



SSC CGL 6 June 2019 Shift-3

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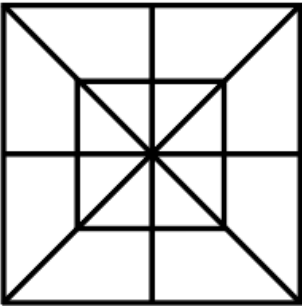
Reasoning

Instructions

For the following questions answer them individually

Question 1

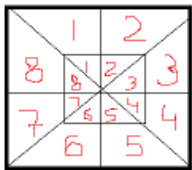
How many triangles are there in the following figure ?



- A 36
- B 28
- C 32
- D 24

Answer: C

Explanation:



count all the squares as shown in the figure

take the highest digit and multiply with 2

$$(8*2)+(8*2)= 16+16 =32$$

there are total 32 triangles present in the figure.

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Question 2

Select the term that will come in the place of ?

7, 11, 19, 31, ?, 67

- A 45
- B 51
- C 43
- D 47

Answer: D

Explanation:

find out the difference between the first number and second no

7,11,19,31,?

11-7=4

19-11=8

31-19=12

4+4=8 ,8+4=12, 12+4=16

next term will be 31+16=47

Question 3

Three of the following four word pairs are alike in a certain way and one is different. Pick the odd word out.

A Kitchen : Frying pan

B Bathroom : Shower

C Garden : Ladle

D Study room : Table lamp

Answer: C

Explanation:

we have to find out the word which is different

1. kitchen :frying pan which is correct , we use frying pan in the kitchen
2. bathroom :shower which is correct , there is shower in the bathroom which we use in bathing
3. garden :ladle which is incorrect because we use ladle in the kitchen for serving the dishes
4. study room: table lamp which is correct we use table lamp in our study table for studying

we are seeing that in option 1,2 and 4 ; first person is related to the second person in some manner but there is no relation in option 3 so it will be the different from rest of the options.

Question 4

Choose the set of numbers that is similar to the following set.

(6, 9, 18)

A (14, 21, 42)

B (10, 15, 35)

C (18, 27, 56)

D (8, 14, 24)

Answer: A

Explanation:

question is { 6,9,18}

$3*2=6$, $3*3=9$, $3*6=18$ we are seeing that by multiplying by 2,3 and 6 we get the desired numbers ,we have to find out that particular set of numbers in which by multiplying by 2,3 and 6 we get that set of numbers.

in option A {14,21,42} we get these set of numbers by ; $7*2=14$, $7*3=21$, $7*6=42$ hence our option A will be correct.

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Question 5

Three of the following four words are alike in a certain way and one is different. Pick the odd word out.

A Intermission

- B Valediction
- C Closure
- D Cessation

Answer: A

Explanation:

we have to find the odd one out from the given options. As per the question the options 2,3 and 4 all have same meaning,

valuediction: process of saying goodbye similar to closing

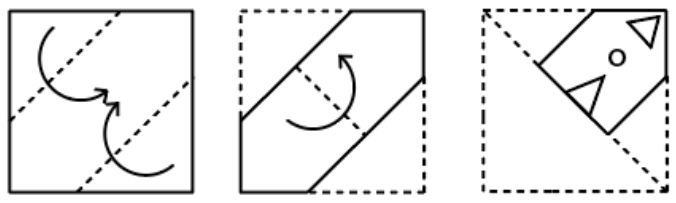
cessation; process of ending

closure; means closing of something

whereas option 1 is intermission means interval or recess between parts of a performance so it doesn't mean the complete ending hence it will be different from the rest.

Question 6

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



- A
- B
- C
- D

Answer: A

Explanation:

If we see the figure from last then we observe that figure of option A will appear when unfolded.

Question 7

Arrange the following words in a logical and meaningful order.

1. Cloud
2. Rainbow
3. Devastation
4. Rain
5. LowPressure
6. Flood

- A 5,1,2,4,6,3
B 5,4,1,2,3,6
C 5,1,4,2,6,3
D 1,5,4,2,6,3

Answer: C

Explanation:

we have to arrange the order of the given words, For this type of questions we have to understand the particular process or particular method of which it is talking about.it is the process of RAINFALL AND AFTER EFFECTS so we have to arrange it step by step ,

1. first step is low pressure in the atmosphere so it will be in first the first step
2. it will be clouds
3. then raining
4. after raining there will be a rainbow which is clear
5. heavy rainfall results in flood
6. and due to flood there will be destruction or devastation .so devastation will be the last

our correct arrangement will be 514263

we also solve this question by eliminating the options that it is clear that after raining there will be rainbow so 4 will be preceded by 1 and this is given on only option c so our correct answer will be C

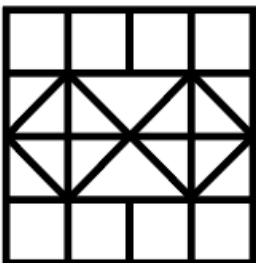
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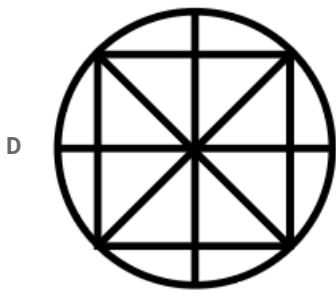
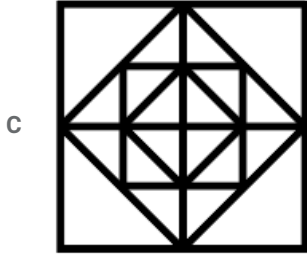
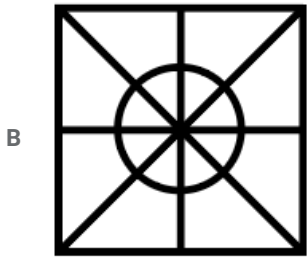
Question 8

Select the figure in which the given figure is embedded.



