# SSC CPO 15th-March-2019-Shift-1

## Reasoning

## Instructions

For the following questions answer them individually

**Question 1** 

How many triangles are there in the following figure?



- **A** 22
- **B** 16
- **C** 18
- **D** 20

Answer: C

## **Explanation:**

Each square inside rectangular shape contain 4 small triangle and 4 medium triangle, a total of 8 triangle.

And rectangular shape has 2 large triangle.

So, a total of (2 imes 8 + 2 = 18) triangles are there in the shape.

C is correct choice.

**Question 2** 

'Chef' is related to 'Food' in the same way as 'Choreographer' is related to:

- A Stage
- B Dance
- C Music
- D Photography

Answer: B

## Explanation:

A chef is a person who cooks food.

Similarly, A choreographer is a person who teaches dance.

So, option B is correct choice.

## **Question 3**

Choose the Venn diagram from the given options that best represents the relationship among the following classes. Mizoram, Manipur, India



Answer: C

## Explanation:

Mizoram and Manipur are two different states of India .

So, diagram in Option C validate the right option.

**Question 4** 

Which number will come next in the following series? 5, 12, 31, 68, 129, .....

**A** 220

**B** 218

**C** 131

**D** 190

Answer: A

## Explanation:

5,12,31,68,129..... implies that

 $1^3 + 2^2, 2^3 + 2^2, 3^3 + 2^2, 4^3 + 2^2, 5^3 + 2^2, \dots$ 

So,next term should be  $6^3 + 2^2 = 216 + 4 = 220$ .

A is correct choice.

Select the set of numbers that is similar to the following set of numbers. (13, 40, 121)

- **A** (5, 16, 49)
- **B** (3, 12, 39)
- **C** (7, 24, 73)
- **D** (9, 28, 83)

```
Answer: A
```

## **Explanation:**

 $(13, 40, 121) \longrightarrow 13 \times 3 + 1 = 40, \ 40 \times 3 + 1 = 121.$ 

Similarly,  $(5, 16, 49) \longrightarrow 5 \times 3 + 1 = 16, \ 16 \times 3 + 1 = 49.$ 

So, A is correct choice.

## **Question 6**

If, in a certain code, EDITION is written as VWRGRLM. which word would be coded as SLMVHGB?

- A HAUGHTY
- **B** HONESTY
- **C** EDITORS
- **D** AMNESTY

Answer: B

## Explanation:

In English alphabet conversion table,

E = 5 and V = 22.

E + V = 5 + 22 = 27.

Similarly, D + W = I + R = T + G = I + R = O + L = N + M = 27.

in same way the above code retrieve from word HONESTY.

So, B is correct choice.

## **Question 7**

In a certain code language, 'ROCK' is written as '3587 and 'TIDE' is written as '4261'. How will 'DOCTOR' be written in the same code language?

- **A** 658453
- **B** 658435
- **C** 654853
- **D** 685453

Answer: A

Explanation: In ROCK ,

R is coded by 3, similarly, O=5,C=8,K=7.

Similarly, in TIDE,

T=4,I=2,D=6,E=1.

So, DOCTOR=658453.

A is correct choice.

## **Question 8**

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

A CXUF

- **B** DWYA
- C HSKP
- D QJTG

Answer: B

## **Explanation:**

Using English alphabet conversion table,

C = 3, U = 21, F = 6, X = 24.So, U - C = 21 - 3 = 18. and X - F = 24 - 6 = 18.

HSKP and QJTG follow the same rules.

But,D = 4, W = 23, Y = 25, A = 1.

So,W - D = 23 - 4 = 19, Y - A = 25 - 1 = 24.

B is correct answer.

**Question 9** 

Which letter-cluster will replace the question mark (?) in the following series? EZI, FYJ, GXK, HWL, ?

- A MVM
- B MVN
- C JVM
- D IVM

Answer: D

**Explanation:** 



Option D is correct.

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

Council : Ministers

- A Band : Musicians
- B Team : Umpire
- C Student : Teacher
- D King : Palace

Answer: A

#### **Explanation:**

A council is composed by Ministers.

Similarly, A Band is composed by Musicians.

So, A is correct answer.

## **Question 11**

Three of the following four number-pairs are alike in a certain way and one is different. Find the odd one out.

