



## SSC CGL 6 June 2019 Shift-2

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## Reasoning

### Instructions

For the following questions answer them individually

### Question 1

In a family of eight persons, there are two couples, each having two children. C and are cousin brothers. The father of E is married to G, who is the aunt of F. F's mother, H, is married to B, the brother of A. C is the nephew of H. How is A related to D?

- A Uncle
- B Brother
- C Nephew
- D Father

Answer: A

## SSC CGL Free Mock Test

### Question 2

'Dumbness' is related to 'Speech' in the same way as '.....' is related to 'Memory'.

- A Thoughtlessness
- B Amnesia
- C Recognition
- D Illusion

Answer: B

### Explanation:

Dumbness - Is a situation to not communicating and speech is human vocal communication.

Similarly

Amnesia- Inability to remember

Memory - It have the ability to remember.

### Question 3

Select the set in which the numbers are related in the same way as are the numbers of the following set.  
(15, 22, 31)

- A (7, 14, 23)
- B (5, 11, 20)
- C (23, 30, 40)
- D (11, 18, 29)

Answer: A

### Explanation:

From the given,

$$(15, 22, 31) = 15 \xrightarrow{+7} 22 \xrightarrow{+9} 31$$

Similarly

$$(7, 14, 23) = 7 \xrightarrow{+7} 14 \xrightarrow{+9} 23$$

Rest of all the options have the different pattern.

#### Question 4

Select the combination of letters that when sequentially placed in the gaps of the given letter series will complete the series.  
dc\_abc\_cb\_bcd\_ba\_c

- A dbacb
- B cbadb
- C bdacb
- D bdcab

Answer: C

#### Explanation:

As we can see,

dc\_abc\_cb\_bcd\_ba\_c

It is following the pattern of dcbabc,

Hence, dcbabc dcbabc dcbabc

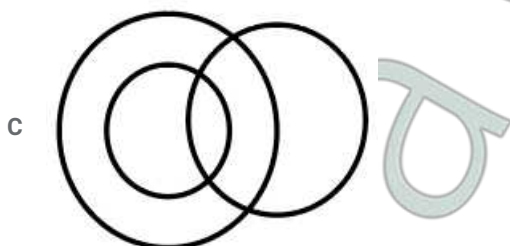
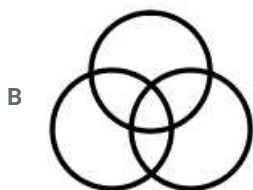
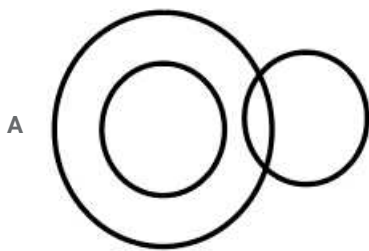
Hence the blank terms will be filled by **bdacb**

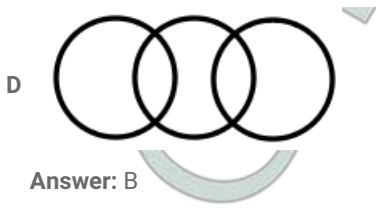
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#### Question 5

Select the Venn diagram that best illustrates the relationship between the following classes.

Doctors, Salaried Persons, Parents

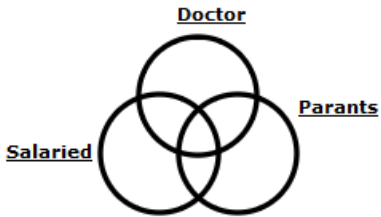




**Explanation:**

From the given Venn Diagram,

We can say that, A Doctor can be a salaried person or may be a parents but it is not compulsory. Similarly for parents and salaried employee.



**Question 6**

Select the option that is related to the third term in the same way as the second term is related to the first term.

Happy : Mirthful :: Sad : ?

- A Contented
- B Jolly
- C Morose
- D Gleeful

Answer: C

**Explanation:**

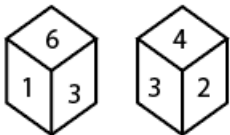
Happy- Is the synonyms of Mirthful

Similarly

Sad- Is the synonyms of Morose.

**Question 7**

Two different positions of the same dice are shown. Which number will be at the top if 6 is at the bottom ?



- A 4
- B 2
- C 6
- D 5

Answer: B

**Explanation:**

As we can see from the diagram,

In the first image, 6 and 1 are the adjacent faces of 3 and 4 and 2 are the also the adjacent faces of the 3, So when we will overlap the same faces

On the dice, then we will able to see that the bottom face will be 2 with respect to 6.

## SSC CGL Previous Papers (DOWNLOAD PDF)

### Question 8

Which number will replace the question mark (?) in the following series?

2,3,6, 10, 17, 28,?

A 45

B 39

C 43

D 46

**Answer:** D

#### Explanation:

As we can see from the given pattern,

2,3,6, 10, 17, 28,?

First term-  $2 + 0 + 1 = 3$

Second term  $3 + 2 + 1 = 6$

Third term  $6 + 3 + 1 = 10$

Fourth term  $10 + 6 + 1 = 17$

Fifth term  $17 + 10 + 1 = 28$

Sixth terms  $28 + 17 + 1 = 46$

Hence the correct answer is 46.

### Question 9

Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out.

A ZOOM

B PAST

C BIRD

D DECK

**Answer:** A

#### Explanation:

From the given option,

We can conclude that in the the given option there is one vowels but ZOOM, there is two vowels.

### Question 10

Select the number-pair in which the two numbers are related in the same way as are the two numbers of the following number-pair.

28 : 63

A 16 : 36

B 36 : 78

C 12 : 28

D 48 : 98

**Answer: A**

**Explanation:**

Given that,

$28:63 = 4:9$

similarly

$16:36 = 4:9$

Hence, the option A is the correct answer.

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**Question 11**

Out of these following four words, three belong to the same category and one word belongs to a different category. Identify the odd one out.

A Guava

B Pomegranate

C Cucumber

D Papaya

**Answer: C**

**Explanation:**

We know that Guava, Pomegranate and Papaya are a kind of fruits but Cucumber is a type of vegetable.

**Question 12**

₹820 is divided among 6 men, 8 women and 12 boys in such a way that every woman gets an amount equal to that received by one man and one boy combined and that every man gets one and a half times the amount received by a boy. What is the total amount received by 8 women?

A ₹400

B ₹300

C ₹240

D ₹380

**Answer: A**

**Explanation:**

Given that,

Total number of 6 men, 8 women and 12 boys are getting a total of 820 Rs.

Let the boy is getting  $x$  Rs.

As per the given condition in the question,

3

So man will get  $= 2x$  Rs

So, women will get =  $x + 2x = 2x$

Hence,

$$\Rightarrow 8 \times 2x + 6 \times 2x + x \times 12 = 820$$

$$\Rightarrow 20x + 12x + x \times 12 = 820$$

$$\Rightarrow 32x + 12x = 820$$

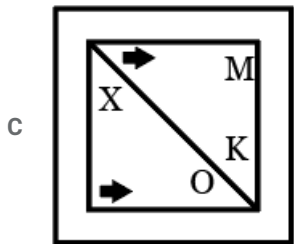
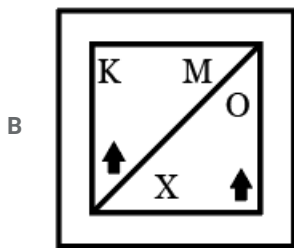
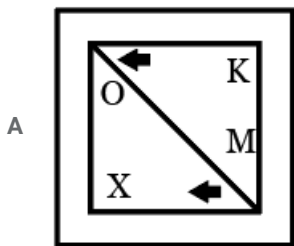
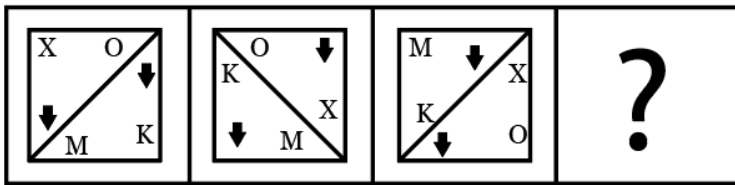
$$\Rightarrow 44x = 820$$

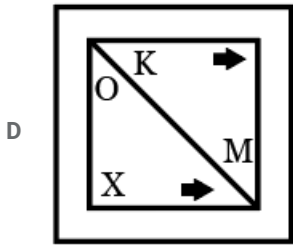
$$\Rightarrow x = 20\text{Rs.}$$

Hence the amount received by 8 women  $\Rightarrow 8 \times 2x = 8 \times 2 \times 20 = 400$  Rs.

**Question 13**

Select the figure that will come next in the following figure series.