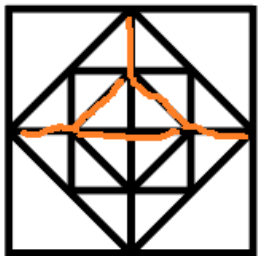
A





Answer: C

Explanation:

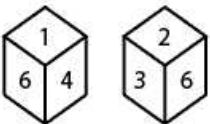


in this question we have to find out the figure which have the exact figure given in the question .

basically we have to find out the triangle shape figure in given options , we are seeing that triangle is only in the option C so our answer will be option c

Question 9

Two rotated positions of a dice are given below. Which number will be at the top if the number 1 is on the bottom of the dice ?



A 3

B 2

C 5

D 6

Answer: A

Explanation:

In the given dice there is one common face having digit 6,
take 6 and rotate in clockwise direction in both the dice as like this

6-1-4

6-3-2

the number comes opposite to the face 1 is 3

Question 10

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.

CDAF : XWZU :: DEFC : ?

A WVUX

B WVXU

C VWXU

D XWYV

Answer: A

Explanation:

Every letter corresponds to its reverse letter as per the alphabetical series.
For example, A is written as Z, B is written as Y, C is written as X and so on.
So, CDAF is written as XWZU
Similarly,
DEFC is written as WVUX in the same manner.

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Question 11

Select the word-pair in which the two words are related in the same way as the two words in the following word-pair.

Author : Book

A Mother : Son

B Reptile : Crawl

C Doctor : Medicine

D Spider : Web

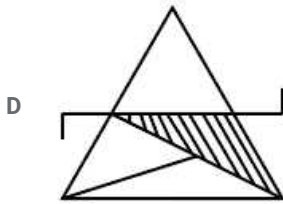
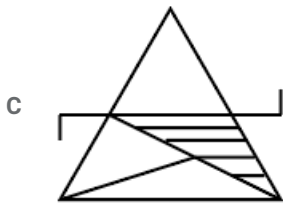
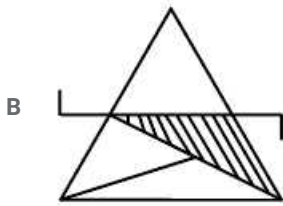
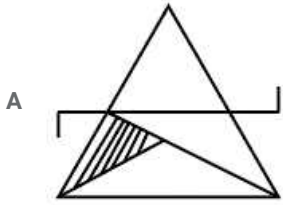
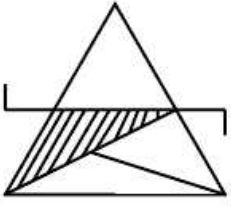
Answer: D

Explanation:

Book is written by author in the same way web made by spider.

Question 12

Identify the mirror image of the following figure when the mirror is placed to the right of the figure.



Answer: D

Explanation:

If mirror is placed at the right of the figure then left will becomes right and right becomes left. But top and bottok will remain same.

Question 13

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

LAMP : PALM :: MALE : _____

- A ELAM
- B LAME
- C EAML
- D MEAL

Answer: C

Explanation:

L A M P
P A L M

M A L E
E A M L

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Question 14

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

- A GKRV
- B BFMQ
- C DGKL
- D JNUY

Answer: C

Explanation:

Alphabetical difference between the letters are same in each option except option C.

Question 15

'Room' is related to 'Ceiling' in the same way as 'Mouth' is related to:

- A Teeth
- B Throat
- C Lip
- D Palate

Answer: D

Explanation:

Ceiling is the top part of inside room in the same way palate is the top part of inside mouth.

Question 16

What will be the value of the following equation if '÷' means addition, '+' means subtraction, '-' means multiplication and '×' means division?

$$72 \times 9 - 3 \div 8 + 2 = ?$$

- A 25
- B 40
- C 30
- D 35

Answer: C

Explanation:

$$72 \times 9 - 3 \div 8 + 2 = ?$$

Now, according to new symbols,

$$72 \div 9 \times 3 + 8 - 2 = ?$$

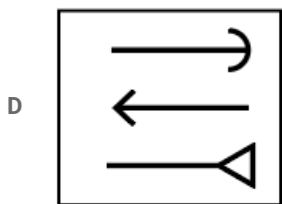
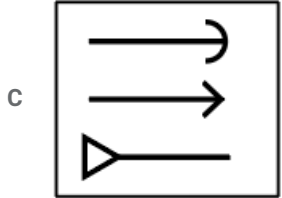
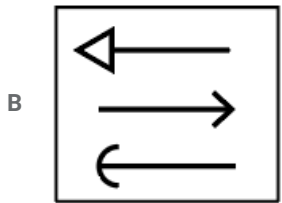
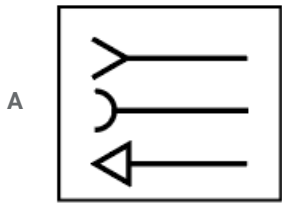
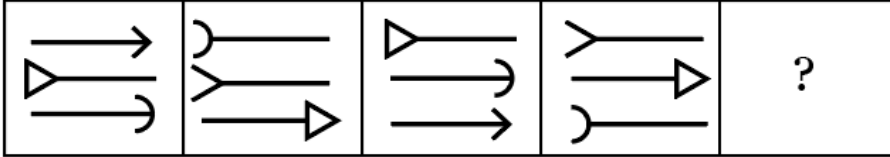
$$24 + 8 - 2 = ?$$

$$? = 30$$

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Question 17

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



Answer: C

Question 18

Select the number pair in which the two numbers are related in the same way as the two numbers of the pair given below.