**A** 7-56

- **B** 23-185
- **C** 13-104
- **D** 17-136

Answer: B

## Explanation:

 $\begin{array}{l} 7-56 \longrightarrow \ 7\times \ 8=56.\\ 23-185 \longrightarrow \ 23\times \ 8\neq 185.\\ 13-104 \longrightarrow \ 13\times \ 8=104.\\ 17-136 \longrightarrow \ 17\times \ 8=136. \end{array}$ 

So, B is correct choice.

Question 12

Which option gives the two signs that need to be interchanged to make the given equation correct?  $6-20 \div 12 \times 7+1=70$ 

 $A \div and +$ 

 $\mathbf{B} \times and -$ 

 $\mathbf{C} \times and +$ 

 $D \div and -$ 

Answer: A

## **Explanation:**

if we interchange ÷ and + equation will become,

 $6 - 20 + 12 \times 7 \div 1$ =  $6 - 20 + 12 \times 7$ = 6 - 20 + 84= 90 - 20= 70. So, A is correct choice.

Question 13

Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order.

- I. Paragraphs
- 2. Letters
- 3. Sentences
- 4. Words
- 5. Book
- 6. Pages
- **A** 2, 3, 4, 1, 6, 5
- **B** 2, 4, l, 3, 6, 5
- **C** 2, 4, 3, 1, 5, 6
- **D** 2, 4, 3, 1, 6, 5
  - Answer: D

## **Explanation:**

Letters are used to make Words, Words are used to make Sentences, Sentences are helps to write down Paragraph ,Paragraph are written over Pages and Books consists of Pages.

So, Option D is correct choice.

## **Question 14**

Select the number-pair in which the two numbers are related in the same way as are the two numbers of the given numberpair. 7:54

- **A** 8:69
- **B** 15:224
- **C** 4:17
- **D** 9:81
  - Answer: A

## Explanation:

 $(7:54) - - > 7^2 + 5 = 54$ 

Similarly,  $(8:69) - - > 8^2 + 5 = 69$ 

pair in other options are not similar to the pattern.

So, Option A is correct choice.

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

- A MKQO
- B KMOQ
- C KMQO
- D MKOQ

```
Answer: B
```

## Explanation:

In (YWUS:TVXZ) 'Z is next word to Y', 'U is next to V', 'W is next to V' and 'T is next to S'.

Similarly, PNLJ should be paired with KMOQ.

So, Option B is correct choice.

## **Question 16**

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











Answer: D

## Explanation:

Rectangular shape is rotated clockwise but + and round shape is rotated anti clockwise.

So, D is correct choice.

#### **Question 17**

Abhishek started from a point A and walked 15 meters towards south. He turned left and walked 20 meters. He then turned left again and walked 15 meters. He again turned left and walked 35 meters and reached a point B. How far and in which direction is point B with respect to point 'A'?

- A 15 meters, West
- B 20 meters, North
- C 35 meters, South
- D 15 meters, East

Answer: D

#### **Explanation:**



Point B is 15 m east from point A. So, Option D is correct.

### **Question 18**

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

- A LMLM
- B MXMX
- C XLXL
- D XMXM

Answer: D

## **Explanation:**





So, D is correct choice.

W and O have been interchanged their positions. And first letter became last letter and second letter became first letter.

**Question 19** 

Which number will come next in the following series? 9, 196, 25, 169, 49, 144, 81, .....

- **A** 121
- **B** 100
- **C** 64
- **D** 36

Answer: A

#### **Explanation:**

9,196,25,169,49,144,81...... can be written as  $3^2$ ,  $14^2$ ,  $5^2$ ,  $13^2$ ,  $7^2$ ,  $12^2$ ,  $9^2$ .....

So, next number in the series should be  $11^2 = 121$  .

A is correct choice.

## **Question 20**

Select the number-pair in which the two numbers are related in the same way as are the two numbers of the given number pair. 222: 130

- **A** 125:27
- **B** 350 : 49
- **C** 68:30
- **D** 25:36

Answer: C

## Explanation:

 $220: 130 - - > (6^3 + 6): (5^3 + 5)$ 

Similarly,

 $68: 30 - - > (4^3 + 4): (3^3 + 3)$ 

So, Option C is correct choice.

## **Question 21**

If '\$' stands for addition, '@' stands for subtraction. '#' stands for multiplication and '&' stands for division. then what is the value of 12 # 8 \$ 36 & 3 @ 6?

