs and .....(3)..... emphasises the private dimensions of a public wrong. It is not a substitute .....(4).....the formal criminal justice system, but a good backup to reduce its workload and to increase the sense of justice in the system as a .....(5).....

**Question 71**

(1)

- A clear
- B distinct
- C recognisable
- D specific

Answer: B



Question 72

(2)

- A all
- B entire
- C full
- D complete

Answer: A

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Question 73

(3)

- A so
- B therefore
- C because it
- D then it

Answer: B

Question 74

(4)

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

Answer: A

Question 75

(5)

- A total
- B aggregate
- C whole
- D entirety

Answer: C

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# Mathematics

## Instructions

For the following questions answer them individually

### Question 76

The sum of  $4x + 3y - 7z$ ,  $x - y - z$  and  $-2x - 3y + 4z$  is

- A  $3x - y - 4z$
- B  $3x - y + 4z$
- C  $3x + y - 4z$
- D  $3x + y + 4z$

Answer: A

### Explanation:

Sum of :  $(4x + 3y - 7z)$ ,  $(x - y - z)$  and  $(-2x - 3y + 4z)$

$$= (4x + x - 2x) + (3y - y - 3y) + (-7z - z + 4z)$$

$$= 3x - y - 4z$$

=> Ans - (A)

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### Question 77

What should be the average speed of the car to cover a distance of 342 km in 1.9 hours?

- A 180 m/s
- B 90 m/s
- C 50 m/s
- D 100 m/s

Answer: C

### Explanation:

The car covers 342 km in 1.9 hours

$$\text{Speed of car (in km/h)} = \frac{342}{1.9} = 180 \text{ km/hr}$$

$$\Rightarrow \text{Speed of car (in m/s)} = 180 \times \frac{5}{18}$$

$$= 10 \times 5 = 50 \text{ m/s}$$

=> Ans - (C)

### Question 78

Total surface area of a cube is 486 sq cm, find sum of length of all its edges?

- A 216 cms
- B 108 cms
- C 54 cms
- D 162 cms

**Answer: B**

**Explanation:**

Let the side of the cube =  $a$  cm

Total surface area of cube =  $6a^2 = 486$

$$\Rightarrow a^2 = \frac{486}{6} = 81$$

$$\Rightarrow a = \sqrt{81} = 9 \text{ cm}$$

Number of edges in a cube = 12

$\therefore$  Sum of all edges =  $12 \times 9 = 108$  cm

$\Rightarrow$  Ans - (B)

**Question 79**

Profit of Rs 104000 has to be divided among three partners Ashok, Bimla and Chirag in the ratio 6:4:3. How much does Chirag get?

A 24000

B 32000

C 48000

D 12000

**Answer: A**

**Explanation:**

Total profit to be distributed = Rs. 1,04,000

Ratio of profit divided among Ashok, Bimla and Chirag = 6:4:3

Thus, amount that Chirag will get =  $\frac{3}{6+4+3} \times 104000$

$$= \frac{3}{13} \times 104000$$

$$= 3 \times 8000 = \text{Rs } 24,000$$

$\Rightarrow$  Ans - (A)

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**Question 80**

If  $(1 + \sin A)/\cos A + \cos A/(1 + \sin A) = x$ , then the value of  $x$  is

A  $2\operatorname{cosec}A$

B  $2\operatorname{cosec}^2A$

C  $2\sec^2A$

D  $2\sec A$

**Answer: D**

**Explanation:**

$$\text{Expression: } \frac{(1+\sin A)}{\cos A} + \frac{\cos A}{(1+\sin A)}$$

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

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

$$= \frac{1+2\sin A+1}{\cos A(1+\sin A)} \quad [\because \sin^2 A + \cos^2 A = 1]$$

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

$$= \frac{2}{\cos A} = 2\sec A$$

=> Ans - (D)

### Question 81

The diagonals are not perpendicular in a .....

- A Parallelogram
- B Kite
- C Rhombus
- D Square

Answer: A

### Explanation:

In a square and a rhombus diagonals are perpendicular bisectors of each other. In a kite diagonals intersect at  $90^\circ$  and in a parallelogram diagonals are not perpendicular to each other.