35 : 6

A 120 : 11

B 64 : 8

C 85 : 9

D 26 : 5

Answer: A

Explanation:

(35, 6) pattern is $6 \times 6 - 1 = 35$

In the same way (120, 11) is following the same pattern.

Question 19

A letter series is given below in which some letters are missing. Select the option that gives the letters that can fill these blanks in that order.

a_ca_bab_ad_abc_db

A bdcba

B bedba

C bddac

D bdeab

Answer: A

Explanation:

Total 18 letters are there in the series divide it in 3 equal group and fill the gap with the given option one by one and check the sequence.

Option B and D we will not check because it have letter 'e' and series doesn't have letter 'e'.

If we fill the gap by option A then it will complete the series

abcadb abcadb abcadb

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Question 20

Find the next number in the given series.

3, 13, 31, ?, 91

A 57

B 48

C 69

D 63

Answer: A

Explanation:

3	13	31	57	91
	+10	+18	+26	+34

Question 21

Two statements are followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they do not conform to real-world knowledge, decide which of the conclusion(s) logically follow/s from the statements.

Statements:

All ponds are pools.

Some wells are ponds.

Conclusions:

I. Some ponds are not wells.

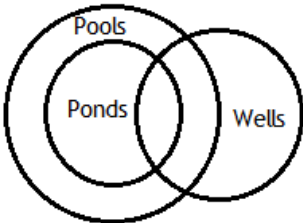
II. Some wells are pools.

III. All pools are wells.

- A Only conclusion I follows
- B None of the conclusions follow
- C Only conclusion II follows
- D Only conclusion ITI follows

Answer: C

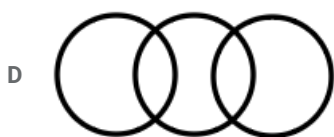
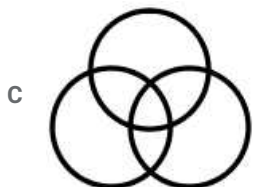
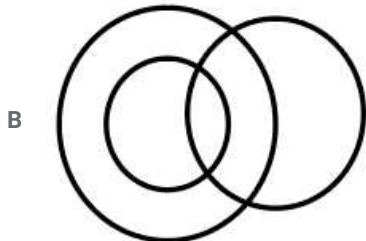
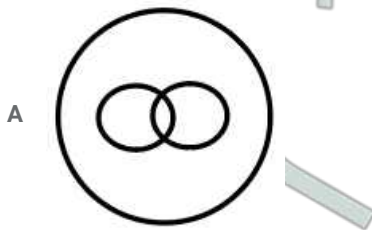
Explanation:



Some Ponds not being Wells is a possibility but cannot be concluded.
 Some Wells are Pools is true.
 All pools being Wells can be possible but cannot be concluded.
 Hence, Only Conclusion II follows.

Question 22

Choose the Venn diagram that best illustrates the relationship among the following classes:
 Women, Entrepreneurs, Engineers



Answer: C

Explanation:

Some womens may be entrepreneurs and engineers. So option C is correct.

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Question 23

In a code language, SEDATIVE is coded as ATDESEVI. How would PERSONAL be coded in that language?

- A SOERPANL
- B OSREPLAN
- C SOREPLAN
- D SOPERLAN

Answer: C

Explanation:

SED	AT	IVE	PER	SO	NAL
AT	DES	EVI	SO	REP	LAN

Question 24

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

- A ABOP
- B CDQR
- C EFST
- D GHTV

Answer: D

Explanation:

The pattern of all the four letters of cluster is first two and last two is in consecutive form. While in option D first two letters are in consecutive form but last two is not. So option D is correct.

Question 25

In a code language if VERY is written as UDQX, then in the same language how will you write the word URGENT?

- A MSQTFD
- B QFDTMS
- C TMSQFD
- D TQFDMS

Answer: D

Explanation:

VERY = UDQX pattern is each letter of UDQX is -1 from VERY

In the same way,

URGENT = TQFDMS

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General knowledge

Instructions

For the following questions answer them individually

Question 26

The Indian Passport was ranked ____ in the 'Global Passport Index Report 2019'.

- A 67th
- B 65th
- C 56th
- D 77th

Answer: A

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Question 27

Minimum Support Price (MSP) is recommended by ____.

- A The Food Safety and Standards Authority of India
- B The Commission for Agricultural Costs and Prices
- C The Commission for Weights and Measures
- D The Farmers' Welfare Society

Answer: B

Question 28

The Pradhan Mantri Shram Yogi Mandhan Yojana was launched by ____

- A Ram Nath Kovind
- B Smriti Zubin Irani
- C Narendra Modi
- D Arun Jaitley

Answer: C

Question 29

'Ricket' is a disease associated with the deficiency of _____

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

Answer: D

Explanation:

Rickets is a bone **disorder caused by a deficiency** of vitamin D, calcium, or phosphate. ... There are different bony abnormalities **associated** with **rickets**, but all are due to poor mineralisation with calcium and phosphate. The active form of vitamin D is synthesized by skin cells when exposed to sunlight.