- **B** 102
- **C** 79
- **D** 46

Answer: B

#### **Explanation:**

12#8\$36&3@6

 $= 12 \times 8 + 36 \div 3 - 6$ 

- $= 12 \times 8 + 12 6$
- = 96 + 12 6
- = 108 6

= 102.

so, B is correct choice.

## **Question 22**

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

**Thermometer : Temperature** 

- A Odometer : Pressure
- B Scale : Humidity
- C Barometer : Depth
- D Anemometer : Wind

Answer: D

#### **Explanation:**

Thermometer is the device used to measure Temperature.

Similarly, Anemometer is the device used to measure speed of Wind.

So, Option D is correct choice.

## **Question 23**

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

#### A Mercury

- B Mars
- C Moon
- D Venus

Answer: C

### **Explanation:**

Mercury, Mars and Venus are Planet in the Solar system.

But Moon is the satellite of Earth.

So, C is correct choice.

Two statements are given followed by two conclusions I and 11. You have to consider these statements to be true, even if they seem to be at variance with commonly known facts and Decide which of the given conclusions logically follow(s) from the given statements. Statements: Some mirrors are combs.

- Some combs are stools.
- **Conclusions:**
- I. All stools are either mirrors or combs
- II. Some stools are combs.
- A Only conclusion II follows.
- B Either conclusion I or II follows.
- C Only conclusion I follows.
- D Neither conclusion I nor II follows.
  - Answer: A

## **Explanation:**

Some mirrors are combs and Some combs are stools implies that Some stools are mirrors or no stools are mirrors and vice versa.

Some stools are mirrors is correct conclusion.

So,Option A is correct choice.

**Question 25** 

```
Which number in the given series is Incorrect?
3, 7, 15, 27, 53, 63
```

- **A** 53
- **B** 63
- **C** 27
- **D** 7
  - Answer: A

#### **Explanation:**

 $7 - 3 = 1 \times 4$ 

- $15-7=2\times 4$
- $27 15 = 3 \times 4$
- $43 27 = 4 \times 4$
- $63-43=5\times 4$

So, it should be 43 instead of 53 in the given series.

A is correct choice.

#### **Question 26**

'Bee' is related to 'Hive' in the same way as 'Horse' is related to:

- B Stable
- C Den
- D House

Answer: B

#### **Explanation:**

Hive is the nest of Bee , Similarly Stable is the nest of Horse.

So,Option B is correct choice.

## **Question 27**

Select the correct equation from the given options alter interchanging operations '-' and 'x' and numbers '4' and '5'.

A  $9-4 \times 5 = 21$ 

- **B**  $5 \times 4 9 = 7$
- **C**  $5 \times 9 4 = 4$

**D**  $4-5 \times 9 = 11$ 

Answer: D

#### **Explanation:**

After changing "× and - " and "4 and 5"

4-5 imes9 will become

 $5 \times 4 - 9 = 20 - 9 = 11.$ 

So, D is correct choice.

#### **Question 28**

A paper is folded and cut as shown below. How will it appear when unfolded? Select the figure that most closely resembles the formed figure after unfolding.











#### **Explanation:**

At last folded piece upper side is cutted with triangular shape and the bottom side is cutted with semi circle shape .

So,when we unfold it ,we will get three full circle inside the paper as two semicircle helps to make a full circle.

And only two triangular cutted shape will be there on the paper both upper side and bottom side.

D is correct choice.

## **Question 29**

Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order. 1. State

- 2. Individual
- 3. Family
- 4. Community
- 5. Country
- **A** 2, 3, 4, 1, 5
- **B** 5, 2, 4, 3, 1
- **C** 2, 3, 4, 5, 1
- **D** 2, 5, 4, 3, 1
  - Answer: A

**Explanation:** Proper order should be as follows:

 $\mathsf{Individual} {\longrightarrow} \mathsf{Family} {\longrightarrow} \mathsf{Community} {\longrightarrow} \mathsf{State} {\longrightarrow} \mathsf{Country}$ 

A is correct choice.

## **Question 30**

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

A Division

B Addition

- c Subtraction
- **D** Mathematics

## Explanation:

Division, Subtraction and Addition are rules of Methamatics. But Mathematics is a Subject.

So, Methamatics doesn't belong to the same category.

D is correct choice.

**Question 31** 

Choose the Venn diagram from the given options that best represents the relationship among the following classes. Bird, Parrot, Snake





## Explanation:

All parrots are bird. But Snake and Bird are different entity.

So, Parrots should comes inside Bird but Snake shall be sownig as a different entity.

