

2017 SSC CGL 18 Aug Shift-1

General Awareness

Instructions

For the following questions answer them individually

Question 1

The closest example of a centrally planned economy is the _____ for the major part of the 20th Century.

- A USA
- B India
- C Soviet Union
- D Japan

Answer: C

Question 2

_____ is the relationship between the variable input and output, keeping all other inputs are held constant.

- A Total product
- B Average product
- C Isoquant
- D The Long Run

Answer: A

Question 3

_____ means cases that can be directly considered by the Supreme Court without going to the lower courts before that.

- A Original Jurisdiction
- B Writ Jurisdiction
- C Appellate Jurisdiction
- D Advisory Jurisdiction

Answer: A

Question 4

Under which of the following jurisdiction can any individual, whose fundamental right has been violated, can directly move the Supreme Court for remedy?

- A Original Jurisdiction
- B Writ Jurisdiction
- C Appellate Jurisdiction

D Advisory Jurisdiction

Answer: B

Question 5

During their rule the British persuaded or forced cultivators in Bengal to grow _____.

A Jute

B Tea

C Sugarcane

D Wheat

Answer: A

Question 6

The Mongols under _____ invaded Transoxiana in north-east Iran in 1219.

A Timur Lang

B Nadir Shah

C Ahmed Shah Abdali

D Genghis Khan

Answer: D

Question 7

In the biosphere living beings are inter-related and interdependent on each other for survival. This life supporting system is known as the _____.

A Ecosystem

B Mountain range

C Forest

D Atmosphere

Answer: A

Question 8

The part of the Himalayas between Tista and Dihang rivers is known as _____ Himalayas.

A Nepal

B Kashmir

C Assam

D Jammu

Answer: C

Question 9

Other name of Platelets is?

A Leucocytes

B Erythrocytes

C Platelets

D Thrombocytes

Answer: D

Question 10

In stems, the protoxylem lies towards the centre and the metaxylem lies towards the periphery of the organ. This type of primary xylem is called _____.

A Xylem fibres

B Xylem parenchyma

C Exarch

D Endarch

Answer: D

Question 11

Which is the second largest animal phylum?

A Mollusca

B Chordata

C Coelomates

D Anneldia

Answer: A

Question 12

In a qualitative way, the tendency of undisturbed objects to stay at rest or to keep moving with the same velocity is called _____.

A force

B acceleration

C friction

D inertia

Answer: D

Question 13

The time taken by a pendulum to complete one oscillation is called its?

- A** Maximum speed
- B** Average speed
- C** Time period
- D** Time interval

Answer: C

Question 14

'Teach Text' is a text editor in which of the following operating systems?

- A** Windows
- B** Google Chrome
- C** Mozilla Firefox
- D** Macintosh

Answer: D

Question 15

Metals react with sodium hydroxide to produce _____.

- A** oxygen gas
- B** sodium
- C** water
- D** hydrogen gas

Answer: D

Question 16

Which base is present in lime water?

- A** Sodium hydroxide
- B** Magnesium hydroxide
- C** Calcium hydroxide
- D** Ammonium hydroxide

Answer: C

Question 17

Presence of large amounts of nutrients in waters also causes excessive growth of _____ algae.

- A** Biomagnification
- B** Algal bloom
- C** planktonic
- D** Eutrophication

Answer: C

Question 18

_____ scheme launched by the Central Government plans to issue soil cards to farmers which will carry crop-wise recommendations of nutrients and fertilisers.

- A** Soil Health Card
- B** Shyama Prasad Mukherji Rurban Mission
- C** Pradhan Mantri Fasal Bima Yojana
- D** National R-URBAN Mission

Answer: A

Question 19

Who invented the electric tram?

- A** James Cook
- B** William Harvey
- C** Fyodor Pirotsky
- D** Robert Boyles

Answer: C

Question 20

Who was the 2015 Men's Rugby World Cup Winner?

- A** New Zealand
- B** South Africa
- C** Australia
- D** England

Answer: A

Question 21

Indian Mughal paintings originated during the rule of which Mughal Emperor?

- A** Humayun
- B** Akbar
- C** Jahangir
- D** Shah Jahan

Answer: A

Question 22

Which of the following won the Best Film in 62nd Filmfare Awards 2017?

- A** Dangal
- B** Rustom
- C** Airlift
- D** Udta Punjab

Answer: A

Question 23

Which of the statements given below are correct?

- 1.** The author of the novel 'Forty Thieves' is Thomas Perry.
- 2.** The author of the novel 'Half of a Yellow Sun' is Jennifer Egan.
- 3.** The author of the novel 'Middlesex' is Chimamanda Ngozi Adichie.

- A** 1 and 2
- B** 2 and 3
- C** 1 and 3
- D** 1, 2 and 3

Answer: B

Question 24

What was USA's rank in 2016 Human Development Index published by the United Nations Development Programme?

- A** 1
- B** 10
- C** 100
- D** 200

Answer: B

Question 25

The Delhi - Lahore Bus is officially known as _____.

- A Sada-e-Sarhad
- B Maitree bus
- C Yaad-e-Shaheed
- D Dosti bus

Answer: A

Reasoning

Instructions

For the following questions answer them individually

Question 26

Select the related word from the given alternatives.