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Question 30

The highest railway station in India is located in the state of ____

- A Sikkim
- B West Bengal
- C Uttar Pradesh
- D Jammu & Kashmir

Answer: B

Question 31

____ was the first and only Muslim woman to ever sit on the throne of Delhi

- A Razia Begum
- B Gevher Sultan
- C Shajarat Al Durr
- D Fatima Al Fihri

Answer: A

Question 32

____ is the largest river island in the world

- A Bahvani
- B Munroe
- C Umananda
- D Majuli

Answer: D

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Question 33

Bariatric surgery makes changes to a person's ____

- A heart
- B lungs
- C nasal passage

D digestive system

Answer: D

Question 34

During photosynthesis, green plants use energy from sunlight to synthesise _____ from carbon dioxide and water

A fructose

B sucrose

C galactose

D glucose

Answer: D

Question 35

What is India's rank in 2019 World Happiness Report?

A 160th

B 130th

C 150th

D 140th

Answer: D

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Question 36

_____ is the oldest golf course outside the United Kingdom.

A Royal Calcutta Golf Club, Kolkata

B Royal Springs Golf Course, Srinagar

C Classic Golf Resort, New Delhi

D Tollygunge Golf Club, Kolkata

Answer: A

Question 37

Article _____ of the Constitution of India gives the Election Commission the power to supervise elections to the Parliament and state legislatures.

A 341

B 342

C 314

D 324

Answer: D

Question 38

Who amongst the following succeeded the Mughal throne in the year 1556?

- A Shah Jahan
- B Jehangir
- C Akbar
- D Sher Shah Suri

Answer: C

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Question 39

_____ is the oldest member of the 16th Lok Sabha.

- A Murli Manohar Joshi
- B Lal Krishna Advani
- C Farooq Abdullah
- D Ram Jethmalani

Answer: B

Question 40

Which one of the following was NOT a condition laid down in the Gandhi-Irwin Pact?

- A The Indian National Congress should stop the civil disobedience movement
- B Withdrawal of tax on khadi production
- C Participation in the Round Table Conference by the Indian National Congress
- D Removal of salt tax; allowing to produce, trade and sell legally

Answer: B

Question 41

The _____ was a group of seven Members of Parliament from the United Kingdom, constituted to suggest constitutional reforms for British India.

- A Simon Commission
- B Sargent Commission
- C Fraser Commission
- D Hunter Commission

Answer: A

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Question 42

Which of the following is **NOT** a vocal form of Hindustani classical music?

- A Pakhawaj
- B Drupad
- C Dhamar
- D Tarana

Answer: A

Question 43

The Khajuraho Temples are located in the state of ____.

- A Madhya Pradesh
- B Andhra Pradesh
- C Uttar Pradesh
- D Uttarakhand

Answer: A

Question 44

The National Board for Micro, Small and Medium Enterprises meets **once** every ____ months in a year.

- A 1.9
- B 2.3
- C 3.2
- D 4.6

Answer: D

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Question 45

Varkala, Chowara, Chavakkad and Nattika are beaches in the state of ____.

- A Tamil Nadu
- B Maharashtra
- C Karnataka
- D Kerala

Answer: D

Question 46

Who was the first woman judge of the Delhi High Court?

- A Leila Seth
- B Sujata Manohar
- C Ruma Pal
- D Anna Chandi

Answer: A

Question 47

Which of the following acid found in Apple?

- A Formic Acid
- B Sulphuric Acid
- C Malic Acid
- D Nitric Acid

Answer: C

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Question 48

The Banking Regulation Act was passed in India in ____.

- A 1974
- B 1949
- C 1951
- D 1965

Answer: B

Question 49

Which of the following is NOT a symptom of Wilson's disease?

- A Uncontrolled movements or muscle stiffness
- B Problems with speech, swallowing or physical coordination
- C Fluid build-up in the legs or abdomen
- D Night blindness

Answer: D

Question 50

Who became the first Indian golfer to win on the 'Ladies European Tour' in 2016?

- A Aditi Ashok
- B Diksha Dagar

- C Vani Kapoor
- D Gursimar Badwal

Answer: A

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Quant

Instructions

For the following questions answer them individually

Question 51

The radii of three concentric circles are in the ratio of 4 : 5 : 7. What is the ratio of the area between the two inner circles to that between the two outer circles?

- A 3:8
- B 4:7
- C 5:9
- D 4:5

Answer: A

Explanation:

Step-by-step explanation:

The ratio of radii of the three concentric circles is 4 : 5 : 7

Let x be the common multiple. Then the radii of the three circles be $4x$, $5x$ and $7x$

Of these $4x$ and $5x$ radii circles lie in inner position and $5x$ and $7x$ radii circles lie in outer position.