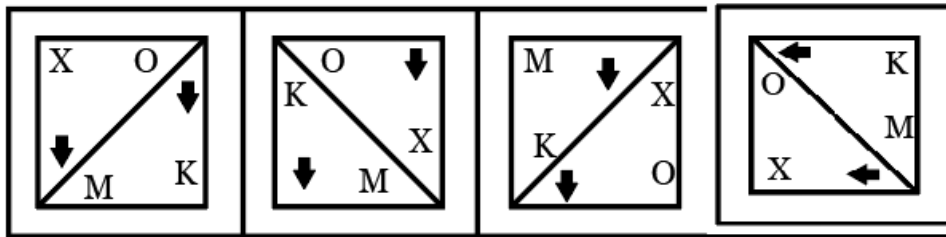


Answer: A

**Explanation:**

From the given logic,

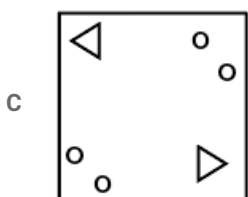
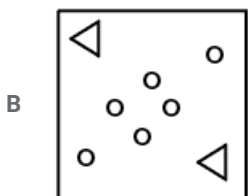
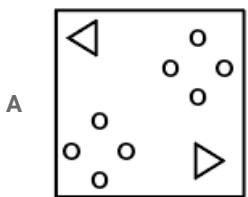
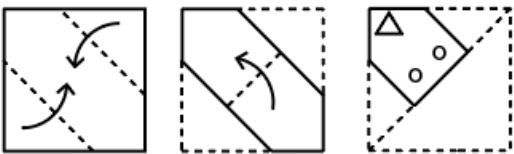
The triangle is rotating in the clock wise direction and the pattern inside the triangle is also rotating in the clock wise direction in the respective triangle. Hence option A is the correct answer.



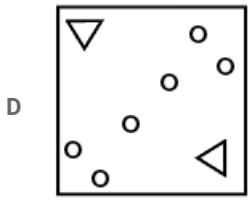
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**Question 14**

A square paper is folded and cut as shown below. How will it appear when unfolded ?



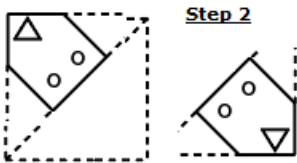
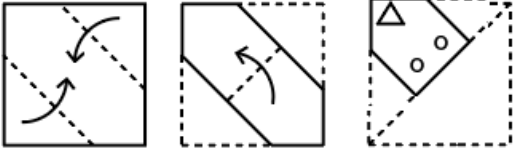




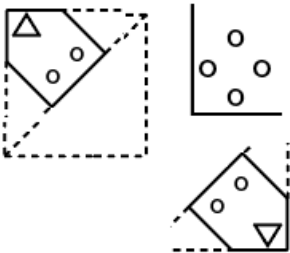
Answer: A

**Explanation:**

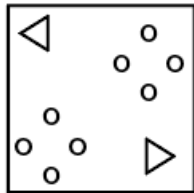
From the given given diagram,  
We will move from the last step to the first step as per the given diagram



**Step 3**



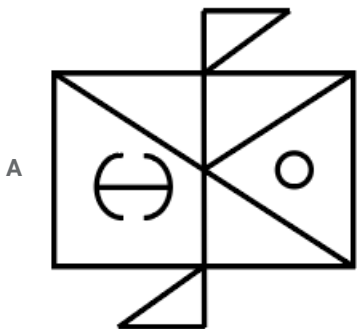
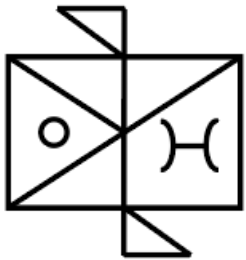
**Final open Page**

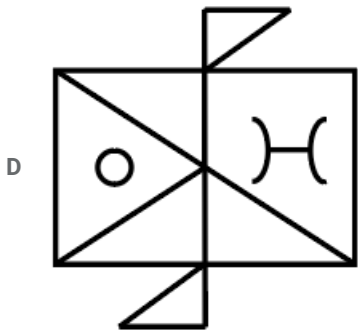
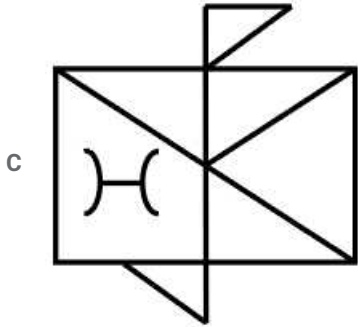
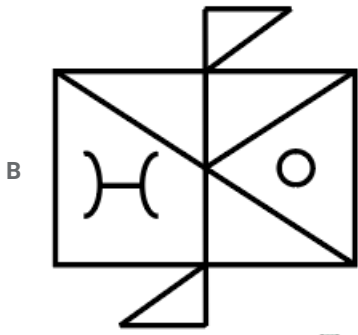


Hence, Option A is the correct answer.

**Question 15**

Select the correct mirror image of the given figure when the mirror is placed to the right of the figure.



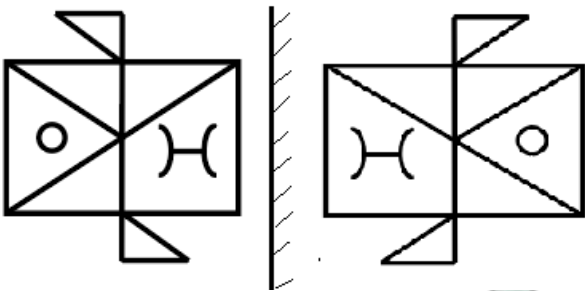


Answer: B

**Explanation:**

From the given diagram,

We can see that, option B is the correct answer.



**Question 16**

Arrange the following words in a logical and meaningful order.

1. Writing
2. Distributing
3. Publishing
4. Printing
5. Editing

A 1,2,3,4,5

B 2,4,3,1,5

C 2,3,4,5,1

D 1,5,4,3,2

Answer: D

**Explanation:**

As per the given terms,

1. Writing
2. Distributing
3. Publishing
4. Printing
5. Editing

we can arrange it as .

1. Writing 5. Editing 4. Printing 3. Publishing 2. Distributing

## SSC CGL Important Questions PDF

**Question 17**

If POSTER is coded as 592314 and DARK is coded as 8647, then how will STROKE be coded as ?

A 234917

B 234971

C 493287

D 329417

Answer: B

**Explanation:**

As per the given question,

POSTER is coded as 592314

$P \rightarrow 5$

$O \rightarrow 9$

$S \rightarrow 2$

$T \rightarrow 3$

$E \rightarrow 1$

$R \rightarrow 4$

And, DARK can be written as 8647

$D \rightarrow 8$

$A \rightarrow 6$

$R \rightarrow 4$

$K \rightarrow 7$

Hence, from the Above coding, we can conclude that STROKE -234971 \$\$

**Question 18**

Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

JKLM : HLKO :: PQRS : ?

A NRQU

B MRQV

C NQRU

D ORQT

**Answer: A**

**Explanation:**

As per the question,

It is given that JKLM : HLKO :: PQRS : ?

JKLM: HLKO

$$J \xrightarrow{-2} H$$

K will be replaced by next terms L

L will be replaced by previous terms K

$$M \xrightarrow{+2} O$$

Similarly,

$$P \xrightarrow{-2} N$$

Q will be replaced by next terms R

R will be replaced by previous terms Q

$$S \xrightarrow{+2} U$$

Hence, PQRS:NRQU is the correct pattern.

**Question 19**

Select the set in which the numbers are related in the same way as are the numbers of the following set.

(12, 16, 28)

A (18, 24, 42)

B (9, 15, 21)

C (36, 48, 77)

D (20, 25, 35)

**Answer: A**

**Explanation:**

From the given question,

$$12 + 16 = 28$$

similarly,

$$18 + 24 = 42$$

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**Question 20**

Which two signs should be interchanged in the following equation to make it correct?

$$12 - 6 \div 12 \times 6 + 6 = 9$$

A  $\div$  and  $\times$

B + and  $\div$

C - and +

D  $\times$  and +

Answer: C

Explanation:

Given that,

$$12 - 6 \div 12 \times 6 + 6 = 9$$

So, here we have to interchange + to -

Hence,

$$\Rightarrow 12 + 6 \div 12 \times 6 - 6$$

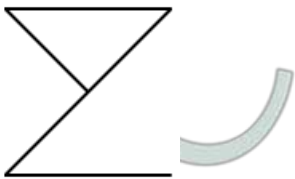
$$\Rightarrow 12 + \frac{6}{12} \times 6 - 6$$

$$\Rightarrow 12 + 2 \times 6 - 6$$

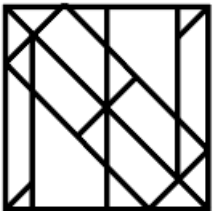
$$\Rightarrow 12 + 3 - 6 = 9$$

Question 21

Select the option in which the given figure is embedded.