Square : 90° :: Equilateral triangle : ?

- A 30°
- B 60°
- C 90°
- D 120°

Answer: B

Explanation:

Expression = Square : 90° :: Equilateral triangle : ?

All the angles of a square are equal to 90° , similarly all the angles of an equilateral triangle are equal to 60°

=> Ans - (B)

Question 27

Select the related letters from the given alternatives.

ILN : FIK :: RUW : ?

- A ORT
- B PSU
- C NQS
- D LNQ

Answer: A

Explanation:

Expression = ILN : FIK

The pattern followed is :

I	L	N
(-3)	(-3)	(-3)
F	I	K

Similarly, for RUW :

R	U	W
(-3)	(-3)	(-3)
O	R	T

=> Ans - (A)

Question 28

Select the related number from the given alternatives.

99 : 101 :: 100 : ?

- A 90
- B 110
- C 111
- D 102

Answer: D

Explanation:

Expression = 99 : 101 :: 100 : ?

The pattern followed is = $n : n + 2$

Eg = 99 : 99 + 2 = 99 : 101

Similarly, 100 + 2 = 102

=> Ans - (D)

Question 29

Select the odd word from the given alternatives.

- A Football
- B Hockey
- C Carrom
- D Cricket

Answer: C

Explanation:

Football, hockey and cricket are outdoor games while carrom is an indoor game, hence it is the odd one out.

=> Ans - (C)

Question 30

Select the odd letters from the given alternatives.

- A ACE
- B FHJ
- C QTW
- D KMO

Answer: C

Explanation:

(A) : A (+2 letters) = C (+2 letters) = E

(B) : F (+2 letters) = H (+2 letters) = J

(C) : Q (+3 letters) = T (+3 letters) = W

(D) : K (+2 letters) = M (+2 letters) = O

=> Ans - (C)

Question 31

Select the odd number from the given alternatives.

- A 121
- B 44
- C 66
- D 111

Answer: D

Explanation:

Apart from 111, all other numbers are divisible by 11.

=> Ans - (D)

Question 32

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

tub, size, latin, formal, ?

- A smooth
- B idle
- C scramble
- D capital

Answer: D

Explanation:

Expression : tub, size, latin, formal, ?

The pattern is that in each word, number of letters are increasing = 3,4,5,6

Now, the next word must contain 7 letters. Among the option, the word with seven letters is **Capital**.

=> Ans - (D)

Question 33

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

YXWv, TSrQ, OnML, jIHG, EDCb, ?

- A YXwV
- B ZYxW
- C XwVU
- D YxWV

Answer: B

Explanation:

Expression : YXWv, TSrQ, OnML, jIHG, EDCb, ?

The alphabets are written in reverse order in groups of 4. Also, after each term, one letter (next in order) is omitted. One letter is written in small in each term and it gets shifted one place to the left after each term.

Thus, after 'b', the next omitted term is 'a' in reverse order.

Also, the second letter from end will be in small and rest will be capital.

Thus, missing term = **ZYxW**

=> Ans - (B)

Question 34

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

2, 5, 10, 17, ? , 37

- A 24
- B 30
- C 32
- D 26

Answer: D

Explanation:

Consecutive odd numbers are added.

$$2 + 3 = 5$$

$$5 + 5 = 10$$

$$10 + 7 = 17$$

$$17 + 9 = \mathbf{26}$$

$$26 + 11 = 37$$

=> Ans - (D)

Question 35

Gurkiran's birthday is on Sunday 21st May. On what day of the week will be Shreyas's Birthday in the same year if Shreyas was born on 14th November?

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

Answer: A

Explanation:

According to the question, 21st May is Sunday

Number of days left in May = $31 - 21 = 10$

Similarly, odd days from 21st May till 14th November = $(10 + 30 + 31 + 31 + 30 + 31 + 14) \% 7$

= $3 + 2 + 3 + 3 + 2 + 3 + 0 = 16$

Now, dividing 16 by 7, remainder = 2

Thus, day on 14th November = Sunday (+2) = Tuesday

=> Ans - (A)

Question 36

The weights of 4 boxes are 40, 70, 80 and 50 kilograms. Which of the following cannot be the total weight, in kilograms, of any combination of these boxes and in a combination a box can be used only once

- A 240
- B 160
- C 200
- D 220

Answer: D

Explanation:

Weights of 4 boxes = 40, 70, 80 and 50 kilograms

(A) : $240 = 40 + 50 + 70 + 80$

(B) : $160 = 40 + 50 + 70$

(C) : $200 = 50 + 70 + 80$

(D) : $220 =$ not possible

=> Ans - (D)

Question 37

From the given words, select the word which cannot be formed using the letters of the given word.

THUMBING

- A THING
- B MIGHT
- C HAUNT
- D THUMB

Answer: C

Explanation:

The word THUMBING does not contain any 'A', and thus the word 'Haunt' cannot be formed.

=> Ans - (C)

Question 38

If HUMBLED is coded as JWODNGF, then how will WAX be coded as?