Then the area between the inner circles is

$$= \pi (5x)^2 - \pi (4x)^2 \text{ unit}^2$$

$$= (25 - 16)\pi x^2 \text{ unit}^2$$

$$= 9\pi x^2 \text{ unit}^2$$

and the area between the outer circles is

$$= \pi (7x)^2 - \pi (5x)^2 \text{ unit}^2$$

$$= (49 - 25)\pi x^2 \text{ unit}^2$$

$$= 24\pi x^2 \text{ unit}^2$$

Therefore the ratio of the areas between the two inner circles to that between the two outer circles is

$$= 9\pi x^2 : 24\pi x^2$$

$$= 3 : 8$$

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Question 52

If $(1 + \tan^2 \theta) + (1 + (\tan^2 \theta)^{-1}) = k$, then $\sqrt{k} = ?$

- A cosec θ cos θ
- B sin θ cos θ

C $\operatorname{cosec} \theta \sec \theta$

D $\sin \theta \sec \theta$

Answer: C

Explanation:

$$(1 + \tan^2 \theta) + (1 + (\tan^2 \theta)^{-1}) = k$$

= where θ is replaced by x

use this identity to solve this problem $\tan x = \frac{\sin x}{\cos x}$

from the question

$$= (1 + \frac{\sin^2 x}{\cos^2 x}) + (1 + \frac{1}{\tan^2 x}) = k$$

$$= (\frac{\cos^2 x + \sin^2 x}{\cos^2 x}) + (1 + \frac{1}{\sin^2 x \div \cos^2 x}) = k$$

= use this trigonometric identity $\cos^2 \theta + \sin^2 \theta = 1$

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

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

$$= (\frac{1}{\cos^2 x}) + (\frac{1}{\sin^2 x}) \text{ take the order of this then}$$

= on further simplification it becomes

$$= (\frac{\cos^2 x + \sin^2 x}{\cos^2 x \times \sin^2 x}) = k$$

$$= (\frac{1}{\cos^2 x \times \sin^2 x}) = k$$

we need to find \sqrt{k} hence after squaring we get = $\frac{1}{\cos x \times \sin x}$

where $\frac{1}{\cos x} = \sec x$ AND $\frac{1}{\sin x} = \operatorname{cosec} x$ from the trigonometric inverse functions

Hence the solution is $\operatorname{cosec} x \sec x$

Question 53

If $3\sqrt{3}x^3 - 2\sqrt{2}y^3 = (\sqrt{3}x - \sqrt{2}y)(Ax^2 + By^2 + Cxy)$, then the value of $(A \times B) \div C$ is:

A $6\sqrt{6}$

B $6\sqrt{3}$

C $\sqrt{3}$

D $\sqrt{6}$

Answer: D

Question 54

To do a certain work, the ratio of the efficiencies of A, B and C is 7 : 5 : 6. Working together, they can complete the same work in 35 days. B and C work together for 21 days. The remaining work will be completed by A alone in:

A 54 days

B 50 days

C 60 days

D 57 days

Answer: D

Explanation:

the ratio of the efficiencies of A, B and C is 7 : 5 : 6

(A+B+C)'s working together can complete the work in 35 days is

$$= \frac{1}{x \div 7} + \frac{1}{x \div 5} + \frac{1}{x \div 6} = \frac{1}{35}$$

$$= \frac{7}{x} + \frac{5}{x} + \frac{6}{x} = \frac{1}{35}$$

$$\frac{18}{x} = \frac{1}{35}$$

$$x=630$$

$$\text{B work is} = \frac{5}{x} = \frac{5}{630} = \frac{1}{126}$$

$$\text{C work is} = \frac{6}{x} = \frac{6}{630} = \frac{1}{105}$$

$$\text{(B+C)' 1 days work} = \frac{1}{126} + \frac{1}{105}$$

Take the orderes of 105 and 126 is 630 hence

$$= \frac{5+6}{630}$$

$$= \frac{11}{630}$$

$$\text{21 days work of (B+C)} = \frac{11}{630} \times 21$$

$$= \frac{11}{30}$$

$$\text{Remaining work} = 1 - \frac{11}{30}$$

$$\text{Remaining work} = \frac{19}{30}$$

$$\text{A's 1 days work} = \frac{7}{x} = \frac{7}{630} = \frac{1}{90}$$

$$\text{A's 1 days work} = \frac{1}{90}$$

$$\text{The remaining work will be completed by A alone in} = \frac{19}{30} \times 90$$

$$y=57 \text{ days}$$

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Question 55

In a circle with center O and radius 10 cm, PQ and RS are two parallel chords of lengths x cm and 12 cm, respectively, and both the chords are on the opposite side of O. If the distance between PQ and RS is 14 cm, the value of x is:

A 16

B 15

C 20

D 18

Answer: A

Question 56

$$\left(\frac{1}{1+\sin^2 \theta} + \frac{1}{1+\operatorname{cosec}^2 \theta} \right) =$$

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

B 2

C 1

D $\sin^2 \theta$

Answer: C

Explanation:

$$\left(\frac{1}{1+\sin^2 \theta} + \frac{1}{1+\operatorname{cosec}^2 \theta} \right)$$

where $\operatorname{Cosec}(t) = \frac{1}{\sin t}$ transform the expression

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

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

$= \frac{1}{1+\sin^2 t} + \frac{\sin^2 t}{\sin^2 t} + 1$ take the orders of this then reduce simplification is

$$= \frac{1+\sin^2 t}{1+\sin^2 t}$$

= 1

Question 57

In $\triangle ACE$, B and D are the points on side AC and CE, respectively, such that $BD \parallel AE$ and $AE = \frac{8}{3} BD$. What is the ratio of the area of $\triangle BDC$ to that of $\triangle AEC$?