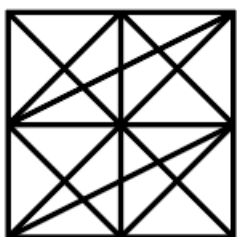
A



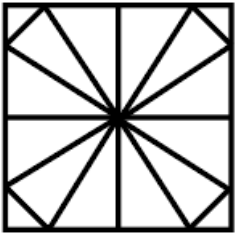
B



C



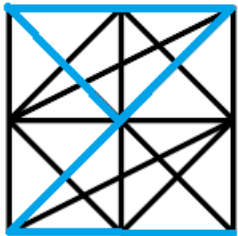
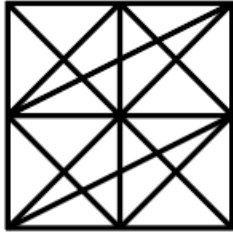
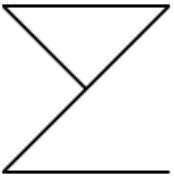
D



Answer: C

**Explanation:**

The pattern is given in the,



Option is following pattern.

**Question 22**

Two statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

**Statements:**

Some students are players.

Some players are athletes.

**Conclusions:**

I. Some students are athletes.

II. Some players are students.

III. No student is an athlete.

A Only conclusion and either conclusion I or III follow

B None of the conclusions follows

C Only conclusion I follows

D Only conclusions II and III follow

**Answer: A**

**Explanation:**

As per the given statement,

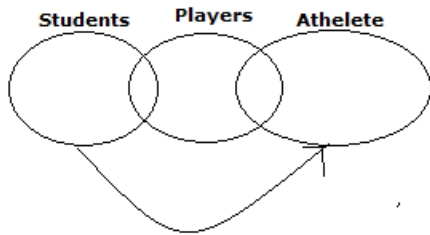
The given diagram is representing the relation between the statements and showing the conclusions.

Conclusion I - is following that some students are athletes.

Conclusion II- Some players are students.

Conclusion II- It is possible that no student is an athlete.

Hence option A is the correct answer.



## General Science Notes for SSC CGL

### Question 23

Three of the following four numbers are alike in a certain way and one is different. Pick the number that is different from the rest.

- A 166
- B 341
- C 132
- D 209

**Answer:** A

#### Explanation:

From the given options,

we can see that,

$$166 = 2 \times 83$$

$$132 = 2 \times 3 \times 11$$

$$341 = 11 \times 31$$

$$209 = 11 \times 19$$

Apart from 166, all the given numbers are divisible by 11. Hence option A is the different from the given options.

### Question 24

In a code language, TEACHING is written as SDBDGHOH. How will BOOKWORM be written as in that language?

- A ANPLXNNS
- B ANPLXPSL
- C CPNIJXPSL
- D ANPLVNSN

**Answer:** D

#### Explanation:

Given that,

The logic between TEACHING and SDBDGHOH

$$T \xrightarrow{-1} S$$

$$E \xrightarrow{-1} D$$

$$A \xrightarrow{+1} B$$

$$C \xrightarrow{+1} D$$

$$H \xrightarrow{-1} G$$

$$I \xrightarrow{-1} H$$

$$N \xrightarrow{+1} O$$

$$G \xrightarrow{+1} H$$

Similarly the logic for BOOKWORM will be applicable,

$$B \xrightarrow{-1} A$$

$$O \xrightarrow{-1} N$$

$$O \xrightarrow{+1} P$$

$$K \xrightarrow{+1} L$$

$$W \xrightarrow{-1} V$$

$$O \xrightarrow{-1} N$$

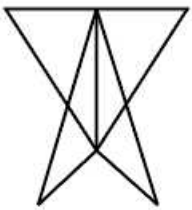
$$R \xrightarrow{+1} S$$

$$M \xrightarrow{+1} N$$

Hence, the required word will be ANPLVNSN

#### Question 25

How many triangles are there in the following figure ?



A 12

B 13

C 11

D 15

**Answer: D**

#### Explanation:

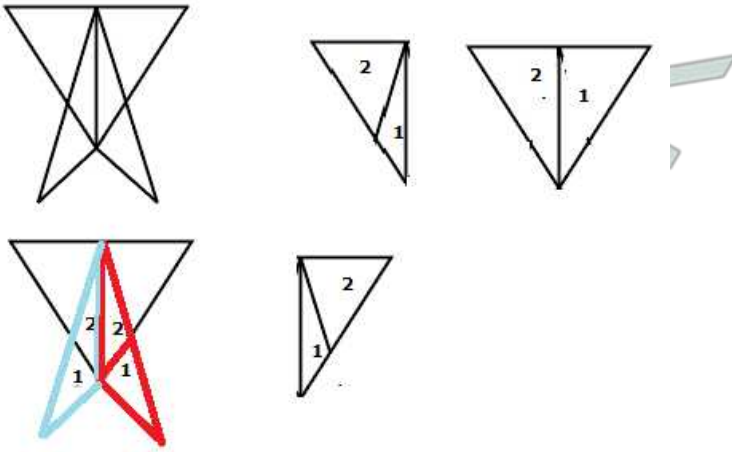
From the given,

We know that If any triangle have the same base and n middle line then it always make n+1 triangle.

So, here in this image after breaking up the diagram which is given in the question, we can see that there is 5 such triangle in which have one middle line.

Hence, number of triangle can be formed =3+3+3+3+3=15 triangle.





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### General knowledge

#### Instructions

For the following questions answer them individually

#### Question 26

\_\_\_\_\_ is a scientific discipline concerned with the study of plant pollen, spores, and certain microscopic planktonic organisms, in both, living and fossil form.

- A Paleobotany
- B Ethnobotany
- C Dendrology
- D Palynology

Answer: D

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#### Question 27

\_\_\_\_\_ is the branch of zoology concerned with the study of amphibians.

- A Herpetology
- B Ethology
- C Mammology
- D Morphology

Answer: A

#### Question 28

\_\_\_\_\_ is the study of the microanatomy of cells, tissues and organs as seen through a microscope.

- A Paleontology
- B Histology
- C Ichthyology

D Entomology

Answer: B

Question 29

Kala Bhavana, founded in 1919, is a noted institution of education and research in visual arts. It is located in \_\_\_\_\_.

A Bihar

B Uttar Pradesh

C West Bengal

D Sikkim

Answer: C

### SSC Free Preparation App

Question 30

Which of the following passes connects Tawang with Lhasa?

A Chankan Pass

B Bum La Pass

C Hpungan Pass

D Kumjawng Pass

Answer: B

Question 31

Poush Mela displays local artisans displaying folk dances, music, food and culture of \_\_\_\_\_

A Gujarat

B West Bengal

C Rajasthan

D Uttarakhand

Answer: B

Question 32

Pramod Sawant became Chief Minister of which Indian state in March, 2019?

A Tamil Nadu

B Goa

C Kerala

D Maharashtra

Answer: B

## Daily Free SSC Practice Set

### Question 33

In March 2019, who among the followings was appointed as India's first Lokpal?

- A Justice A K Sikri
- B Justice N V Ramana
- C Justice Pinaki Chandra Ghose
- D Justice S A Bobde

Answer: C

### Question 34

In March 2019, India won five silver medals at the Makran Cup Boxing Tournament in Iran. Who among the following is NOT one of the silver medallists?

- A Duryodhan Singh Negi
- B P Lalitha Prasad
- C Deepak Singh
- D Manish Kaushik

Answer: C

### Question 35

The invasion of Delhi by Timur in \_\_\_\_ A.D marked the end of the Tughlaq empire.

- A 1645
- B 1398
- C 1452
- D 1215

Answer: B

### Question 36

Who among the following was one of the Governors during the reign of Alauddin Khilji?

- A Jalal-ud-din Khilji
- B Shams-ud-din Iltutmish
- C Ghiyasuddin Tughlaq
- D Nasiruddin Mahmud

Answer: C

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**Question 37**

TV remote controls work on the principle of \_\_\_\_\_.

- A Ultrasonic waves
- B Laser technology
- C Bluetooth technology
- D Infrared waves

**Answer: D**

**Question 38**

Who was appointed as the director of Bhabha Atomic Research Centre (BARC) for a period of three years in March 2019?

- A Vishvapavan Pati
- B Kamlesh Nilkanth Vyas
- C Satyajeet Rajan
- D Ajit Kumar Mohanty

**Answer: D**

**SSC CHSL Previous Question papers (download pdf)**

**Question 39**

Government of India nominated member of NITI Aayog, \_\_\_\_\_ to head the Food and Agricultural Organisation (FAO) in March 2019

- A Ramesh Chand
- B Binay Ranjan Sen
- C V K Paul
- D Amitabh Kant

**Answer: A**

**Question 40**

Who founded the Sayyid dynasty?