So, Option D is correct choice.

## **Question 32**

In a certain language, JUSTICE is coded as JSUTCIE. How will JUPITER be coded in that language?

- A JPUIERT
- **B** PJUIETR

- c JPUEITR
- **D** JPUIETR

## **Explanation:**

T is in the middle position in the word JUSTICE.

So, in the encoded word ,words S & U are exchanged and I & C are exchanged.

So, the coded word become JSUTCIE.

Similarly, JUPITER will be encoded as

JPUIETR.

So, D is correct choice.

## **Question 33**

Two positions of a dice are shown as below. After rolling the dice. if we get the number 4 on the face at the top, which number will be on the face at the bottom?



- **A** 1
- **B** 2
- **C** 5
- **D** 3

Answer: D

## Explanation:

Image 2 says that 5&6 are on right hand down of the 3.

But 4 is on the adjacent side of 5 & 6 ,which is upper right side of 4.

So, 3 and 4 are on opposite side to each other. So,number 3 will appear on bottom of the dice.

Option D is correct choice.

## **Question 34**

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









Answer: A

#### **Explanation:**

Position of Arrow in image 1 is changed in image 2.

So, Arrow in image 3 should be changed its position by upside down in image 4.

A is correct choice.

#### **Question 35**

Two statements are given followed by two conclusions I and II. You have to consider these statements to be true, even if they seem to be at variance with commonly known facts and choose which of the given conclusions logically follow(s) from the given statements. Statements:

All Chairs are expensive.

All expensive are unique.

Conclusions:

I. All chairs are unique.

II. All unique are expensive.

- A Both conclusions I and II follow.
- B Neither conclusion I nor II follows.
- **C** Only conclusion I follows.
- D Only conclusion II follows.

Answer: C

#### Explanation:

From statement 1 and 2 it is clear that All chairs are unique .

But " All expensive are unique" implies that

"Some unique are expensive".

So, conclusion 1 is true but conclusion 2 is not true.

So,Option C is correct choice.

### If AS = 19 and BAT = 40, then how will you code BREAD?

**A** 30

**B** 720

**C** 205

**D** 625

Answer: B

#### **Explanation:**

Using English alphabets conversion table

A = 1 and S = 19

So, AS =  $1 \times 19 = 19$ 

Similarly,BAT = 2 imes 1 imes 20 = 40

So,  $\texttt{BREAD}{=}\ 2\times18\times5\times1\times4=720$ 

B is correct choice.

## **Question 37**

Select the option that most closely resembles the mirror image of the given figure, when mirror is placed to its right side.

## T E R 7 2 H G

- TE27RHD A
- GH27RET 8
- C DHS79ET

## TER72HG 0

Answer: D

## **Explanation:**

If we place the word in the right side of mirror then letters will appear in symmetric way on the mirror. Some will appear as it is but some will appear upside down.

So, Option D is the correct choice.

## **Question 38**

Select the set of numbers that is similar to the following set of numbers. (20, 42, 72)

- A (10, 22, 52)
- **B** (16, 40, 70)
- **C** (2, 12, 30)

**D** (18, 38, 68)

## Answer: C

## Explanation:

(20,42,72) implies that

$$(20 = 4 \times 5, 42 = 6 \times 7, 72 = 8 \times 9).$$

Similarly,(2,12,20) implies that

 $(2 = 1 \times 2, 12 = 3 \times 4, 30 = 5 \times 6).$ 

So, only option C follows the same logic.

So, C is correct choice.

## **Question 39**

Three of the following four number-pairs are alike in a certain way and one is different. Find the odd one out.

- **A** 29-59
- **B** 27-55
- **C** 21-43
- **D** 25-53

Answer: D

#### **Explanation:**

 $29 - 59 : 29 \times 2 + 1 = 59$   $27 - 55 : 27 \times 2 + 1 = 55$   $21 - 43 : 21 \times 2 + 1 = 43$  $25 - 53 : 25 \times 2 + 3 = 53$ 

so, 25-53 doesn't follow the same logic.

D is correct choice.

#### **Question 40**

Select the option that is related to the third term in the same way as the second term is related to the first term. 33 : 198 :: 19 : .....

- **A** 49
- **B** 346
- **C** 114
- **D** 77

Answer: C

## Explanation:

 $33:198 - - > 33 \times 6 = 198.$ 

similarly, 19:114--->19 imes 6=114.

So, C is correct choice.