A DHP

B YCZ

C VIS

D JMH

Answer: B

Explanation:

HUMBLED is coded as JWODNGF

The pattern followed is :

H	U	M	B	L	E	D
(+2)	(+2)	(+2)	(+2)	(+2)	(+2)	(+2)
J	W	O	D	N	G	F

Similarly, for WAX :

W	A	X
(+2)	(+2)	(+2)
Y	C	Z

=> Ans - (B)

Question 39

In a certain code language, '+' represents 'x', '-' represents '+', 'x' represents '÷' and '÷' represents '-'. What is the answer to the following question?

$$60 \times 5 + 3 \div 24 - 6 = ?$$

A 18

B 94

C 9

D 57

Answer: A

Explanation:

$$\text{Expression} = 60 \times 5 + 3 \div 24 - 6 = ?$$

$$\equiv 60 \div 5 \times 3 - 24 + 6$$

$$= (12 \times 3) - 18$$

$$= 36 - 18 = 18$$

=> Ans - (A)

Question 40

If $9@3=12$; $15@4=22$; $16@14=4$; then what is the value of $6@2=?$

- A 26
- B 1
- C 30
- D 8

Answer: D

Explanation:

The pattern followed is for $a@b = (a - b) \times 2$

Eg = $9@3 = (9 - 3) \times 2 = 6 \times 2 = 12$

and $15@4 = (15 - 4) \times 2 = 11 \times 2 = 22$

and $16@14 = (16 - 14) \times 2 = 2 \times 2 = 4$

Similarly, $6@2 = (6 - 2) \times 2 = 4 \times 2 = 8$

=> Ans - (D)

Question 41

Select the missing number from given responses

3	4	2	14
6	5	4	44
5	2	7	?

- A 58
- B 14
- C 49
- D 4

Answer: C

Explanation:

In each row, the number at the end is obtained by multiplying the sum first two numbers with the third number.

Eg : $(3 + 4) \times 2 = 7 \times 2 = 14$

and $(6 + 5) \times 4 = 11 \times 4 = 44$

Similarly, $(5 + 2) \times 7 = 7 \times 7 = 49$

=> Ans - (C)

Question 42

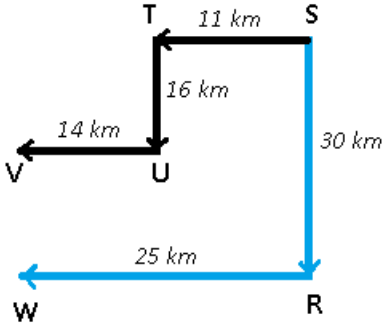
Two motorcyclists P and Q start from the same point. P rides 11 km West, then turns South and rides 16 km, then turns to his right and rides 14 km. Q rides 30 km South, then turns to his right and rides 25 km. Where is Q with respect to P now?

- A 14 km North

- B** 14 km South
- C** 44 km South
- D** 44 km North

Answer: B

Explanation:



Let both P and Q start from point S. The path of P is represented by black colour and Q's path by blue.

P rides 11 km west and reaches T, and then rides 16 km towards south till point U and finally stops at point V.

Similarly, Q rides 30 km south and reaches R and finally stops at point W after travelling 25 km towards west.

Thus, $VW = 30 - 16 = 14$ km

\therefore Q is 14 km to the south of P.

\Rightarrow Ans - (B)

Question 43

In the question a statement is given, followed by two arguments, I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given arguments, if any, is a strong argument.

Statement : Should mango export be banned to bring down domestic prices?

Argument I : Yes, environmentalists and dietitians too encourage eating only local fruits.

Argument II : No, exports bring in valuable foreign currency.

- A** if only argument I is strong.
- B** if only argument II is strong.
- C** if both I and II are strong.
- D** if neither I nor II is strong.

Answer: B

Explanation:

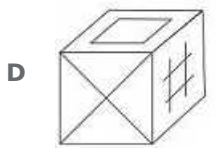
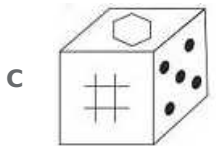
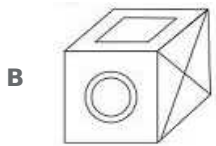
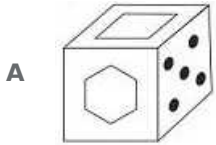
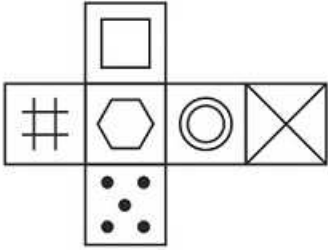
The environmentalists and dietitians do not have any major impact on the export of goods, hence first argument is a weak one. But, in the second argument, it is stated that exports bring in valuable foreign currency that can decide whether or not export of mangoes should be banned or not.

Thus, only argument II is strong.

\Rightarrow Ans - (B)

Question 44

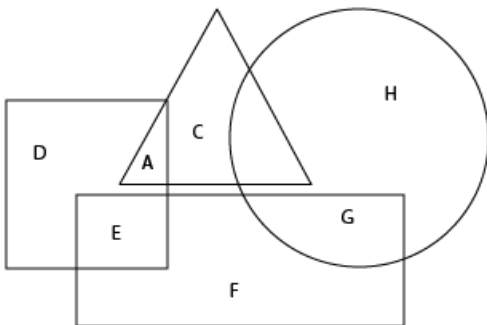
Which of the following cube in the answer figure cannot not be made based on the unfolded cube in the question figure



Answer: A

Question 45

In the following figure, square represents Psychologists, triangle represents Chemists, circle represents Actors and rectangle represents Fathers. Which set of letters represents Psychologists and actors who are also fathers?