A 9 : 16

B 9 : 64

C 3 : 8

D 8 : 11

Answer: B

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Question 58

The value of $\frac{1}{\sin \theta} - \frac{\cot^2 \theta}{1+\operatorname{cosec} \theta}$ is:

A 2

B 0

C -1

D 1

Answer: D

Explanation:

$$\frac{1}{\sin \theta} - \frac{\cot^2 \theta}{1 + \operatorname{cosec} \theta}$$

where θ is replaced by t

Using $\cot(t) = \frac{\cos t}{\sin t}$ and $\operatorname{cosec} = \frac{1}{\sin t}$

$$\frac{1}{\sin t} - \frac{\cot^2 t}{1 + \operatorname{cosec} t}$$

$$\frac{1}{\sin t} - \frac{\cos^2 t \div \sin^2 t}{1 + (1 \div \sin t)}$$

$$\frac{1}{\sin t} - \frac{\cos^2 t \div \sin^2 t}{(\sin t + 1) \div \sin t}$$

$$\frac{1}{\sin t} - \frac{\cos^2 t}{\sin^2 t} \times \frac{\sin t}{\sin t + 1}$$

$$\frac{1}{\sin t} - \frac{\cos^2 t}{\sin t(\sin t + 1)}$$

use this identity $\cos^2 \theta + \sin^2 \theta = 1$

$$\text{hence } \frac{1}{\sin t} - \frac{1 - \sin^2 t}{\sin t(\sin t + 1)}$$

Use this identity $(a^2 - b^2) = (a+b)(a-b)$

$$= \frac{1}{\sin t} - \frac{(1 + \sin t)(1 - \sin t)}{\sin t(\sin t + 1)}$$

$$= \frac{1}{\sin t} - \frac{1 - \sin t}{\sin t}$$

$$= \frac{1 - (1 - \sin t)}{\sin t}$$

$$= \frac{1 - (1 + \sin t)}{\sin t}$$

$$= \frac{\sin t}{\sin t}$$

$$= 1$$

Question 59

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

Year →	2013	2014	2015	2016	2017
Car ↓					
A	48	47	50	61	64
B	47	55	58	54	66
C	52	58	62	66	72
D	60	53	56	65	66
E	43	47	54	64	62

The total production of type B cars during 2013 to 2016 is approximately what percent less than the total production of cars in 2017?

- A 38%
- B 32%
- C 40%
- D 35%

Answer: D

Explanation:

The total production of type B cars during 2013 to 2016 is = $47 + 55 + 58 + 54 = 214$

the total production of cars in 2017 = $64 + 66 + 72 + 66 + 62 = 330$

percent less than the total production is $\frac{330 - 214}{330} \times 100$

= 35.15%

Question 60

A train travelling at 44 km/h crosses a man walking with a speed of 8 km/h, in the same direction, in 15 seconds. If the train crosses a woman coming from the opposite direction in 10 seconds, then what is the speed (in km/h) of the woman?

- A 10
- B 9
- C 8.5
- D 10.5

Answer: A

General Science Notes for SSC CGL

Question 61

The average of eleven numbers is 54. The average of the first four numbers is 48 and that of the next four numbers is 25% more than the average of the first four. The ninth number is 8 greater than the 11th number and the tenth number is 4 greater than the 11th number. What is the average of the 9th and the 10th numbers?

- A 52.6
- B 54
- C 56
- D 54.4

Answer: C

Question 62

PQRS is a cyclic quadrilateral. If angle P is three times the angle R and angle S is five times the angle Q, then the sum of the angles Q and R is:

- A 65°
- B 75°
- C 72°
- D 70°

Answer: B

Explanation:

By the formation of cyclic quadrilateral we know the sum of opposite angles is 180.

$$P+R=180 \text{---<1>}$$

So putting the value of P and R we get,

$$3x+x=180, \text{ i.e } x=45 \text{ degree}$$

$$\text{and } Q+S=180 \text{---<2>}$$

$$\text{then, } 5y+y=180, \text{ i.e } y=30 \text{ degree}$$

So P=135 degree, Q=30 degree, R=45 degree, S=150 degree.

$$Q+R=45+30=75^\circ$$

Question 63

Sudha saves 15% of her income. If her expenditure increases by 20% and savings increase by 60%, then by what percent has her income increased?

- A 24
- B 30
- C 26
- D 35

Answer: C

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Question 64

If $a + b + c = 2$, $a^2 + b^2 + c^2 = 26$, then the value of $a^3 + b^3 + c^3 - 3abc$ is:

- A 71
- B 74
- C 78
- D 69

Answer: B

Explanation:

By using this formula we can solve

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

by using given data we can write has

$$2^2 = 26 + 2(ab + bc + ca)$$

$$4 - 26 \div 2 = (ab + bc + ca)$$

$$-22 \div 2 = (ab + bc + ca)$$

$$(ab + bc + ca) = -11$$

$$a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$$

where $(a + b + c) = 2$

$$a^2 + b^2 + c^2 = 26$$

$$\text{and } (ab + bc + ca) = -11$$

Hence by applying to the formula

$$= 2 \times (26 - (-11))$$

$$= 2 \times (26 + 11)$$

$$= 2 \times (37)$$

$$= 74$$

Instructions

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

Year → Car ↓	2013	2014	2015	2016	2017
A	48	47	50	61	64
B	47	55	58	54	66
C	52	58	62	66	72
D	60	53	56	65	66
E	43	47	54	64	62

Question 65

The total production of type B cars in 2015 and type C cars in 2013 is what percent more than the total production of type E cars in 2013 and 2014 ? (Correct to one decimal place)