Three of the following four number-pairs are alike in a certain way and one is different. Find the odd one out.

**A** 13-40

**B** 18-55

**C** 9-29

**D** 17-52

Answer: C

#### **Explanation:**

 $13 - 40: 13 \times 3 + 1 = 40$  $18 - 55: 18 \times 3 + 1 = 55$  $9 - 29: 9 \times 3 + 2 = 29$ 

 $17 - 52 : 17 \times 3 + 1 = 52$ 

So, 29 is different from other options.

C is correct choice.

#### **Question 42**

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

- A FHLO
- B EINT
- C KOTZ
- D JNSY

Answer: A

## **Explanation:**

Letters in EINT are distance of 4,5 and 6 from the letters next to each other.

like I is 4 letters away from E,N is 5 letters away from I and T is 6 letters away from N.

Similar logic is applied for word in option C & D.

but, Letters in the word of Option A is different from the other options.

So, option A is correct choice.

## **Question 43**

Which letter will replace the question mark (?) in the following series? A, D, G, J, M, ?

A Q

**B** P

**c** 0

**D** N

Answer: B

**Explanation:** 

Using conversion table of English alphabets A+3=D, D+3=G, G+3=J, J+3=M

similarly, next letter would become

M + 3 = P.

So, option B is correct choice.

**Question 44** 

Choose the Venn diagram from the given options that best represents the relationship among the following classes. Year, month, day





#### **Explanation:**

Month consists of days and Year consists of Months.

So, Days should comes inside Month and Month should comes inside Years.

So, diagram in Option B is correct choice.

**Question 45** 

Seema walks to her office. She is facing south when she reaches her office. After starting from home she turned left twice and then right before reaching her office. Which direction was Seema facing when she started from her home?

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

Answer: D

Explanation:





From the given options. select the number that is difi'erent from the other three options.

- **A** 6051
- **B** 2027
- **C** 2306
- **D** 5024
  - Answer: A

## Explanation:

Sum of the digits of 6051 is 12.

But, sum of the digits of 2027, 2306 and 5024 are 11.

So,6051 is different from other options.

A is correct choice.

## **Question 47**

From the given options, select the one that is embedded in the following figure.













## Explanation:

Image in option B can be extracted from the right sloped middle diagonal box.

So, B is correct choice.

## **Question 48**

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









С



Answer: A

## **Explanation:**

The image is simply rotated anti clockwise.

So, A is correct choice.

## **Question 49**

Select the option that most closely resembles the mirror image of the given figure. when mirror is placed to its right side.







С



D



## Explanation:

As lines are symmetric about the mirror, they will not change appearance.

But black boxes and white boxes will change their positions.

So,D is correct choice.

## **Question 50**

From the given options, select the one in which the question figure is hidden/embedded.











**Explanation:** 



D is correct choice.

## **General knowledge**

#### Instructions

For the following questions answer them individually

#### **Question 51**

The world's largest mobile phone factory was set up in ...... under the Indian Government's 'Make in India' initiative.

- A Hyderabad
- B Noida
- C Amravati
- D Sanand
  - Answer: B

#### **Question 52**

The last Maha Kumbh was held in Prayag in ......

- **A** 2011
- **B** 2014
- **C** 2015
- **D** 2013 **Answer:** D

#### **Question 53**

Name the theatre and film actor who apart from training contestants for the Miss India pageant has also hosted a popular quiz show in the 19705.

- A Sabira Merchant
- B Padma Laxmi
- C Tabassum

## D Simi Garewal

## Answer: A

## **Question 54**

The ..... in Kerala has its own elephant sanctuary.

- A Sabarimala Sree Ayyappa Temple
- B Guruvayoor Temple
- C Sri Padmanabhaswamy Temple
- D Chottanikkara Devi Temple

Answer: B

## **Question 55**

The innovative concept of using sunshine to keep houses warm in freezing winters is called ......

- A latent solar heating
- B conductive solar heating
- **C** radiation heating
- D passive solar heating

Answer: D

## **Question 56**

..... from Bihar is a GI tagged food item.

- A Moa
- B Petha
- C Silao Khaja
- D Sita Bhog

Answer: C

## Question 57

Brass is an alloy of:

- A zinc and iron
- B lead and copper
- c iron and lead
- D copper and zinc

Answer: D

The ...... Commission was set up to investigate the Jallianwala Bagh massacre.