- A Nizam Shah
- B Muhammad-bin-Farid
- C Khizr Khan
- D Bahlul Khan

**Answer: C**

**Question 41**

Majuli, the largest river island in the world is located in

- A Arunachal Pradesh
- B Assam
- C Nagaland
- D Uttar Pradesh

**Answer: B**

## Free SSC Study Material (18,000 Solved Questions)

### Question 42

Which of the following passes is known as the gateway connecting Jammu and Srinagar?

- A Lanak-La Pass
- B Chang-La Pass
- C Banihal Pass
- D Aghil Pass

**Answer: C**

### Question 43

\_\_\_\_\_ in Himachal Pradesh is a famous tourist attraction.

- A Aghil Pass
- B Chang-La Pass
- C Mintaka Pass
- D Rohtang Pass

**Answer: D**

### Question 44

The government of India appointed \_\_\_\_\_ as the director-general of the National Archives of India.

- A Kamlesh Vyas
- B Binay Sen
- C V K Paul
- D P V Ramesh

**Answer: D**

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### Question 45

A sustained rise in the general price level in an economy is called \_\_\_\_\_.

- A Disinflation
- B Deflation
- C Inflation
- D Stagflation

**Answer: C**

**Question 46**

**Who founded the Indian Statistical Institute on 17 December 1931?**

- A P.C. Mahalanobis
- B R.A. Fischer
- C F. Yates
- D M.H. Hansen

**Answer: A**

**Question 47**

**\_\_\_\_\_ was observed nationwide from 24th to 30th April, 2019.**

- A World Tourism Week
- B World Immunization Week
- C World Environment Week
- D World Postal Week

**Answer: B**

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**Question 48**

**Rust needs three components to occur, i.e., \_\_\_\_\_.**

- A Steel, iron and oxygen
- B Iron, oxygen and moisture
- C Iron, nitrogen and moisture
- D Helium, hydrogen and nitrogen

**Answer: B**

**Question 49**

**\_\_\_\_\_ created history in its second Twenty 20 International against Ireland by achieving the highest ever T20 total at the Rajiv Gandhi International Cricket Stadium in Dehradun, Uttarakhand.**

- A Pakistan

- B India
- C Afghanistan
- D Australia

Answer: C

**Question 50**

Which of the following articles promotes equal justice and free legal aid for all the citizens?

- A 39A
- B 32A
- C 43A
- D 48A

Answer: A

**SSC CGL Free Mock Test**

**Quant**

**Instructions**

For the following questions answer them individually

**Question 51**

The efficiencies of A, B and C are in the ratio 5 : 3 : 8. Working together they can complete a work in 30 days. A and B worked together for 20 days. The remaining work will be completed by C alone in:

- A 40 days
- B 36 days
- C 30 days
- D 32 days

Answer: A

**Explanation:**

It is given that,

The efficiencies of A, B, and C = 5:3:8

So, the time is taken by A, B, and C to complete the work =  $\frac{1}{5} : \frac{1}{3} : \frac{1}{8}$

So, A can finish the work in  $\frac{x}{5}$

A can finish the work in one day  $\frac{x}{5}$

B can finish the work in  $\frac{x}{3}$

B can finish the work in one day  $\frac{x}{3}$

$x$   
C can finish the work in 8

8  
C can finish the work in one day  $x$

5 3 8 1  
A, B and C can finish the work in one days  $x + x + x = 30$

$$\Rightarrow x = 30$$

$$\Rightarrow x = 16 \times 30 = 480$$

480  
So, A can finish the work in  $5 = 96$  days

480  
B can finish the work in  $3 = 160$  days

480  
C can finish the work in  $8 = 60$  days

1 1 5 + 3 8  
If A and B are working together, then they can finish the work in one days  $= \frac{1}{96} + \frac{1}{160} = \frac{5 + 3}{480} = \frac{8}{480}$

$8 \times 20 = 1$   
Hence, they can finish the work in 20 days  $= \frac{1}{480} = 3$

1 2  
Hence, the remaining work  $= 1 - \frac{2}{3} = \frac{1}{3}$

2  
So, C will finish the work  $= 60 \times \frac{1}{3} = 20$  days

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### Question 52

If  $\frac{\cos^2 \theta}{\cot^2 \theta - \cos^2 \theta} = 3$ ,  $0^\circ < \theta < 90^\circ$ , then the value of  $\cot \theta + \operatorname{cosec} \theta$  is:

- A  $\sqrt{3}$
- B  $\frac{\sqrt{3}}{2}$
- C  $2\sqrt{3}$
- D  $3\frac{\sqrt{3}}{4}$

Answer: A

### Explanation:

Given that,

$$\frac{\cos^2 \theta}{\cot^2 \theta - \cos^2 \theta} = 3$$

$$\Rightarrow \cos^2 \theta = 3(\cot^2 \theta - \cos^2 \theta)$$

$$\Rightarrow \cos^2 \theta + 3 \cos^2 \theta = 3 \cot^2 \theta$$

$$\Rightarrow 4 \cos^2 \theta = 3 \cot^2 \theta$$

$$\Rightarrow 4 \cos^2 \theta = 3 \frac{\cos^2 \theta}{\sin^2 \theta}$$



$$\Rightarrow \sin^2 \theta = \frac{3}{4}$$

$$\Rightarrow \sin^2 \theta = \frac{3}{4}$$

$$\Rightarrow \sin \theta = \frac{\sqrt{3}}{2} = \sin 60^\circ$$

$$\theta = 60^\circ$$

Now, substituting the values,

$$\Rightarrow \cot \theta + \operatorname{cosec} \theta = \cot 60^\circ + \operatorname{cosec} 60^\circ$$

$$\Rightarrow \cot 60^\circ + \operatorname{cosec} 60^\circ = \frac{1}{\sqrt{3}} + \frac{2}{\sqrt{3}} = \frac{3}{\sqrt{3}} = \sqrt{3}$$

### Question 53

In  $\triangle ABC$  with sides 6 cm, 7 cm and 8 cm, the angle bisector of the largest angle divides the opposite side into two segments. What is the length of the shorter segment?

A  $\frac{24}{5}$  cm

B  $\frac{21}{5}$  cm

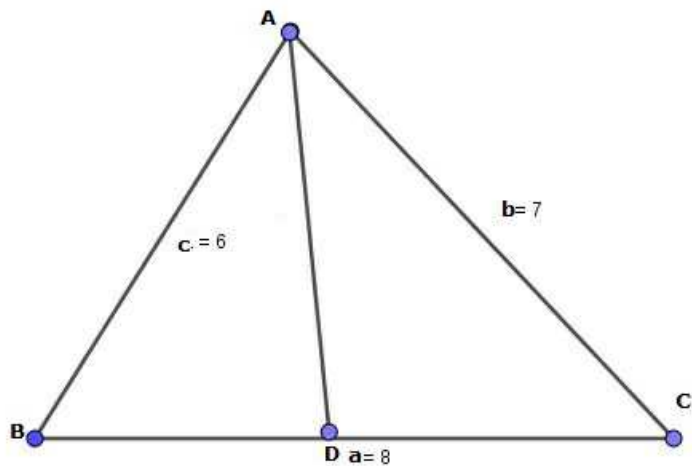
C  $\frac{48}{13}$  cm

D  $\frac{56}{13}$  cm

Answer: C

### Explanation:

As per the given in the question,



AB=6cm, BC=8cm and CA=7cm

AD is the angle bisector of  $\angle BAC$

As per the angular bisector theorem,

$$\Rightarrow \frac{BD}{DC} = \frac{AB}{AC},$$

Now, substituting the values,

$$\Rightarrow \frac{BD}{DC} = \frac{6}{7},$$

Let,

$$\Rightarrow DC = \frac{BD}{7} = k,$$

So,  $BD=6k$  and  $DC=7k$

It is given that,  $BC = 8cm = BD + DC$

$$\Rightarrow 6k + 7k = 8$$

$$\Rightarrow 13k = 8$$

$$\Rightarrow k = \frac{8}{13}$$

$$\text{Hence, } BD = \frac{8}{13} \times 6 = \frac{48}{13}$$

$$\text{And, } DC = \frac{8}{13} \times 7 = \frac{56}{13}$$

Hence the required answer is =  $\frac{48}{13}$

#### Question 54

The distance between two stations A and B is 800 km. A train X starts from A and moves towards B at 40 km/h and another train Y starts from B and moves towards A at 60 km/h. How far from A will they cross each other ?

- A 380 km
- B 320 km
- C 300 km
- D 360 km

**Answer: B**

#### Explanation:

Given that the distance between the two stations A and B = 800Km.