A G,D,A

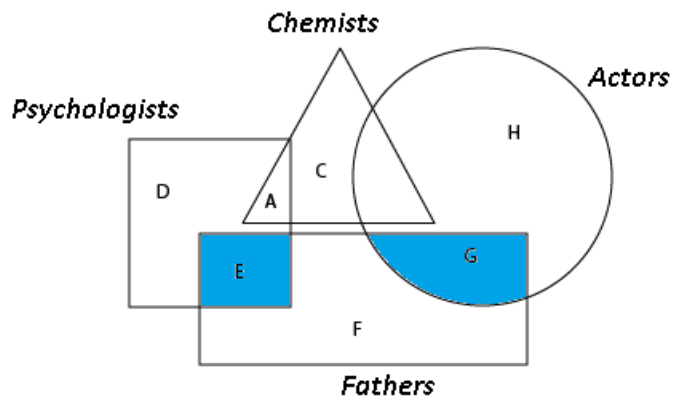
B F,A,C

C E,G

D E,D,A

Answer: C

Explanation:

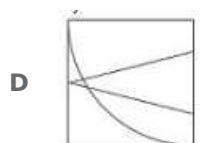
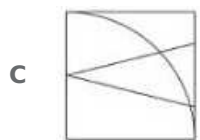
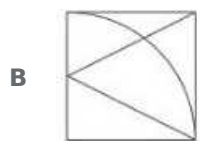
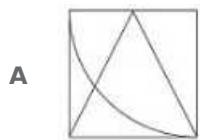
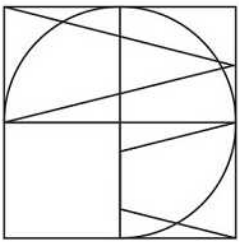


Psychologists and actors who are also fathers are represented by blue area = E + G

=> Ans - (C)

Question 46

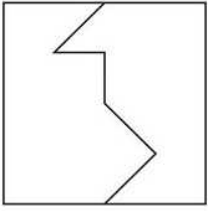
Which answer figure will complete the pattern in the question figure ?



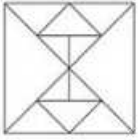
Answer: D

Question 47

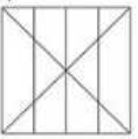
From the given answer figures select the one in which the question figure is hidden/embedded



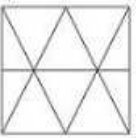
A



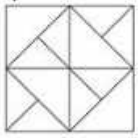
B



C



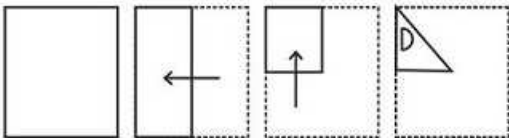
D



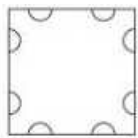
Answer: A

Question 48

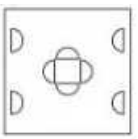
A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.



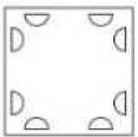
A

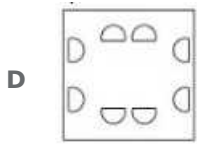


B



C

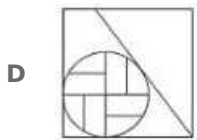
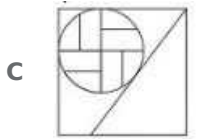
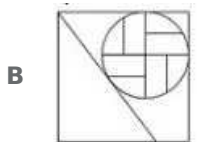
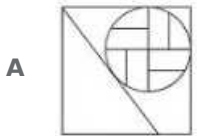
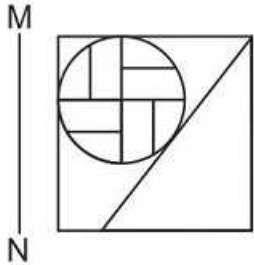




Answer: C

Question 49

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



Answer: A

Explanation:

A vertical mirror is placed, so the objects on the left will appear at right and vice-versa. The right diagonal in the question will now become left diagonal in the mirror image, thus the last two options are eliminated.

Also, the figure inside the circle will also get reversed, as shown in first figure, so the second option is also not possible.

=> Ans - (A)

Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example 'K' can be represented by 20, 32 etc and 'Z' can be represented by 75, 78 etc. Similarly, you have to identify the set for the word 'SHOW'.

Matrix - I

	0	1	2	3	4
0	C	J	A	B	A
1	H	L	H	I	G
2	K	M	F	J	C
3	I	B	K	D	F
4	F	I	M	H	J

Matrix - II

	5	6	7	8	9
5	R	Z	R	T	P
6	S	S	S	T	X
7	Z	S	V	Z	Y
8	Q	Y	O	S	T
9	U	V	W	S	S

- A 21,23,78,98
- B 76,12,87,97
- C 40,32,76,79
- D 33,23,57,88

Answer: B

Explanation:

(A) : 21,23,78,98 = MJZS

(B) : 76,12,87,97 = **SHOW**

(C) : 40,32,76,79 = FKS Y

(D) : 33,23,57,88 = DJRS

=> Ans - (B)

English

Instructions

For the following questions answer them individually

Question 51

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

Several great battles (a:/ took place among (b:/ the British and the Americans. (c:/No Error (d:

- A 1
- B 2
- C 3
- D 4

Answer: B

Question 52

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

The stream gurgled (a:/ contentedly as it (b:/ slowed to rounding the bend. (c:/No Error (d:

A 1

B 2

C 3

D 4

Answer: C

Question 53

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

The criminal changed his name to an _____ in order to elude the police.