- A Hunter
- B Butler
- C Sadler
- D Campbell
  - Answer: A

#### **Question 59**

The firing order issued by ...... on a gathering of people on Baisakhi Day, 1931 became a turning point in India's freedom struggle.

- A Lord Wellesley
- B General Dyer
- C Lord Cornwallis
- **D** Warren Hastings

Answer: B

## **Question 60**

Which ad filmmaker also played a role in the historical film 'Gandhi'?

- A Saeed Jaffrey
- B Alyque Padamsee
- C Gerson da Cunha
- D Roshan Seth

Answer: B

#### **Question 61**

..... is India's oldest research reactor.

- A Kamini
- B Circus
- C Dhruva
- D Apsara

Answer: D

The state of Jharkhand was formed by division of Bihar in the year ......

- **A** 2002
- **B** 2001
- **C** 2003
- **D** 2000

Answer: D

## **Question 63**

Asian Premium is the high price that Asian countries pay to import .....

- A machinery
- B precious metals
- C mobile phones
- D crude oil
  - Answer: D

#### **Question 64**

A high tensile alloy steel called ..... was used to construct Howrah Bridge.

- A TISCAL
- **B** TISCBROM
- C TISCOP
- D TISCROM

Answer: D

## Question 65

..... is known as Universal Solvent.

- A Kerosene
- B Alcohol
- **C** Acetone
- D Water

Answer: D

### **Question 66**

A character in the Hindi feature film '3 idiots' was inspired by ......, an engineer based in Ladakh.

- A Phunsukh Wangchuk
- B Phunsuk Wangdu
- C Sonam Wangchuk
- D Sonam Wangdu
  - Answer: C

## Maharani Gayatri Devi was a member of the .....

- A Swatantra Party
- B Bharatiya Janata Party
- C Bahujan Samaj Party
- D Indian National Congress Party

Answer: A

**Question 68** 

Human body creates Vitamin ...... from sunlight.

A D

- BB
- **c** c

## **D** A

Answer: A

Question 69 Paryushan is an important festival for the ..... community.

- A Buddhist
- B Jew
- c Jain
- **D** Zoroastrian

Answer: C

**Question 70** 

Right ..... ceased to be a fundamental right after the 45th Amendment bill, 1978 to the Indian Constitution

- A To Education
- B To Property
- C To Equality
- D Against Exploitation

Answer: B

## Question 71

..... is a commonly used medicine that can help treat pain and reduce a high body temperature.

- A Dextromethorphan
- B Bismuth
- C Paracetamol
- **D** Guaifenesin

Answer: C

#### **Question 72**

Shooter ...... won a gold medal in the Men's 10 m Air Pistol event at the 2018 Jakarta Palembang Asian Games held in Indonesia.

- A Abhishek Verma
- B Om Prakash Mitharwal
- C Jitu Rai
- D Saurabh Chaudhary

Answer: D

#### **Question 73**

The process of blood clotting is called .....

- A coagulation
- B thrombocytopenia
- c haemophilia
- D homophobia Answer: A

## **Question 74**

Dr. Zakir Husain, the  $3^{rd}$  President of India, was awarded the ...... in 1963.

- A Bharat Ratna
- B Padma Shree

c Padma Bhushan

#### **D** Padma Vibhushan

Answer: A

#### **Question 75**

Name the Nobel Laureate who helped crack the genetic code.

- A Venkatraman Ramakrishnan
- B Abdus Salam
- C Subramaniam Chandrasekar
- D Har Gobind Khorana

Answer: D

#### **Question 76**

The Government of Odisha announced a hike of ...... in the social security pension under Madhu Babu Pension Yojana (MBPY) in January 2019.

- A ₹ 500 per month
- B ₹ 400 per month
- C ₹ 200 per month
- D ₹ 300 per month

Answer: C

**Question 77** 

India's first 3D planetarium is located in .....

- A Bengaluru
- B Mangalore
- C Hyderabad
- D Kochi

Answer: B

## **Question 78**

Diabetes is a condition in which the level of ..... in an individual's blood becomes too high.

- A sucrose
- B glucose
- C galactose

## Answer: B

## **Question 79**

## Which of the following CANNOT be attributed to Aryabhatta?

- A Zero
- B Theory of Atom
- C Theory of eclipses
- D Value of pi

#### Answer: B

#### **Question 80**

..... is India's largest research reactor.

- A Dhruva
- B Apsara
- C Circus
- D Kamini

Answer: A

#### **Question 81**

The Khelo India Youth Games was previously called .....