Speed of train X=40Km/hour

Speed of train Y=60 km/hour

Both train X and Y are moving to each other,

Let after the time t, train X and Y will be in the same position.

$$\Rightarrow 40 \times t + 60 \times t = 800$$

$$\Rightarrow 100 \times t = 800\text{Km}$$

$$\Rightarrow t = \frac{800}{100} = 8\text{hour}$$

So, the distance from the station A =  $40 \times 8 = 320\text{Km}$

## SSC CGL Previous Papers (DOWNLOAD PDF)

#### Question 55

If  $2x^2 + y^2 + 6x - 2xy + 9 = 0$ , then the value of  $(4x^3 - y^3 + x^2y^2)$  is:

- A 0
- B 9

C -3

D -9

Answer: A

Explanation:

Given that,

$$2x^2 + y^2 + 6x - 2xy + 9 = 0$$

$$\Rightarrow x^2 + y^2 - 2xy + x^2 + 6x + 9 = 0$$

$$\Rightarrow (x - y)^2 + (x^2 + 6x + 9) = 0$$

$$\Rightarrow (x - y)^2 + (x^2 + 6x + 3^2) = 0$$

$$\Rightarrow (x - y)^2 + (x + 3)^2 = 0$$

It will be zero, if and only if the individual terms is zero.

$$\text{So, } x - y = 0$$

$$\text{Hence } x = y$$

$$\text{And, } x + 3 = 0,$$

$$\text{So, } x = -3$$

Now, substituting the values,

$$\Rightarrow (4x^3 - y^3 + x^2y^2) = 4 \times (-3)^3 - (-3)^3 + (-3)^2 \times (-3)^2$$

$$\Rightarrow -108 + 27 + 9 \times 9$$

$$\Rightarrow -108 + 27 + 81 = 0$$

Question 56

The vertices of a  $\triangle PQR$  lie on a circle with centre O. SR is a tangent to the circle at the point R. If QR bisects the  $\angle ORS$ , then what is the measure of  $\angle RPQ$ ?

A  $60^\circ$

B  $45^\circ$

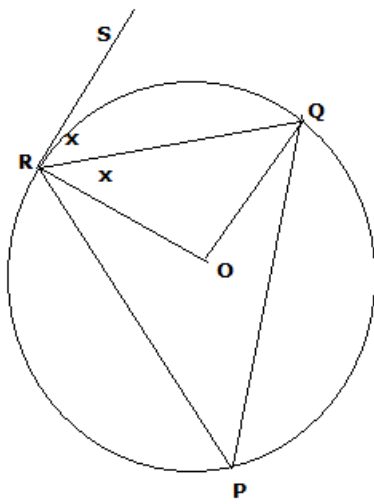
C  $40^\circ$

D  $30^\circ$

Answer: B

Explanation:

As per the given in the question,



It is given that, SR is the tangent on the circle and RQ is the angle bisector of the circle.

$$\text{So, } 2x = 90$$

$$\text{Hence, } x = 45^\circ$$

In  $\triangle ORQ$ ,

$OR = OQ$  (radius of the circle)

Hence,

$$\Rightarrow \angle ORQ = \angle OQR = 45^\circ$$

now,

$$\Rightarrow \angle ORQ + \angle OQR + \angle ROQ = 180$$

$$\Rightarrow 45 + 45 + \angle ROQ = 180$$

$$\Rightarrow \angle ROQ = 180 - 90 = 90^\circ$$

We know that, in any circle, angle subtended by the minor arc on center is twice angle subtended by on the circumference.

So

$$\Rightarrow \angle ROQ = 2\angle RPQ$$

$$90$$

$$\Rightarrow \angle RPQ = \frac{90}{2} = 45^\circ$$

#### Question 57

In a circle with centre O, ACBO is a parallelogram where C is a point on the minor arc AB. What is the measure of AOB?

A  $150^\circ$

B  $100^\circ$

C  $110^\circ$

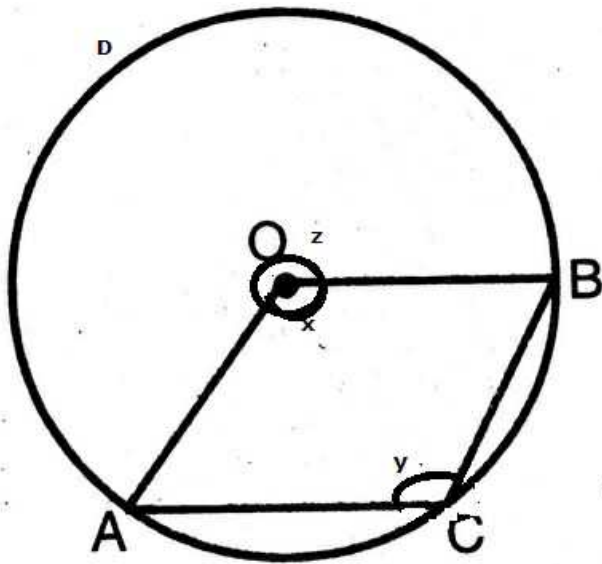
D  $120^\circ$

**Answer:** D

#### Explanation:

As per the given in the question,

Let  $\angle ACB = y$ ,  $\angle AOB = x$  and  $\angle AOB = z$  external angle



We know that angle subtended by an arc at the center is twice the angle subtended at the circumference.

Hence, arc ADB subtend twice angle as ACB is subtending,

$$\text{So } 2y = z \text{ ----- (i)}$$

ACBO is a parallelogram,

$$\text{so } \angle ACB = \angle AOB \text{ ----- (opposite angle of any parallelogram)}$$

$$\text{So, } x = y \text{ ----- (ii)}$$

We know that

$$\Rightarrow x + z = 360$$

From equation (i) and (ii)

$$\Rightarrow y + 2y = 360$$

$$\Rightarrow 3y = 360$$

$$\Rightarrow y = 120$$

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### Question 58

If  $\sin \theta = 4 \cos \theta$ , then what is the value of  $\sin \theta \cos \theta$ ?

A  $\frac{2}{9}$

B  $\frac{3}{10}$

C  $\frac{4}{17}$

D  $\frac{3}{4}$

Answer: C

### Explanation:

Given that,

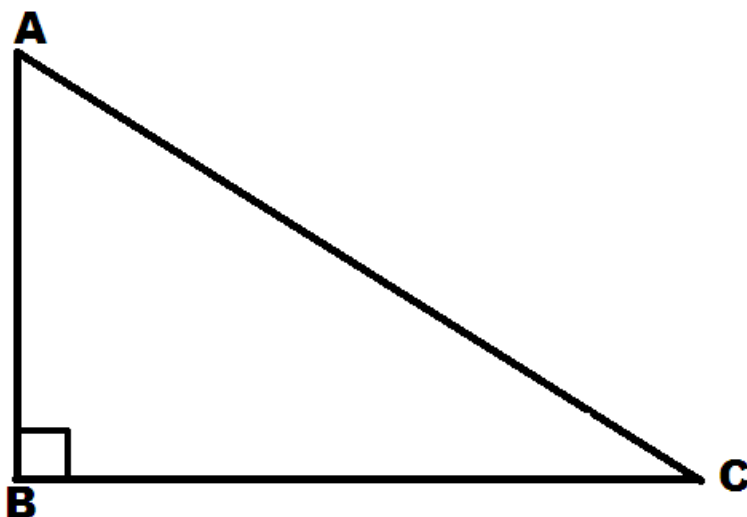
$$\sin \theta = 4 \cos \theta$$

So,

$$\sin \theta$$

$$\cos \theta = 4$$

$$\tan \theta = 4$$



$$\begin{aligned}\tan \theta &= \frac{AB}{BC} = 4 \\ \Rightarrow AB^2 + BC^2 &= AC^2 \\ \Rightarrow 4^2 + 1 &= AC^2 \\ \Rightarrow \sqrt{17} &= AC\end{aligned}$$

So

$$\begin{aligned}\sin \theta &= \frac{AB}{AC} = \frac{4}{\sqrt{17}} \\ \cos \theta &= \frac{BC}{AC} = \frac{1}{\sqrt{17}}\end{aligned}$$

Now, substituting the values,

$$\sin \theta \cos \theta = \frac{4}{\sqrt{17}} \times \frac{1}{\sqrt{17}} = \frac{4}{17}$$

#### Question 59

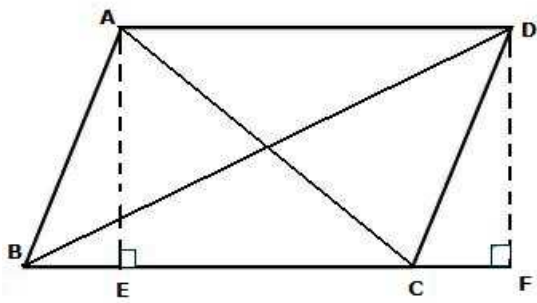
ABCD is a parallelogram in which diagonals AC and BD intersect at O. AE and DF are perpendiculars on BC at E and F, respectively. Which of the following is NOT true?

- A  $\triangle ABC \cong \triangle DCB$
- B  $\triangle AOE \cong \triangle DOF$
- C  $\triangle AEB \cong \triangle DFC$
- D  $\triangle ADC \cong \triangle ABD$

**Answer:** C

#### Explanation:

It is given that ABCD is a parallelogram, in which AC and BD are the diagonals of a parallelogram, which intersects at O. AE and DF are perpendicular to E and F on BC.