A alternative

B alias

C option

D untrue

Answer: B

Question 54

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

The _____ my husband and I had was so loud it woke our children.

A quarrel

B coral

C moral

D laurel

Answer: A

Question 55

In the following question, out of the four alternatives, select the word similar in meaning to the word given.

Litter

A Trash

- B** Order
- C** Possess
- D** System

Answer: A

Question 56

In the following question, out of the four alternatives, select the word similar in meaning to the word given.

Obliterate

- A** Construct
- B** Annihilate
- C** Revive
- D** Initiate

Answer: B

Question 57

In the following question, out of the four alternatives, select the word opposite in meaning to the word given.

Scrimp

- A** Skimp
- B** Conserve
- C** Squander
- D** Curtail

Answer: C

Question 58

In the following question, out of the four alternatives, select the word opposite in meaning to the word given.

Guzzle

- A** Carouse
- B** Starve
- C** Imbibe
- D** Quaff

Answer: B

Question 59

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

To heave a sigh of relief

- A** To become very tired with routine or boring work
- B** To suddenly feel very happy because something unpleasant has not happened or has ended
- C** To Feel extremely sad over someone else's misfortune
- D** To Feel silent anger over real or perceived injustice

Answer: B

Question 60

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

To be on cloud nine

- A** To extremely happy
- B** To feel lucky
- C** To experience the feeling of being intoxicated
- D** To make one last attempt

Answer: A

Question 61

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

She was uneasy because she (never be) on a plane before.

- A** had never been
- B** never been
- C** is never been
- D** no improvement

Answer: A

Question 62

In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

No one knows how he escaped (dash) to pieces.

- A** being dash
- B** being dashed

- C dashed
- D no improvement

Answer: A

Question 63

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

The upward force that a fluid exerts on a body floating in it

- A Upthrust
- B Plunge
- C Submerge
- D Capsize

Answer: A

Question 64

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

The use of irony to mock or convey contempt

- A Sanction
- B Flatter
- C Compliment
- D Sarcasm

Answer: D

Question 65

In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.

- A Threashing
- B Thrasheing
- C Threasheing
- D Thrashing

Answer: D

Question 66

In the following question, four words are given out of which one word is correctly spelt. Select the correctly spelt word.

- A Consensus

- B** Consensus
- C** Consensus
- D** Consensus

Answer: C

Question 67

The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.

As for ourselves, we

X-combing our hair

Y-a good wash and

Z-were contented with

- A** ZXY
- B** YZX
- C** YXZ
- D** ZYX

Answer: D

Question 68

The question below consists of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.

If there is a

X-corresponding sensation

Y-kind, there has to be a

Z-change in brain activity of a certain

- A** ZXY
- B** ZYX
- C** YZX
- D** YXZ

Answer: B

Question 69

In the following question, a sentence has been given in Active/Passive voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active voice.

The fire destroyed the whole neighbourhood.

- A** The whole neighbourhood is destroyed by the fire.
- B** The whole neighbourhood was destroyed by the fire.
- C** The whole neighbourhood was being destroyed by the fire.

D The whole neighbourhood is being destroyed by the fire.

Answer: B

Question 70

In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct speech.

The accused said to the judge, "Let me meet my children before I die, sir."

A The accused requests the judge to let him meet his children before he died.

B The accused requested the judge to let him meet his children before he died.

C The accused begs the judge to allow him to meet his children before he dies.

D The accused begged the judge to let him meet his children before he dies.

Answer: B

Instructions

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

"Jim Crow" shuns the mountains for reasons satisfactory to himself; not so the magpie, the raven, and ___(1)___ mischief-maker, Clark's nutcracker. All of which keeps the bird-lover from the East in an ecstasy of surprises until he has ___(2)___ accustomed to his changed environment. One cannot help ___(3)___ into the speculative mood in view of the sharp contrasts ___(4)___ the birds of the East and ___(5)___ of the West.

Question 71

(1)

A what

B it

C that

D there

Answer: C

Question 72

(2)

A became

B becomes

C to be

D become

Answer: D

Question 73

(3)

- A** to fall
- B** fallen
- C** falling
- D** fell

Answer: C

Question 74

(4)

- A** beside
- B** beneath
- C** between
- D** below

Answer: C

Question 75

(5)

- A** whose
- B** this
- C** those
- D** whom

Answer: C

Mathematics

Instructions

For the following questions answer them individually

Question 76

What is the remainder when 6729 is divided by 35?

- A** 11
- B** 7
- C** 9
- D** 13

Answer: C

Explanation:

$35 \times 192 = 6720$ is the least nearest multiple of 35.

The remainder when 6729 is divided by 35 = $6729 - 6720 = 9$

so the answer is option C.

Question 77

A, B and C can finish a job working alone in 72, 24 and 36 days respectively. In how many days they can finish the job if they worked together?