=> Ans - (A)

### Question 82

An angle is  $(\frac{2}{3})$ rd of its supplementary angle. What is the measure of the angle?

- A  $108^\circ$
- B  $72^\circ$
- C  $54^\circ$
- D  $36^\circ$

Answer: B

### Explanation:

Let the supplementary angle =  $\theta$

Required angle =  $(\frac{2}{3}\theta)$

Sum of an angle and its supplementary angle =  $180^\circ$

$$\Rightarrow \theta + (\frac{2}{3}\theta) = 180^\circ$$

$$\Rightarrow \frac{5}{3}\theta = 180^\circ$$

$$\Rightarrow \theta = \frac{180 \times 3}{5} = 108^\circ$$

$$\therefore \text{Measure of the angle} = \frac{2}{3} \times 108 = 72^\circ$$

=> Ans - (B)

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### Question 83

If the selling price is Rs 855 after getting a discount of 5%, what was the marked price?

- A Rs 897.75
- B Rs 812.25
- C Rs 814
- D Rs 900

**Answer: D**

**Explanation:**

Let Marked Price = Rs.  $x$

Selling price = Rs. 855

$$\text{Discount \%} = \frac{(x-855)}{x} \times 100 = 5$$

$$\Rightarrow \frac{x-855}{x} = \frac{5}{100} = \frac{1}{20}$$

$$\Rightarrow 20x - 17100 = x$$

$$\Rightarrow 20x - x = 19x = 17100$$

$$\Rightarrow x = \frac{17100}{19} = \text{Rs } 900$$

$\Rightarrow$  Ans - (D)

**Question 84**

Dev lent Rs. 8000 to Jairam for 17 years and Rs. 4700 to Karnik for 16 years on simple interest at the same rate of interest and received Rs. 21120 in all from both of them as interest. The rate of interest per annum is:

- A 10.5 percent
- B 10 percent
- C 11 percent
- D 11.5 percent

**Answer: B**

**Explanation:**

Let rate of interest per annum =  $r\%$

Sum lent to Jairam = Rs. 8000 for 17 years and Rs. 4700 to Karnik for 16 years

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

$$\Rightarrow \text{Total interest} = \left( \frac{8000 \times r \times 17}{100} \right) + \left( \frac{4700 \times r \times 16}{100} \right) = 21120$$

$$\Rightarrow 1360r + 752r = 21120$$

$$\Rightarrow 2112r = 21120$$

$$\Rightarrow r = \frac{21120}{2112} = 10\%$$

$\Rightarrow$  Ans - (B)

**Question 85**

If  $\cos 2\pi/3 = x$ , then the value of  $x$  is

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

D  $\sqrt{3}/2$

Answer: A

Explanation:

Expression :  $\cos 2\pi/3 = x$

$$= \cos\left(\pi - \frac{\pi}{3}\right)$$

$$= -\cos\left(\frac{\pi}{3}\right)$$

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

=> Ans - (A)

## SSC CHSL Previous Papers (DOWNLOAD PDF)

Question 86

The area of a trapezium is 21 sq cm, the distance between the parallel sides is 3 cm and one of the parallel sides is 8.3 cm. What is the length of the other parallel side?

A 12.7 cm

B 7.7 cm

C 10.7 cm

D 5.7 cm

Answer: D

Explanation:

Let the length of other parallel side =  $x$  cm

Height of the trapezium,  $h = 3$  cm

Area of trapezium =  $\frac{1}{2} \times (\text{sum of parallel sides}) \times \text{height}$

$$\Rightarrow \frac{1}{2} \times (8.3 + x) \times 3 = 21$$

$$\Rightarrow 8.3 + x = \frac{21 \times 2}{3}$$

$$\Rightarrow 8.3 + x = 14$$

$$\Rightarrow x = 14 - 8.3 = 5.7 \text{ cm}$$

=> Ans - (D)

Question 87

If  $\cot(A/2) = x$ , then the value of  $x$  is

A  $\operatorname{cosec}A - \cot A$

B  $\operatorname{cosec}A + \cot A$

C  $\sec A + \cot A$

D  $\sec A - \cot A$

Answer: B

Explanation:

Using double angle formula, we know that  $\cos(2\theta) = \cos^2\theta - \sin^2\theta$

$$\Rightarrow \cos(2\theta) = (1 - \sin^2\theta) - \sin^2\theta$$

$$\Rightarrow \cos(2\theta) = 1 - 2\sin^2\theta$$

Replacing  $\theta$  by  $\frac{A}{2}$ , we get :

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

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

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

$$\Rightarrow \sin\left(\frac{A}{2}\right) = \sqrt{\frac{(1 - \cos A)}{2}}$$

$$\text{Similarly, } \Rightarrow \cos\left(\frac{A}{2}\right) = \sqrt{\frac{(1 + \cos A)}{2}}$$

Now, to find :  $\cot\left(\frac{A}{2}\right)$

$$= \cos\left(\frac{A}{2}\right) \div \sin\left(\frac{A}{2}\right)$$

$$= \sqrt{\frac{(1 + \cos A)}{2}} \div \sqrt{\frac{(1 - \cos A)}{2}}$$

$$= \sqrt{\frac{(1 + \cos A)}{2}} \times \sqrt{\frac{2}{(1 - \cos A)}}$$

$$= \sqrt{\frac{1 + \cos A}{1 - \cos A}}$$

Multiplying both numerator and denominator by  $(\sqrt{1 + \cos A})$

$$= \sqrt{\frac{(1 + \cos A)}{(1 - \cos A)}} \times \sqrt{\frac{(1 + \cos A)}{(1 + \cos A)}}$$

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

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

$$= \operatorname{cosec} A + \cot A$$

$\Rightarrow$  Ans - (B)

### Question 88

The points A(x,2), B(2,1) and C(6,3) are collinear. Find x?

A -4

B 2

C 4

D -2

Answer: C

### Explanation:

Coordinates of points A(x,2), B(2,1) and C(6,3)

Since the points are collinear, thus the area of triangle formed by these points = 0

Area of triangle formed by points  $(x_1, y_1)$ ,  $(x_2, y_2)$  and  $(x_3, y_3)$  is =  $\frac{1}{2}[x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)]$

$\Rightarrow$  Area of  $\triangle ABC = 0$

$$\Rightarrow \frac{1}{2}[x(1 - 3) + 2(3 - 2) + 6(2 - 1)] = 0$$

$$\Rightarrow -2x + 2 + 6 = 0$$

$$\Rightarrow -2x = -8$$

$$\Rightarrow x = \frac{8}{2} = 4$$

$\Rightarrow$  Ans - (C)

## SSC CGL Previous Papers (DOWNLOAD PDF)

### Question 89

A vendor buys some bananas at the rate of 2 for Re 1 and sells at the rate of 10 for Rs 7. What will be the result?

- A 40 percent loss
- B 28.57 percent gain
- C 40 percent gain
- D 28.5 percent loss

**Answer:** C

#### Explanation:

The vendor buys 2 bananas for Re 1

$$\Rightarrow \text{Cost price of 1 banana} = \frac{1}{2} = \text{Rs } 0.5$$

He sells 10 bananas for Rs. 7

$$\Rightarrow \text{Selling price of 1 banana} = \frac{7}{10} = \text{Rs } 0.7$$

$\therefore$  Selling price is more than Cost price, the vendor earns a profit

$$\Rightarrow \text{Profit \%} = \frac{(0.7-0.5)}{0.5} \times 100$$

$$= \frac{2}{5} \times 100 = 40\%$$

$\Rightarrow$  Ans - (C)

### Question 90

Given:  $x - 5 \leq 2x - 3$  and  $2x - 1/2 \geq 5x + 2$ ; then  $x$  can take which of the following values?