- A Khel Khelo India
- B Chalo India School Games
- C Khelo Bharat School Games
- D Khelo India School Games

Answer: D

## **Question 82**

The ..... Channel separates the Andaman and Nicobar groups of Islands.

- A Ten Degree
- B Six Degree
- C Eight Degree

## D TWelve Degree

## Answer: A

#### Question 83

The Serum Institute of India launched the oral polio vaccine in ......

- **A** 2012
- **B** 2013
- **C** 2014
- **D** 2011
  - Answer: B

## **Question 84**

Which of the following Indian psychiatrists was awarded the Ramon Magsaysay Award in 2018 for leading the rescue of thousands of mentally ill street paupers and reuniting them with their families?

- A Bharat Vatwani
- B N Rangarajan
- C Vipul Rastogi
- **D** Subin Vazhayil
  - Answer: A

## **Question 85**

Raghuram Rajah succeeded ...... as the Governor of the Reserve Bank of India in 2013.

- A Mamnohan Singh
- B D. Subbarao
- C Bimal Jalan
- D Urjit Patel

Answer: B

## **Question 86**

Smiling Buddha is a code name for .....

- A India's first nuclear bomb test
- B India's first unmanned tank
- C The Father of the Indian Nuclear Program
- D India's largest power plant

Answer: A

The ...... Stock Exchange was the first to be recognized by the Government of India under the Securities Contracts Regulation Act.

- A Ahmedabad
- B Bombay
- C Madras
- D Calcutta
  - Answer: B

#### **Question 88**

#### Which of the following is NOT another name for Ram Setu?

- A Adam's Bridge
- B Setu Banda
- C Nala Banda
- D Nala Setu

Answer: C

## **Question 89**

Neelam Sanjeeva Reddy served as ...... from 1956 to 1959.

- A Chief Minister
- B President
- C Member of Rajya Sabha
- D Deputy Chief Minister

Answer: A

## **Question 90**

The  $2^{nd}$  National Conference on Self Reliance in Defense Manufacturing was organized at ...... in 2019.

- A Chennai
- B Delhi
- c Pune
- D Hyderabad

Answer: D

In January 2019, the Government of ....... released 'Startup and Innovation policy 2018-2023' to make the state a "Global Innovation hub for startups" by 2023.

- A Kerala
- B Tamil Nadu
- C Telangana
- D Uttarakhand

Answer: B

#### **Question 92**

..... was the coach of the World Cup winning Indian Cricket team in 2011.

- A Gary Kirsten
- B Duncan Fletcher
- C John Wright
- D Greg Chappell

Answer: A

#### **Question 93**

The daughter of Moropant Tambe and Bhagirathi Sapre became famous as .....

- A Ahilyabai Holkar
- B Rani Laxmibai
- C Rajmata Gayatri Devi
- D Jijabai
  - Answer: B

#### **Question 94**

Bhagat Singh, Raj guru and Sukhdev were hanged in the year .....

- **A** 1930
- **B** 1935
- **c** 1933
- **D** 1931
  - Answer: D

#### **Question 95**

..... was the first Indian board member of the World Editors Forum.

- A Behram Contractor
- B Bachi Karkaria
- C Shobhaa De
- D Khushwant Singh

Answer: B

## Question 96

..... is an ancient Sanskrit text on medicine and surgery.

- A Arthashashtra
- B Raghuvamsha
- C Sushruta Samhita
- D Abhijnanashakuntala

Answer: C

#### **Question 97**

..... was constructed in 1994 for the National Games, 1994.

- A Shree Shiv Chhatrapati Sports Complex, Pune
- B DY Patil Stadium, Navi Mumbai
- C Kalinga Stadium, Bhubaneshwar
- D Jawaharlal Nehru Stadium, Kochi

Answer: A

**Question 98** 

Kailasa temple in the ...... Caves is the largest rock-cut monument in the world.

- A Elephanta
- B Ajanta
- C Ellora
- D Karla

Answer: C

#### **Question 99**

Which of the following is NOT recognised as an Intangible Cultural Heritage (ICH) by UNESCO?

A Sitar Vadan
- B Yoga
- C Kumbh Mela
- D Chhau dance
  - Answer: A

The Election Commission celebrated its golden jubilee in the year .....