- A 23.4
- B 24.8
- C 25.6
- D 22.2

Answer: D

Explanation:

The total production of type B cars in 2015 and type C cars in 2013 is = $58 + 52 = 110$

the total production of type E cars in 2013 and 2014 = $43 + 47 = 90$

hence use this formula **Increase in percentage (%)** = $\frac{110-90}{90} \times 100$

= hence use this formula **Increase in percentage (%)** = $\frac{20}{90} \times 100$

= 22.22%

Question 66

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 the cars in 2016 will be:

- A 78°
- B 72°
- C 79.2°
- D 67.2°

Answer: A

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Instructions

For the following questions answer them individually

Question 67

If a 10-digit number $2094x843y2$ is divisible by 88, then the value of $(5x-7y)$ for the largest possible value of x, is:

- A 3
- B 5

C 2

D 6

Answer: B

Question 68

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

Year →	2013	2014	2015	2016	2017
Car ↓					
A	48	47	50	61	64
B	47	55	58	54	66
C	52	58	62	66	72
D	60	53	56	65	66
E	43	47	54	64	62

The ratio of the total production of type A cars in 2017 and type D cars in 2015 to the total production of type B and type E cars in 2013 is:

A 7 : 8

B 4 : 3

C 8 : 7

D 3 : 4

Answer: B

Explanation:

The ratio of the total production of type A cars in 2017 and type D cars in 2015 = $64 + 56 = 120$

the total production of type B and type E cars in 2013 = $47 + 43 = 90$

hence $\frac{2017(\text{typeA})+(2015\text{typeD})}{2013\text{typeB}+2013\text{typeE}}$

$$\frac{64+56}{47+43}$$

$$= \frac{120}{90}$$

= by simplifying we get 4 : 3

Question 69

If $a + \frac{1}{a} = 3$, then $(a^4 + \frac{1}{a^4})$ is equal to:

A 81

B 47

C 27

D 77

Answer: B

Explanation:

Given

$$a + \frac{1}{a} = 3$$

using the formula $(a + b)^2 = a^2 + b^2 + 2 \times a \times b$

$$(a + \frac{1}{a})^2 = (a^2 + \frac{1}{a^2}) + 2 \times a \times \frac{1}{a}$$

$$3^2 = (a^2 + \frac{1}{a^2}) + 2$$

$$(a^2 + \frac{1}{a^2}) = 9 - 2$$

$$(a^2 + \frac{1}{a^2}) = 7$$

again use the same formula to the above solutions we can get final answer $(a + \frac{1}{a})^2 = a^2 + \frac{1}{a^2} + 2 \times a \times \frac{1}{a}$

$$(a^2 + \frac{1}{a^2})^2 = (a^4 + \frac{1}{a^4}) + 2 \times a^2 \times \frac{1}{a^2}$$

$$7^2 = (a^4 + \frac{1}{a^4}) + 2$$

$$49 - 2 = (a^4 + \frac{1}{a^4})$$

$$\text{therefore } (a^4 + \frac{1}{a^4}) = 47$$

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Question 70

If $\frac{\cos \theta}{1 - \sin \theta} + \frac{\cos \theta}{1 + \sin \theta} = 4$, $0^\circ < \theta < 90^\circ$, then the value of $(\tan \theta + \operatorname{cosec} \theta)$ is:

A $\frac{5\sqrt{2}}{2}$

B $\frac{5\sqrt{2}}{3}$

C $\frac{5\sqrt{3}}{3}$

D $\frac{4\sqrt{3}}{3}$

Answer: C

Question 71

The area of a $\triangle ABC$ is one unit. DE is a straight line parallel to BC, joining the points D and E on AB and AC respectively such that AD : DB = 1 : 6. The ratio of the areas of the triangles ADE and ABC is:

A 1 : 6

B 1 : 36

C 1 : 7

D 1 : 49

Answer: D

Question 72

The value of $16 \div 4 \text{ of } 4 \times [3 \div 4 \text{ of } \{4 \times 3 \div (3 + 3)\}] \div (2 \div 4 \text{ of } 8)$ is:

A 6

B 48

C 9

D 16

Answer: A

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Question 73

In $\triangle ABC$, D is a point on AC such that $AB = BD = DC$. If $\angle BAD = 70^\circ$, then the measure of $\angle B$ is:

- A 75°
- B 82°
- C 80°
- D 70°

Answer: A

Question 74

A person borrowed a certain sum at 10% p.a. for three years, interest being compounded annually. At the end of two years, he repaid a sum of ₹6,634 and at the end of the third year, he cleared off the debt by paying ₹13,200. What was the sum borrowed by him?

- A ₹16,400
- B ₹15,600
- C ₹15,400
- D ₹16,500

Answer: C

Question 75

Some fruits are bought at a rate of 11 for ₹100 and an equal number at a rate of 9 for ₹100. If all the fruits are sold at a rate of 10 for ₹100, then what is the gain or loss percent in the entire transaction?