- A -1
- B 1
- C -3
- D 3

**Answer:** A

#### Explanation:

Expression 1 :  $x - 5 \leq 2x - 3$

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

$$\Rightarrow 3x \geq -2$$

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

Expression 2 :  $2x - 1/2 \geq 5x + 2$

$$\Rightarrow 5x - 2x \leq -2 - \frac{1}{2}$$

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



$$\Rightarrow x \leq \frac{-5}{6} \text{ -----(ii)}$$

Combining inequalities (i) and (ii), we get :  $\frac{-2}{3} \leq x \leq \frac{-5}{6}$

The only value that  $x$  can take among the options = -1

$\Rightarrow$  Ans - (A)

#### Question 91

The mean of marks secured by 45 students in division A of class X is 56, 40 students of division B is 52 and that of 40 students of division C is 50. Find the mean of marks of the students of three divisions of Class X.

A 52.1

B 51.4

C 52.8

D 54.2

**Answer:** C

#### Explanation:

Total marks secured by 45 students in division A =  $45 \times 56 = 2520$

Total marks secured by 40 students in division B =  $40 \times 52 = 2080$

Total marks secured by 40 students in division C =  $40 \times 50 = 2000$

$\Rightarrow$  Mean of marks of the students of three divisions of Class X =  $\frac{(2520+2080+2000)}{(45+40+40)}$

$$= \frac{6600}{125} = 52.8$$

$\Rightarrow$  Ans - (C)

## SSC CGL Free Mock Test (Latest Pattern)

#### Question 92

Find the value of  
 $199992 \times 200008 = ?$

A 39999799936

B 39999999836

C 39999999936

D 39999999926

**Answer:** C

#### Explanation:

Expression :  $199992 \times 200008$

$$= (200000 - 8) \times (200000 + 8)$$

$$= (200000)^2 - (8)^2$$

$$= 40000000000 - 64 = 39999999936$$

$\Rightarrow$  Ans - (C)

#### Question 93

Which of the following quadratic equations has real roots?

A  $4x^2 - 9x + 6 = 0$

B  $3x^2 - 2x + 6 = 0$

C  $2x^2 - 7x + 6 = 0$

D  $x^2 - 2x + 2 = 0$

**Answer: C**

**Explanation:**

A quadratic equation :  $ax^2 + bx + c = 0$  has real roots iff Discriminant,  $D = b^2 - 4ac \geq 0$

(A) :  $4x^2 - 9x + 6 = 0$

$\Rightarrow D = (-9)^2 - 4(4)(6) = 81 - 96 = -15$

(B) :  $3x^2 - 2x + 6 = 0$

$\Rightarrow D = (-2)^2 - 4(3)(6) = 4 - 72 = -68$

(C) :  $2x^2 - 7x + 6 = 0$

$\Rightarrow D = (-7)^2 - 4(2)(6) = 49 - 48 = 1$

(D) :  $x^2 - 2x + 2 = 0$

$\Rightarrow D = (-2)^2 - 4(1)(2) = 4 - 8 = -4$

Thus, the equation :  $2x^2 - 7x + 6 = 0$  has real roots.

**Question 94**

The solution set of  $4x - 3y = 10$  and  $3x + y = 14$  is

A  $\{(5, 3)\}$

B  $\{(4, 2)\}$

C  $\{(11, 1)\}$

D  $\{(2, 3)\}$

**Answer: B**

**Explanation:**

Equation 1 :  $4x - 3y = 10$

Equation 2 :  $3x + y = 14$

Multiplying equation (ii) by 3 and adding it to equation (i)

$\Rightarrow (4x + 9x) + (-3y + 3y) = (10 + 42)$

$\Rightarrow 13x = 52$

$\Rightarrow x = \frac{52}{13} = 4$

Substituting it in equation (ii),  $\Rightarrow y = 14 - 3(4) = 14 - 12 = 2$

$\therefore (x, y) = (4, 2)$

$\Rightarrow$  Ans - (B)

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

**Question 95**

If 16% of an electricity bill is deducted, Rs 1806 is still to be paid. How much was the bill?