A 12

B 9

C 15

D 18

Answer: A

Explanation:

Let total work = LCM of 72, 24 & 36 = 72 units

Efficiency of A = $72/72 = 1$

Efficiency of B = $72/24 = 3$

Efficiency of C = $72/36 = 2$

All 3 together can complete the work in $72/(1+3+2) = 72/6 = 12$ days

So the answer is option A.

Question 78

Area of 4 walls of a cuboid is 448 sq cm, its length is 18 cm and height is 8 cm. What is its breadth (in cm)?

A 10

B 9

C 8

D 7

Answer: A

Explanation:

Area of 4 walls of a cuboid 448 sq cm

$$\Rightarrow 2(bh + hl) = 448$$

$$\Rightarrow (bh + hl) = 224$$

$$\Rightarrow (bx8 + 8x18) = 224$$

$$\Rightarrow 8xb = 224 - 144 = 80$$

$$\Rightarrow b = 10$$

so the answer is option A.

Question 79

At 10% discount the selling price of an article is Rs 4500, what is the selling price (in Rs) if the discount is 27.5%?

- A 4000
- B 3625
- C 3500
- D 3125

Answer: B

Explanation:

$$\frac{100-10}{100} \times CP = 4500$$

$$\frac{90}{100} \times CP = 4500$$

$$CP = 5000$$

if 27.5% discount is allowed then,

$$SP = \frac{100-27.5}{100} \times 5000$$

$$SP = \frac{72.5}{100} \times 5000$$

$$SP = 3625$$

so the answer is option B.

Question 80

What is the fourth proportional to 72, 168 and 150?

- A 450
- B 300
- C 350
- D 400

Answer: C

Explanation:

Let fourth proportional to 72, 168 and 150 is X. then,

$$72 : 168 :: 150 : X$$

$$\frac{72}{168} = \frac{150}{X}$$

$$X = 350$$

so the answer is option C.

Question 81

What is the average of all numbers between 11 and 80 which are divisible by 6?

- A 46
- B 47

C 44

D 45

Answer: D

Explanation:

The numbers between 11 and 80 which are divisible by 6 are 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72 & 78,

sum = 540

average = $540/12 = 45$.

SHORTCUT:

average = $6 \times (\text{average of } 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13) = 6 \times (7.5) = 45$.

so the answer is option D.

Question 82

A trader had 960 kgs of rice. He sold a part of it at 20% profit and the rest at 8% profit, so that he made a total profit of 12%. How much rice (in kgs) did he sell at 8% profit?

A 460

B 560

C 540

D 640

Answer: D

Explanation:

Let X be the weight of wheat sold at 8% profit, then

$$\Rightarrow \frac{108}{100} \times X + \frac{120}{100} \times (960 - X) = \frac{112}{100} \times 960$$

$$\Rightarrow 1.08 \times X + 1.2 \times (960 - X) = 1.12 \times 960$$

$$\Rightarrow 1.08 \times X - 1.2 \times X = 1.12 \times 960 - 1.2 \times 960$$

$$\Rightarrow -0.12 \times X = -76.8$$

$$\Rightarrow X = 640$$

so the answer is option D.

Question 83

If 40% of $x = y$, then $y\%$ of 40 is same as _____ of x .

A 16%

B 4%

C 8%

D 160%

Answer: A

Explanation:

$b = 40\% \text{ of } a = 0.4a$

$b\%$ of 40 = $0.4a\%$ of 40 = $0.4 \times 40 \%$ of a = 16% of a .

so the answer is option A.

Question 84

Excluding stoppages, the speed of a bus is 72 kmph and including stoppages, it is 60 kmph. For how many minutes does the bus stop per hour?

A 12

B 8

C 15

D 10

Answer: D

Explanation:

In 1 hour the bus can travel 72km without including stoppages

To travel 1km it took $60/72=5/6$ min

In 1 hour the bus can travel 60km including stoppages

difference = 12kms

so it stopped for $12 \times 5/6=10$ mins in 1hr.

so the answer is option D.

Question 85

The simple and compound interest that can be earned in two years at the same rate is Rs 1500 and Rs 1575 respectively. What is the rate (% per annum) of interest?

A 8

B 10

C 12

D 5

Answer: B

Explanation:

Let the principal amount = $Rs.100x$ and rate of interest = $r\%$

Time period = 2 years

Simple Interest = $\frac{P \times R \times T}{100} = 1500$

$\Rightarrow \frac{100x \times r \times 2}{100} = 1500$

$\Rightarrow 2rx = 1500$

$\Rightarrow x = \frac{1500}{2r} = \frac{750}{r}$

Compound Interest = $P[(1 + \frac{R}{100})^T - 1] = 1575$

$\Rightarrow 100x[(1 + \frac{r}{100})^2 - 1] = 1575$

$\Rightarrow 100x[(1 + \frac{r^2}{100^2} + 2\frac{r}{100}) - 1] = 1575$

$\Rightarrow (100 \times \frac{750}{r})[\frac{r^2}{10000} + \frac{2r}{100}] = 1575$

$\Rightarrow 7.5r + 1500 = 1575$

$$\Rightarrow 7.5r = 1575 - 1500 = 75$$

$$\Rightarrow r = \frac{75}{7.5} = 10\%$$

\Rightarrow Ans - (B)

Question 86

If $[7(5x/3 - 3/2)]/2 + 3/2 = 1/4$, then what is the value of x?