Now in  $\triangle ADC$  and  $\triangle ABD$

$\angle AEB = \angle DFC$  ----- (perpendicular always makes  $90^\circ$ )

$AE = DF$  ----- (two perpendiculars one-two parallel lines always have the same length)

$AB = DC$  ----- (opposite side of the parallelogram have the same length)

Hence  $\triangle AEB \cong \triangle DFC$  (Side Side Angle)

**Question 60**

The average of twelve numbers is 46. The average of the first four numbers is 43 and that of the last five numbers is 49.4. The  $5^{th}$  and the  $6^{th}$  numbers are respectively 4 and 6 more than the  $7^{th}$  number. What is the average of the  $5^{th}$  and the  $7^{th}$  numbers?

- A 43.5
- B 43
- C 44.5
- D 44

**Answer: B**

**Explanation:**

Given that,

The average of the twelve number is =46,

Let the numbers are  $n_1, n_2, n_3, \dots, n_{12}$

$$\text{So, } \frac{n_1 + n_2 + n_3 + \dots + n_{12}}{12} = 46$$

$$\Rightarrow n_1 + n_2 + n_3 + \dots + n_{12} = 46 \times 12 = 552 \text{-----(i)}$$

As per the given condition,

$$\text{Average of first 4 number } \frac{n_1 + n_2 + n_3 + n_4}{4} = 43$$

$$\Rightarrow n_1 + n_2 + n_3 + n_4 = 43 \times 4 = 172 \text{-----(ii)}$$

$$\text{The average of last 5th number } \frac{n_8 + n_9 + n_{10} + n_{11} + n_{12}}{5} = 49.4$$

$$\Rightarrow n_8 + n_9 + n_{10} + n_{11} + n_{12} = 49.4 \times 5 = 247.0 \text{-----(iii)}$$

Let the 7th number is  $x$ , so 5th and 6th number  $x + 4$  and  $x + 6$  respectively,

Now from the equation (i) (ii) and (iii),

$$\Rightarrow n_1 + n_2 + n_3 + n_4 + (x + 4) + (x + 6) + x + n_8 + n_9 + n_{10} + n_{11} + n_{12} = 552$$

$$\Rightarrow 172 + (x + 4) + (x + 6) + x + 247 = 552$$

$$\Rightarrow 172 + 3x + 10 + 247 = 552$$

$$\Rightarrow 3x = 552 - 429 = 123$$

$$\Rightarrow x = 41$$

So, 5th number is  $= 41 + 4 = 45$

Hence, the average of 5th and 7th number  $\frac{41 + 45}{2} = 43$

Hence, the required average number is 43.

## SSC CGL Tier-2 Previous Papers PDF

### Question 61

The value of

$\frac{9}{15}$  of  $\left(\frac{2}{3} \div \frac{2}{3}$  of  $\frac{3}{2}\right) \div \left(\frac{3}{4} \times \frac{3}{4} \div \frac{3}{4}$  of  $\frac{4}{3}\right)$  of  $\left(\frac{5}{4} \div \frac{5}{2} \times \frac{2}{5}$  of  $\frac{4}{5}\right)$  is:

A  $\frac{20}{9}$

B  $\frac{4}{25}$

C  $\frac{18}{125}$

D  $\frac{40}{9}$

Answer: D

Explanation:

$$\frac{9}{15} \text{ of } \left(\frac{2}{3} \div \frac{2}{3} \text{ of } \frac{3}{2}\right) \div \left(\frac{3}{4} \times \frac{3}{4} \div \frac{3}{4} \text{ of } \frac{4}{3}\right) \text{ of } \left(\frac{5}{4} \div \frac{5}{2} \times \frac{2}{5} \text{ of } \frac{4}{5}\right)$$

We know that "of" can be replaced by multiply,

$$\Rightarrow \frac{9}{15} \text{ of } \left(\frac{2}{3} \div 1\right) \div \left(\frac{3}{4} \times \frac{3}{4} \div 1\right) \text{ of } \left(\frac{5}{4} \div \frac{5}{2} \times \frac{8}{25}\right)$$

Now, solving small brackets,

$$\Rightarrow \frac{9}{15} \text{ of } \left(\frac{2}{3}\right) \div \left(\frac{9}{16}\right) \text{ of } \left(\frac{10}{20} \times \frac{8}{25}\right)$$

$$\Rightarrow \frac{9}{15} \text{ of } \left(\frac{2}{3}\right) \div \left(\frac{9}{16}\right) \text{ of } \left(\frac{4}{25}\right)$$

$$\Rightarrow \left(\frac{18}{45} \times \frac{9}{100}\right)$$

$$\Rightarrow \frac{18 \times 100}{45 \times 9}$$

$$\Rightarrow \frac{2 \times 20}{9}$$

$$\Rightarrow \frac{40}{9}$$

### Question 62

If  $x+y=12$  and  $xy=27$ ,  $x > y$ , then the value of  $(x^3 - y^3)$  is:

A 720

B 702

C 724

D 710

Answer: B



**Explanation:**

Given that,

$$x+y=12 \text{ and } xy=27$$

$$\text{We know that } (x-y) = \sqrt{(x+y)^2 - 4xy}$$

$$\Rightarrow (x-y) = \sqrt{12^2 - 4 \times 27} = \sqrt{144 - 108}$$

$$\Rightarrow (x-y) = \sqrt{36} = 6$$

$$\text{Now, We know that } (x-y)^3 = x^3 - y^3 - 3xy(x-y)$$

$$\Rightarrow 6^3 = x^3 - y^3 - 3 \times 27 \times (6)$$

$$\Rightarrow 216 = x^3 - y^3 - 486$$

$$\Rightarrow x^3 - y^3 = 486 + 216 = 702$$

**Question 63**

What is the compound interest on a sum of ₹10,000 at 14% p.a. for  $2\frac{5}{7}$  years where the interest is compounded yearly? (nearest to ₹1)

A ₹4,259

B ₹4,296

C ₹4,439

D ₹4,394

**Answer: B**

**Explanation:**

Given that,

Principle amount (P)=10,000Rs.

Rate of interest = 14%

$$\text{Time} = 2\frac{5}{7} = 2 + \frac{5}{7}$$

$$\text{We know that } A = P(1 + \frac{R}{100})^n$$

$$\Rightarrow A = 10,000(1 + \frac{14}{100})^2(1 + \frac{5 \times 14}{100 \times 7})$$

$$\Rightarrow A = 10,000(1.14)^2(1 + 0.1)$$

$$\Rightarrow A = 10,000(1.14)^2(1.1) = 14295.6\text{Rs.}$$

Hence the required profit  $14295.6 - 10000 = 4295.6 \cong 4296\text{Rs.}$

## SSC CGL Important Questions PDF

**Question 64**

Abhi bought two articles for ₹624. He sold one at a loss of 14% and the other at a profit of 14%. If the selling price of both the articles is equal, then the difference between their cost prices (in ₹) is:

A 89.64

B 87.36

C 89.68

D 88.84

Answer: B

**Explanation:**

As per given in the question,

The cost price of the two articles = 624 Rs

First article sold at the loss of 14%,

Second article sold at the gain of 14%,

Let the sold price of both article =  $x$  Rs.

Hence, the cost price of the first article =  $86x$  Rs.

The cost price of the second article =  $114x$  Rs.

Hence the cost price of the article  $86x + 114x = 624$

$$\Rightarrow 200x = 624$$

$$624$$

$$\Rightarrow x = \frac{624}{200} = 3.12$$

Hence, the cost price of the first article =  $86 \times 3.12 = 268.32$ Rs.

the cost price of the second article =  $114 \times 3.12 = 355.68$ Rs.

Hence, the required difference =  $355.68 - 268.32 = 87.36$ Rs.

**Question 65**

The table shows the production of different types of cars (in thousands).

Year →	2012	2013	2014	2015	2016
Car ↓					
A	54	58	60	63	55
B	40	54	56	61	67
C	46	50	63	73	77
D	33	35	48	45	49
E	47	43	53	48	52

The total production of type E cars in 2012 and 2013 is approximately what percent more than the average production of type A cars during the years 2012 to 2016?