- A Rs 1557
- B Rs 2186
- C Rs 1593
- D Rs 2150

**Answer: D**

**Explanation:**

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

If 16% of an electricity bill is deducted, bill left =  $\frac{100-16}{100} \times 100x = 84x$

According to ques,  $\Rightarrow 84x = 1806$

$$\Rightarrow x = \frac{1806}{84} = 21.5$$

$\therefore$  Original bill amount =  $100 \times 21.5 = Rs.2150$

$\Rightarrow$  Ans - (D)

**Question 96**

**P and Q can do a project in 20 and 12 days respectively. In how many days can they complete 40% of the project if they work together?**

- A 1.5 days
- B 3 days
- C 6 days
- D 9 days

**Answer: B**

**Explanation:**

Let total work to be done = 60 units

P can complete the work alone in 20 days

$$\Rightarrow \text{P's efficiency} = \frac{60}{20} = 3 \text{ units/day}$$

Q can complete the work alone in 12 days

$$\Rightarrow \text{Q's efficiency} = \frac{60}{12} = 5 \text{ units/day}$$

(P + Q)'s 1 day's work =  $3 + 5 = 8$  units/day

$$\Rightarrow 40\% \text{ of the work} = \frac{40}{100} \times 60 = 24 \text{ units}$$

$\therefore$  Time taken by them together to complete 40% of the work =  $\frac{24}{8} = 3$  days

$\Rightarrow$  Ans - (B)

Question 97

Refer the below data table and answer the following question.

	Number of employees	Annual salary (in lakhs)	Bonus as percent of annual salary
<b>Manager</b>	1	60	30%
<b>Executive</b>	8	12	30%
<b>Trainee</b>	5	12	10%

What is the average bonus in rupees

- A 478000
- B 246667
- C 377142
- D 218000

Answer: C

Explanation:

Total bonus of managers (in lakh) =  $1 \times 60 \times \frac{30}{100} = 18$  lakhs

Total bonus of executive (in lakh) =  $8 \times 12 \times \frac{30}{100} = 28.8$  lakhs

Total bonus of trainee (in lakh) =  $5 \times 12 \times \frac{10}{100} = 6$  lakhs

=> Average bonus in rupees =  $\frac{(18+28.8+6)}{(1+8+5)}$

=  $\frac{52.8}{14} = 3.77142$  lakhs = 3,77,142

=> Ans - (C)

## SSC CHSL Study Material

Question 98

Refer the below data table and answer the following question.

	2011	2012	2013	2014	2015
<b>Company A</b>	2000	2000	2000	3000	4000
<b>Company B</b>	5000	3000	2000	3000	4000
<b>Company C</b>	2000	1000	1000	3000	2000

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 2011 & 2014
- C 2011 & 2012
- D 2014 & 2015

Answer: B

Explanation:

Total exports from the three companies together in :

$$2011 = 2000 + 5000 + 2000 = 9000$$

$$2012 = 2000 + 3000 + 1000 = 6000$$

$$2013 = 2000 + 2000 + 1000 = 5000$$

$$2014 = 3000 + 3000 + 3000 = 9000$$

$$2015 = 4000 + 4000 + 2000 = 10000$$

Clearly, total exports in 2011 and 2014 are equal to 9000

=> Ans - (B)

#### Question 99

Refer the below data table and answer the following question

Year	Profit or (-Loss) in Rs crore
2011	10
2012	-20
2013	-15
2014	10
2015	-25

What was the total profit or loss of the company in last 5 years

- A Loss of Rs 50 crores
- B Profit of Rs 40 crores
- C Profit of Rs 50 crores
- D Loss of Rs 40 crores

Answer: D

#### Explanation:

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

$$= 10 - 20 - 15 + 10 - 25$$

$$= -40$$

Since, it is negative, thus loss of Rs. 40 crore

=> Ans - (D)

#### Question 100

Refer the below data table and answer the following question.

India's Exports in	Value in Million US\$
Jewellery	625
Software	725
Cotton	825
Steel	750
Electronics	625

Software was what percent of total exports ?

- A 25.42 percent
- B 22.92 percent
- C 20.42 percent

D 17.92 percent

**Answer:** C

**Explanation:**

Value in millions of Software = 725

Total exports = 625 + 725 + 825 + 750 + 625 = 3550

=> % of Jewelry in total exports =  $\frac{725}{3550} \times 100$

=  $\frac{2900}{142} \approx 20.42\%$

=> Ans - (C)

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