- A Gain, 1%
- B Loss, 5%
- C Gain, 5%
- D Loss, 1%

Answer: D

Explanation:

We know that CP is cost price

SP is selling price

In first condition

CP of 11 toffee = ₹10

CP of 1 fruits = ₹ $\left(\frac{10}{11}\right)$

in second condition

CP of 9 fruits = ₹ 10

CP of fruits = ₹ $\left(\frac{10}{9}\right)$

therefore, CP of both fruits = ₹ $\frac{10}{11} + ₹ \frac{10}{9}$

= ₹ $\frac{200}{99}$

so, cp of 1 = $\frac{200}{99} \div 2$

Cost price = ₹ $\frac{100}{99}$

sp of 1 fruits = ₹ 1 (given)

loss = cost price - selling price

= $\frac{100}{99} - 1$

Loss = ₹ $\frac{1}{99}$

loss percentage = $\frac{\text{loss}}{\text{cost price}} \times 100$

loss (%) = $\frac{1 \div 99}{100 \div 99} \times 100$

loss percent = 1% loss

= 1 percent loss

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English

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:

Canada is three times the size of India (1)_____ its population is only about 26 million. The average (2)_____ of population is less than three persons per square kilometer (3)_____ Canada. The distribution of population is highly (4)_____. Nearly 80 per cent of the people (5)_____ in a narrow belt less than 300 kilometer wide along the southern border. The rest of the country has a very sparse population due to excessive cold.

Question 76

Select the most appropriate option for blank No. 1

- A so
- B because
- C but
- D until

Answer: C

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Question 77

Select the most appropriate option for blank No. 2

- A density
- B frequency
- C consistency

D quantity

Answer: A

Question 78

Select the most appropriate option for blank No. 3

A on

B into

C at

D in

Answer: D

Question 79

Select the most appropriate option for blank No. 4

A rough

B differing

C uneven

D infrequent

Answer: C

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Question 80

Select the most appropriate option for blank No. 5

A live

B survive

C subsist

D remain

Answer: A

Instructions

For the following questions answer them individually

Question 81

In the sentence identify the segment which contains the grammatical error.

We will rest for sometime when we will reach the top

A We will rest

B for sometime

C when we will

D reach the top

Answer: C

Question 82

Select the wrongly spelt word.

A reminascent

B remnant

C remittance

D remembrance

Answer: A

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Question 83

Select the most appropriate word to fill in the blank.

A painting competition was held in the colony and Kavya was _____ winner in the age group 3-5 years.

A described

B supposed

C declared

D publicized

Answer: C

Question 84

Select the most appropriate meaning of the given idiom.
butterflies in the stomach

A being excited

B being hungry

C being nervous

D being angry

Answer: C

Question 85

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

They didn't see you, is it ?

A wasn't it

B did they

C no improvement

D have they

Answer: B

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Question 86

Select the most appropriate meaning of the given idiom.
out of the woods

A no longer in trouble

B no longer young

C no longer in sight

D no longer famous

Answer: A

Question 87

Select the word which means the same as the group of words given.
A person appointed by two parties to resolve a dispute

A arbitrator

B broker

C valuer

D auditor

Answer: A

Question 88

Select the synonym of the given word.
DRAG

A push

B rush

C rest

D pull

Answer: D

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Question 89

In the sentence identify the segment which contains the grammatical error.
The river Yamuna has many non-native species like goldfish that is affecting its eco-system.

A that is affecting

B its eco-system

- C The river Yamuna
- D has many non-native species

Answer: A

Question 90

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

- A. It is one of the highly developed countries of the world.
- B. It stretches from the Atlantic Ocean in the east to the Pacific Ocean in the west.
- C. The USA consists of 50 states including Alaska and Hawaii.
- D. The United States of America (USA) is the 4th largest country in the world.

- A ADCB
- B CBDA
- C DBCA
- D CBAD

Answer: C

Question 91

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

- A. What was supposed to be a holiday of a lifetime turned into a dangerous experience for 1,300 passengers on a cruise ship off the coast of Norway.
- B. The Norwegian Government decided to evacuate the passengers with the help of helicopters.
- C. The ship broke down in rough seas and high-speed winds caused it to rock heavily from side to side.
- D. From the first 371 evacuated passengers, 17 had to be taken to hospital.

- A ABCD
- B ACBD
- C CBDA
- D CABD

Answer: B

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Question 92

Select the wrongly spelt word.

- A hazy
- B hazard
- C hasty
- D hasitate

Answer: D

Question 93

Select the synonym of the given word.

ENGULF

- A encroach
- B enshrine
- C entangle
- D envelop

Answer: D

Question 94

Select the antonym of the given word.

COMIC

- A awkward
- B amusing
- C tragic
- D absurd

Answer: C

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Question 95

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

a family of young animals

- A brood
- B clutch
- C nest
- D offspring

Answer: A

Question 96

Select the correct passive form of the given sentence.

Show these visitors the butterfly farm.

- A These visitors should be showed the butterfly farm
- B Let these visitors be shown the butterfly farm
- C Let these visitors be showing the butterfly farm
- D You must show these visitors the butterfly farm

Answer: B

Question 97

Select the antonym of the given word.

GATHER

- A disperse
- B display
- C dispute
- D distract

Answer: A

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Question 98

Select the most appropriate word to fill in the blank.

The National war memorial is _____ to our Armed Forces.

- A devoted
- B honoured
- C dedicated
- D inscribed

Answer: C

Question 99

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

We had never seen so strong blizzard. The wind speed was 130 km per hour .

- A no improvement
- B such strong a blizzard
- C such a strong blizzard
- D so strong the blizzard

Answer: C

Question 100

Select the correct active form of the given sentence.

The injured were being removed to the hospital by the police

- A The police was removing the injured to the hospital
- B The police has been removing the injured to the hospital.
- C The police removed the injured to the hospital
- D The injured was removing the police to the hospital.

Answer: A

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