A 53.8

B 55.2

C 52.2

D 56.4

Answer: B

**Explanation:**

As per the given table,

Total production of type E car in 2012 and 2013 =  $47 + 43 = 90$

$$54 + 58 + 60 + 63 + 55 = 290$$

Average production of type A car =  $\frac{290}{5} = 58$

$$\text{Hence, the required percentage} = \frac{(90 - 58) \times 100}{58} = \frac{32 \times 100}{58} = 55.17\% \cong 52.2\%$$

**Question 66**

The length of a metallic pipe is 7.56 m. Its external and internal radii are 2.5 cm and 1.5 cm respectively. If  $1 \text{ cm}^3$  of the metal weighs 7.5 g, then the weight of the pipe is: (Take  $\pi = \frac{22}{7}$ )

- A 72.82kg
- B 70.14kg
- C 71.28kg
- D 69.68 kg

**Answer: C**

**Explanation:**

Given that,

The length of a metallic pipe is 7.56 m

External radius and internal radius of the pipe ( $R$ ) =  $2.5 \text{ cm} = 2.5 \times 10^{-2} \text{ m}$  and  $r = 1.5 \text{ cm} = 1.5 \times 10^{-2} \text{ m}$

The density of the metal  $\rho = \frac{7.5 \text{ gm}}{1 \text{ cm}^3} = \frac{7.5 \times 10^{-3} \text{ kg}}{1 \times 10^{-6} \text{ m}^3} = 7500 \text{ m}^3$

We know that the volume of the cylinder =  $\pi r^2 h$

$$\text{So, Volume of the pipe } (V) = \pi(R^2 - r^2)h = \frac{22}{7} \times [(2.5 \times 10^{-2})^2 - (1.5 \times 10^{-2})^2] \times 7.56$$

$$\Rightarrow (V) = \frac{22}{7} \times [(6.25 \times 10^{-4}) - (2.25 \times 10^{-4})] \times 7.56$$

$$\Rightarrow (V) = \frac{22}{7} \times [4 \times 10^{-4}] \times 7.56$$

$$\Rightarrow (V) = 22 \times 4 \times 10^{-4} \times 1.08 = 95.04 \times 10^{-4} \text{ m}^3$$

$$\Rightarrow (V) = 95.04 \times 10^{-4} \text{ m}^3$$

We know that mass (m) = density x Volume =  $\rho \times V$

$$\Rightarrow m = 7500 \times 95.04 \times 10^{-4} = 71.28 \text{ Kg}$$

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**Question 67**

Let  $a = \frac{2 \sin x}{1 + \sin x + \cos x}$  and  $b = \frac{c}{1 + \sin x}$ . Then  $a = b$ , if  $c = ?$

- A  $1 - \sin x \cos x$
- B  $1 + \sin x - \cos x$
- C  $1 + \sin x \cos x$
- D  $1 + \cos x - \sin x$

**Answer: B**

**Explanation:**

Given that,

$$a = \frac{2 \sin x}{1 + \sin x + \cos x} \text{ and } b = \frac{c}{1 + \sin x}$$

If  $a = b$

$$\frac{2 \sin x}{1 + \sin x + \cos x} = \frac{c}{1 + \sin x}$$

$$\Rightarrow c = \frac{2 \sin x(1 + \sin x)}{1 + \sin x + \cos x}$$

Now, multiplying and dividing by the conjugate of the denominator, in the given ratio

$$\Rightarrow c = \frac{2 \sin x(1 + \sin x)(1 + \sin x - \cos x)}{(1 + \sin x + \cos x)(1 + \sin x - \cos x)}$$

$$\Rightarrow c = \frac{2 \sin x(1 + \sin x)(1 + \sin x - \cos x)}{(1 + \sin x)^2 - (\cos x)^2}$$

$$\Rightarrow c = \frac{2 \sin x(1 + \sin x)(1 + \sin x - \cos x)}{(1 + \sin^2 x + 2 \sin x - \cos^2 x)}$$

$$\Rightarrow c = \frac{2 \sin x(1 + \sin x)(1 + \sin x - \cos x)}{(\sin^2 x + \cos^2 x + \sin^2 x + 2 \sin x - \cos^2 x)}$$

$$\Rightarrow c = \frac{2 \sin x(1 + \sin x)(1 + \sin x - \cos x)}{(2 \sin^2 x + 2 \sin x)}$$

$$\Rightarrow c = \frac{2 \sin x(1 + \sin x)(1 + \sin x - \cos x)}{2 \sin x(\sin x + 1)}$$

$$\Rightarrow c = 1 + \sin x - \cos x$$

#### Question 68

If  $x^2 + y^2 + z^2 = 133$ ,  $xy + yz + zx = 114$  and  $xyz = 216$ , then the value of  $x^3 + y^3 + z^3$  is:

- A 948
- B 999
- C 943
- D 1009

Answer: D

#### Explanation:

Given that,

$$x^2 + y^2 + z^2 = 133$$

$$xy + yz + zx = 114$$

$$xyz = 216$$

We know that  $(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$

$$\Rightarrow (x + y + z)^2 = \sqrt{x^2 + y^2 + z^2 + 2(xy + yz + zx)}$$

$$\Rightarrow (x + y + z)^2 = \sqrt{133 + 2 \times 114}$$

$$\Rightarrow (x + y + z)^2 = \sqrt{361} = 19$$

Hence,

$$x^3 + y^3 + z^3 = (x + y + z)(x^2 + y^2 + z^2 - (xy + yz + zx)) + 3xyz$$

Now, substituting the values,

$$\Rightarrow x^3 + y^3 + z^3 = (19)(133 - 114) + 3 \times 216$$

$$\Rightarrow x^3 + y^3 + z^3 = (19)(133 - 114) + 648$$

$$\Rightarrow x^3 + y^3 + z^3 = (19)(19) + 648$$

$$\Rightarrow x^3 + y^3 + z^3 = 361 + 648 = 1009$$

### Instructions

The table shows the production of different types of cars (in thousands).

Year →	2012	2013	2014	2015	2016
Car ↓					
A	54	58	60	63	55
B	40	54	56	61	67
C	46	50	63	73	77
D	33	35	48	45	49
E	47	43	53	48	52

### Question 69

The total production of all type of cars, except type B, in 2012 is what percent less than the total production of all types of cars in 2016?

- A 40
- B 25.8
- C 26.7
- D 42

Answer: A

### Explanation:

From the given table,

As per the instructions, total production of the car in 2012, except car type B =  $54 + 46 + 33 + 47 = 180$

Total production of all type car in 2016 =  $55 + 67 + 77 + 49 + 52 = 300$

$$(300 - 180) \times 100$$

Hence, the required percentage =  $\frac{300}{300}$

$$\begin{aligned} &= \frac{(120) \times 100}{300} \\ &= 40\% \end{aligned}$$

## General Science Notes for SSC CGL

### Question 70

If the data related to the production of type D cars is represented by a pie chart, then the central angle of the sector representing the production of cars in 2013 will be:

- A  $84^\circ$
- B  $75^\circ$
- C  $60^\circ$
- D  $77^\circ$

Answer: C

### Explanation:

As per the given table,

Total production of D type car =  $33 + 35 + 48 + 45 + 49 = 210$

Production of D type car in 2013 = 35

$$\frac{360 \times 35}{210} = 60^\circ$$

Hence, the required angle =  $60^\circ$

#### Question 71

What is the ratio of the total production of type E cars in 2014 and type C cars in 2016 taken together to the total production of type B cars in 2014 and type D cars in 2013 taken together?

A 9 : 8

B 10 : 7

C 11 : 8

D 11 : 5

Answer: B

#### Explanation:

From the given table,

Total production of the car type E in 2014=53

Total production of the car type C in 2016=77

Hence net production of the car type E and C in 2014 and 2016 =  $53 + 77 = 130$

Total production of the car type B in 2014=56

Total production of the car type D in 2013=35

Hence net production of the car type B and D in 2014 and 2013 =  $56 + 35 = 91$

$$\frac{130}{91} = \frac{10}{7}$$

Hence, the required ratio =  $\frac{10}{7}$

#### Instructions

For the following questions answer them individually

#### Question 72

When the price of an item was reduced by 20%, then its sales increased by x%. If there is an increase of 60% in the receipt of the revenue, then the value of x is:

A 120

B 96

C 100

D 80

Answer: C

#### Explanation:

Let the price of one article =1 Rs.

After the reduction in the price, the new price of the article =  $1 \times 0.8 = 0.8$ Rs.

Let initial consumption of the good =100

New consumption of the good=100+x,

$$\frac{160 \times 100}{100} = 160$$

After Increase in the revenue, new revenue =160% of initial revenue = 160

$$\text{Hence, } (100 + x) \times 0.8 = \frac{160 \times 100}{100}$$

$$\Rightarrow 80 + 0.8x = 160$$

$$\Rightarrow 0.8x = 160 - 80 = 80$$

$$80$$

$$\Rightarrow x = \frac{80}{0.8} = 100$$

Hence, increase in the sales is 100%

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### Question 73

The ratio of the present ages of A and B is 8 : 9. After 9 years, this ratio will become 19 : 21. C is 3 years younger to B. What is the present age (in years) of C?