A $35/24$

B $24/35$

C $-24/35$

D $-35/24$

Answer: B

Explanation:

$$[7(5x/3 - 3/2)]/2 + 3/2 = 1/4$$

$$[35x/3 - 21/2]/2 + 3/2 = 1/4$$

$$35x/6 - 21/4 + 3/2 = 1/4$$

$$35x/6 = 1/4 - 3/2 + 21/4$$

$$35x/6 = (1-6+21)/4$$

$$35x/6 = 4$$

$$x = 24/35$$

So the answer is option B.

Question 87

If $a^3 + b^3 = 19$ and $ab = -6$, then what is the value of $a + b$?

A 5

B 7

C 1

D -5

Answer: C

Explanation:

$$a^3 + b^3 = (a + b)^3 - 3ab(a + b)$$

$$19 = (X)^3 - 3(-6)(X)$$

$$X^3 + 18X - 19 = 0$$

by option verification, only $X = 1$ satisfies the above equation.

so the answer is option C.

Question 88

Sum of four times a fraction and 6 times its reciprocal is 11. What is the fraction?

A $3/4$

B $4/3$

C $4/7$

D $7/4$

Answer: A

Explanation:

Let that fraction be $\frac{1}{x}$

$$4 \times \frac{1}{x} + 6x = 11$$

$$\Rightarrow (4 + 6x^2) = 11 \times x$$

$$\Rightarrow 6x^2 - 11x + 4 = 0$$

$$\Rightarrow (x - \frac{8}{6})(x - \frac{3}{6}) = 0$$

$$\Rightarrow x = 4/3 \text{ or } 1/2$$

$$\Rightarrow \text{fraction} = \frac{1}{x} = 3/4 \text{ (or) } 2$$

so the answer is option A.

Question 89

What is the sum of the first 12 terms of an arithmetic progression if the 3rd term is -13 and the 6th term is -4?

A 67

B 45

C -30

D -48

Answer: C

Explanation:

$$T_3 = a + 2d = -13 \text{-----(1)}$$

$$T_6 = a + 5d = -4 \text{-----(2)}$$

on solving (1) and (2)

$$d = 3 \text{ \& } a = -19$$

$$S_n = \frac{n}{2} [2a + (n - 1)d]$$

$$S_{12} = \frac{12}{2} [2(-19) + (12 - 1)(3)]$$

$$S_{12} = (6)[-38 + 33]$$

$$S_{12} = -30$$

So the answer is option C.

Question 90

What is the reflection of the point (5, 2) in the line $x = -3$?

A (-11, 2)

B (-11, -2)

C (11, -2)

D (11, 2)

Answer: A

Explanation:

Reflection of point (x, y) in the line $x = a$ is $(-x + 2a, y)$

and in line $y = b$ is $(x, -y + 2b)$

Thus, reflection of the point $(5, 2)$ in the line $x = -3$

$$= [(-5 + 2 \times -3), 2]$$

$$= (-11, 2)$$

=> Ans - (A)

Question 91

What are the co-ordinates of the centroid of a triangle, whose vertices are A(1, -5), B(4, 0) and C(-2, 2)?

A (1, -1)

B (-1, 1)

C (2, -2)

D (-2, 2)

Answer: A

Explanation:

$$\text{centroid} = \left(\frac{x_1+x_2+x_3}{3}, \frac{y_1+y_2+y_3}{3} \right) = \left(\frac{1+4-2}{3}, \frac{-5+0+2}{3} \right) = (1, -1)$$

so the answer is option A.

Question 92

Slope of the line AB is -4/3. Co-ordinates of points A and B are (x, -5) and (-5, 3) respectively. What is the value of x?

A -1

B 2

C -2

D 1

Answer: D

Explanation:

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - (-5)}{-5 - x} = \frac{8}{-5 - x} = \frac{-4}{3}$$

$$\rightarrow 24 = 20 + 4x$$

$$\rightarrow x = 1$$

so the answer is option D.

Question 93

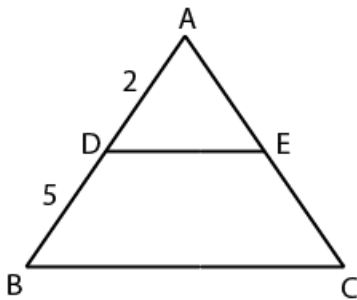
D and E are points on side AB and AC of $\triangle ABC$. DE is parallel to BC. If $AD:DB = 2:5$ and area of $\triangle ADE$ is 8 sq cm, what is the ratio of area of $\triangle ADE$: area of quadrilateral BDEC?

A (4:45)

B (45:4)

C (8:45)

D (45:8)

Answer: A**Explanation:**

$\triangle ADE$ & $\triangle ABC$ are similar, let area of $\triangle ABC = x$, that of BDEC = $x-8$

For similar triangles

Ratio of sides = $\sqrt{\text{ratio of areas}}$

$$AB/AD = \sqrt{\frac{\text{area.}ABC}{\text{area.}ADE}}$$

$$7/2 = \sqrt{\frac{x}{8}}$$

$$49/4 = \frac{x}{8}$$

$$x = 98$$

$$\text{area of quadrilateral BDEC} = ABC - ADE = x - 8 = 98 - 8 = 90$$

$$\frac{ADE}{BDEC} = \frac{8}{90} = \frac{4}{45}$$

So the answer is option A.

Question 94

What is the value of $\sqrt{2} \sec 45^\circ - \tan 30^\circ$?

A $(2\sqrt{3} - 1)/3$ B $(\sqrt{3} - 1)/\sqrt{3}$ C $(2\sqrt{3} - 1)/\sqrt{3}$ D $(\sqrt{3} - 1)/3$ **Answer:** C**Explanation:**

$$\sqrt{2} \sec 45^\circ - \tan 30^\circ = \sqrt{2}(\sqrt{2}) - 1/\sqrt{3} = 2 - 1/\sqrt{3} = (2\sqrt{3} - 1)/\sqrt{3}$$

So the answer is option C.

Question 95

ΔABC is right angled at B. If $m \angle A = 60^\circ$, then what is the value of $1/\sqrt{3} \operatorname{Cosec} C$?

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

Answer: A

Explanation:

$$B = 90^\circ \quad A = 60^\circ$$

$$\text{then } C = 30^\circ (\because A + B + C = 180^\circ)$$

$$1/\sqrt{3} \operatorname{Cosec} C = 1/\sqrt{3} \operatorname{Cosec} 30^\circ = 1/\sqrt{3}(2) = 2/\sqrt{3}$$

So the answer is option A.

Question 96

If $\operatorname{Cosec} \theta = 25/7$, then what is the value of $\operatorname{Cot} \theta$?

- A $24/25$
- B $7/24$
- C $7/25$
- D $24/7$

Answer: D

Explanation:

$$\operatorname{Cosec} \theta = 25/7$$

W.K.T

$$\operatorname{cosec}^2 \theta = 1 + \operatorname{cot}^2 \theta$$

$$625/49 = 1 + \operatorname{cot}^2 \theta$$

$$625/49 - 1 = \operatorname{cot}^2 \theta$$

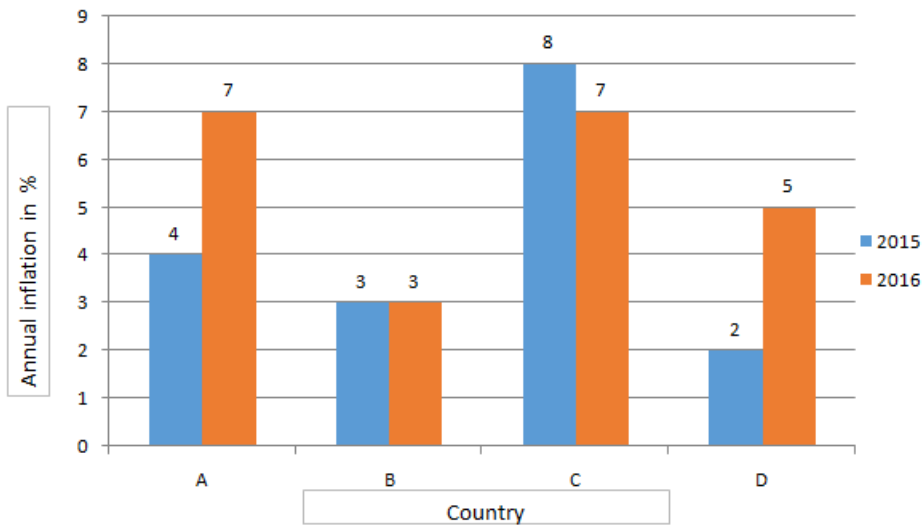
$$576/49 = \operatorname{cot}^2 \theta$$

$$\operatorname{cot} \theta = 24/7$$

so the answer is option D.

Instructions

The bar graph shows annual Inflation in two years 2015 and 2016 of four countries (A, B, C, D). Study the diagram and answer the following questions.



Question 97

In which country inflation in 2016 was lower than that of the previous year?

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

Answer: A

Explanation:

In country C, inflation in 2016 was lower than 2015

So the answer is option A.

Question 98

By what percent inflation in 2016 was greater than the inflation in 2015 in country D?

- A 60
- B 100
- C 150
- D 120

Answer: C

Explanation:

Inflation in 2016 in D = 5

Inflation in 2015 in D = 2

$$\text{ANS} = \frac{5-2}{2} \times 100 = 150\%$$

So the answer is option C.

Question 99

In the year 2015, what is the ratio of inflation in country C to country A?

A 1 : 2

B 2 : 3

C 3 : 2

D 2 : 1

Answer: D

Explanation:

Inflation in country C in 2015 = 8

Inflation in country A in 2015 = 4

Ratio = 8 : 4 = 2 : 1

So the answer is option D.

Question 100

If inflation is measured as increase in price index and the price index was 200 in the beginning of 2015 in country D then what is the index at the end of 2016?

A 207

B 207.2

C 210

D 214.2

Answer: D

Explanation:

Price index at the beginning of 2015 in D = 200

after 2016 it will be $\frac{102}{100} \times \frac{105}{100} \times 200 = 214.2$

So the answer is option D.