A 49

B 48

C 51

D 52

**Answer: C**

### Explanation:

Let the present age of A and B is x and y.

$$\frac{x}{y} = \frac{8}{9}$$

Given that the ratio of the age of A and B,  $y = 9$

$$x = \frac{8y}{9} \text{ ----- (i)}$$

After 9 years, age of A=x+9 and age of B=y+9,

The ratio in the age after 9 years,

$$\frac{x + 9}{y + 9} = \frac{19}{21} \text{ ----- (ii)}$$

From equation (i) and (ii)

$$\frac{\frac{8y}{9} + 9}{y + 9} = \frac{19}{21}$$

$$\Rightarrow \frac{8y + 81}{9(y + 9)} = \frac{19}{21}$$

$$\Rightarrow \frac{8y + 81}{9y + 81} = \frac{19}{21}$$

$$\Rightarrow 21 \times 8y + 21 \times 81 = 19 \times 9y + 19 \times 81$$

$$\Rightarrow 168y + 21 \times 81 = 171y + 19 \times 81$$

$$\Rightarrow 171y - 168y = 21 \times 81 - 19 \times 81$$

$$\Rightarrow 3y = 2 \times 81$$

$$\Rightarrow y = 54 \text{ years}$$

Hence the age of C =  $y - 3 = 51$  Years.

#### Question 74

If a 9-digit number  $32x4115y2$  is divisible by 88, then the value of  $(4x - y)$  for the smallest possible value of  $y$ , is:

- A 31
- B 20
- C 1
- D 11

Answer: A

#### Explanation:

Given that,

$32x4115y2$  is a nine-digit number that is divisible by  $88 = 11 \times 8$ .

The above number will be divisible by 88 if it is individually divisible by 11 and 8.

**Divisibility by 8:** Any number is always divisible by 8 if the last three-digit number off that particular number is divisible by 8.

so the last three-digit number of the given number is  $5y2$ , so the minimum possible value of  $y$  for which it is divisible by 8 = 1, 5.

**Divisibility by 11:** Any number is divisible by 11 if the difference between the sum of odd place digit and even place digit is divisible by 11.

Hence,  $2 + 5 + 1 + x + 3 - y - 1 - 4 - 2 = 4 + x - y$

There is two possible conditions for  $y = 1$  and  $5$

i)  $4 + x - 1 = 3 + x$  it will be divisible 11 if  $x = 8$ ,

ii)  $4 + x - 5 = x - 1$  it will be divisible 11 if  $x = 1$ ,

Now,

If substituting the first values

i)  $x=8$  and  $y=1$  (Here smallest possible value of  $y$ )

$(4x - y) = 4 \times 8 - 1 = 31$  ( Option A is matching with the answer)

If substituting the second values,

ii)  $x=1$  and  $y=5$  (Largest possible value of  $Y$ )

$(4x - y) = 4 \times 1 - 5 = -1$  (Not given in the option, so neglecting this.)

#### Question 75

A trader marks his goods at 40% above the cost price. He sells 70% of the goods at the marked price and the rest, he sells by allowing a 40% discount on the marked price. His percentage profit is:

- A 23.4
- B 24.2
- C 23.2
- D 24.4

Answer: C

#### Explanation:

Let the cost price of the article is  $x$  Rs.

$$140x$$

So marked price of the article will be  $100 = 1.4x$



Let the total number of available article = 100

As per the question

Sold price of the article of 70% of the total goods =  $70 \times 1.4x = 98x$

And, 30% of the article sold at the discount of 40%, hence sold of the 30% of the goods =  $\frac{30 \times 60 \times 1.4x}{100} = 25.2x$

Hence, net earning by selling all the 100 goods =  $98x + 25.2x = 123.2x$

The cost price of the 100 goods =  $100x$

Hence, net profit =  $\frac{(123.2x - 100x) \times 100}{100x} = 23.2\%$

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### English

#### Instructions

For the following questions answer them individually

#### Question 76

Given below are four jumbled sentences. Select the option that gives their correct order.

- A. Canada accounts for nearly one-third of the world's production of news print.
- B. Forest products, therefore, have been important export items of Canada for more than a century.
- C. A large part of Canada is covered with coniferous trees.
- D. Pulp and paper are the two most important forest products.

- A ABCD
- B DCAB
- C CBDA
- D BACD

Answer: C

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#### Question 77

Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement.

The Head has been so busy to go through these files and resolve the matter.

- A such busy to go through
- B too busy to go through
- C No improvement
- D too so busy to go through

Answer: B

#### Question 78

Select the correct active form of the given sentence.

The wall of this park is being painted by children.

- A Children are painting the wall of this park
- B The wall is painting children of this park
- C Children have been painting the wall of this park
- D Children painted the wall of this park

Answer: A

**Question 79**

Select the synonym of the given word.

**ENTICE**

- A ensue
- B entail
- C enrage
- D entrap

Answer: D

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**Question 80**

Select the synonym of the given word.

**DUBIOUS**

- A certain
- B fishy
- C loyal
- D steady

Answer: B

**Question 81**

Select the antonym of the given word.

**FINITE**

- A finished
- B limited
- C bound
- D endless

Answer: D

**Question 82**

Select the most appropriate meaning of the given idiom.

**Couch potato**

- A a person who sleeps all day
- B a person who watches too much television
- C a person who remains relaxed and calm
- D a person who is simple in nature

**Answer: B**

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### Question 83

Select the wrongly spelt word

- A rendezvous
- B renaissance
- C remuneration
- D remonstrate

**Answer: D**

### Question 84

Select the most appropriate option to fill in the blank.

In many countries the \_\_\_\_\_ in pay for men and women is quite common, for example, in Germany women are paid 21 per cent less as compared to men.

- A unlikeliness
- B equivalence
- C disagreement
- D disparity

**Answer: D**

### Question 85

Select the most appropriate meaning of the given idiom.

Lead someone by the nose

- A to do the right thing
- B to force someone to take the blame
- C to dominate someone
- D to quarrel with someone

**Answer: C**

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**Question 86**

Select the wrongly spelt word

- A megre
- B meadow
- C matter
- D measure

Answer: A

**Question 87**

Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement.

You won't tell the secret, won't you?

- A No improvement
- B would you
- C will you
- D isn't it

Answer: C

**Instructions**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

**Comprehension:**

In 1914 a war began in Europe which engulfed the entire world. The damage (1)\_\_\_\_\_ by this war has no precedent in history. (2)\_\_\_\_\_ the earlier wars, the civilian populations were (3)\_\_\_\_\_ not involved and the casualties were mostly (4)\_\_\_\_\_ to the warring armies. The war (5)\_\_\_\_\_ began in 1914 was a total war in which all the resources of the warring states were mobilized.

**Question 88**

Select the most appropriate option for blank No. 1

- A made
- B caused
- C generated
- D began

Answer: B

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**Question 89**

Select the most appropriate option for blank No. 2

- A At
- B Into

C In

D On

Answer: C

Question 90

Select the most appropriate option for blank No. 3

A generally

B broadly

C chiefly

D finally

Answer: A

Question 91

Select the most appropriate option for blank No. 4

A belonged

B confined

C retrained

D bound

Answer: B

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Question 92

Select the most appropriate option for blank No. 5

A which

B whom

C what

D Who

Answer: A

Instructions

For the following questions answer them individually

Question 93

Select the word which means the same as the group of words given.

Persons living at the same time

A cosmopolitans

B compatriots

- C colleagues
- D contemporaries

Answer: D

**Question 94**

Select the most appropriate option to fill in the blank.

Catholics and Protestants have a long history of \_\_\_\_\_ in Northern Ireland but volunteers from both communities came together to build the monument of Peace

- A truce
- B agreement
- C contest
- D conflict

Answer: D

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**Question 95**

Given below are four jumbled sentences. Select the option that gives their correct order.

- A. In China, thousands of people celebrated it.
- B. The Lunar New Year of the Pig began on 5th February.
- C. Others burned the first joss sticks of the year to bring them good fortune.
- D. Some performers re-enacted historical ceremonies

- A ABCD
- B BADC
- C DABC
- D BDCA

Answer: B

**Question 96**

Select the correct passive form of the given sentence.

Take this suitcase upstairs

- A You are requested to take this suitcase upstairs.
- B You must be taking this suitcase upstairs
- C This suitcase should be taken upstairs
- D Let this suitcase been taken upstairs

Answer: C

**Question 97**

Select the antonym of the given word.

REPRIMAND

- A apprehend
- B reproach
- C compliment
- D blame

**Answer: C**

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### Question 98

**In the sentence identify the segment which contains the grammatical error.**  
I know the cobbler which mends the shoes outside the gate of our colony

- A I know the cobbler
- B the shoes
- C which mends
- D outside the gate

**Answer: C**

### Question 99

**In the sentence identify the segment which contains the grammatical error.**  
The street artist Satish Munjal has been painting this wall since the past one week

- A has been painting
- B The street artist
- C this wall
- D since the past one week

**Answer: D**

### Question 100

**Select the word which means the same as the group of words given.**  
Someone who believes that people cannot change the way events will happen

- A prophet
- B fatalist
- C fanatic
- D seer

**Answer: B**

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