- **A** 1998
- **B** 1997
- **C** 2001
- **D** 2011
  - Answer: C

# Quant

Instructions

For the following questions answer them individually

**Question 101** 

The sides of a triangle are in the ratio 3 : 4 : 5. If the perimeter of the triangle is 24 cm, its area is:

**A**  $18 \, cm^3$ 

- **B**  $24 \ cm^3$
- **C**  $20 \ cm^3$
- **D** 22.89  $cm^3$

Answer: B

# Explanation:

Let say, sides of the triangle are 3k,4k and 5k.

so, perimeter of triangle = 24.

or,3k + 4k + 5k = 24.

or,12k = 24.

or,k = 2.

sides are 6,8 and 10.

semi perimeter(s) of traingle

= (6 + 8 + 10)/2 = 12.

Area of a triangle =  $\sqrt{(s(s-a)(s-b)(s-c))}$ .

$$= \sqrt{(12 \times (12 - 6) \times (12 - 8) \times (12 - 10))}$$
  
=  $\sqrt{(12 \times 6 \times 4 \times 2)}$   
= 24.

B is correct choice.

#### **Question 102**

In an office of 1200 employees, the ratio of urban to rural members of staff is 8 : 7. After joining of some new employees. out of which 20 are rural, the ratio becomes 5 : 4. The number of new urban employees is:

- **A** 100
- **B** 85
- **C** 76
- **D** 108

Answer: B

#### **Explanation:**

Let say, number of new employee joined is = x.

so, newly joined rural employees are 20(given) then, number of newly joined urban employees = (x - 20).

previously,

number of urban employees =  $1200 \times 8/15 = 640$ .

so, number of rural employees

= 1200 - 640 = 560.

after joining of new employees the new ratio become = 5:4.

((x-20)+640): (20+560) = 5:4

 $\operatorname{or}_{4}4x - 80 + 2560 = 2900$ 

or, 4x = 2900 - 2480 = 420.

 ${\rm or,} x=105.$ 

so,number of new urban employees

= 105 - 20 = 85.

B is correct choice.

**Question 103** 

A scored 73, 76, 20, and 7 runs in four out of five innings. What should be his score in the fifth innings, if he has to make an average of 55 runs in five innings?

**A** 99

**B**<sub>11</sub>

**C** 55

**D** 42

Answer: A

**Explanation:** 

5 innings total runs=  $55 \times 5 = 275$ .

runs scored by first 4 innings is

= 73 + 76 + 20 + 7 = 176.

so, runs scored by 5th innings is

= 275 - 176 = 99.

A is correct choice.

#### **Question 104**

₹ 4,06,736 is divided among A, B and C such that the ratio between A and B is 2 : 3 and B and C is 1 : 2. The share of C is:

**A** ₹73,952

**B** ₹ 1,10,928

**C** ₹ 2,64,796

D ₹ 2,21,856

Answer: D

#### **Explanation:**

A: B = 2: 3 = 4: 6. & B: C = 1: 2 = 6: 12.

so,A:B:C=4:6:12

Let say, share of A,B and C are 4k,6k and 12k respectively.

 $so_{k}4k + 6k + 12k = 406736.$ 

or,22k = 406736

 ${
m or},k=18488.$ 

So,share of C  $= 18488 \times 12 = 221856.$ 

D is correct choice.

#### **Question 105**

If  $x+ rac{1}{x}=2\sqrt{3}$ , then  $x^2+ rac{1}{x^2}$  is equal to:

**A** 8

**B** 16

**C** 10

**D** 12

Answer: C

Explanation:

 $(x + 1/x)^2 = x^2 + 1/x^2 + 2 \times x \times (1/x).$ =  $x^2 + 1/x^2 + 2.$ So, $x^2 + 1/x^2 + 2 = (2\sqrt{3})^2 = 12.$ or, $x^2 + 1/x^2 = 10.$ C is correct choice.

The distance between two cities is covered in  $3\frac{1}{4}$  hours at a speed of 52 km/h. If the speed is increased to 65 km/h. how much time would be saved ?

- A 39 minutes
- **B** 45 minutes
- **C** 40 minutes
- D 42 minutes

Answer: A

**Explanation:** Distance between two cities is

 $3.25 \times 52 = 169 KM$ 

ao, if he goes by in the speed 65km/h,then time taken = 169/65 = 2.6h.

So, he will save (3.25-2.6)=0.65h

 $= 0.65 \times 60 minutes = 39 minutes.$ 

A is correct choice.

**Question 107** 

The product of two numbers is 45360; if the HCF of the numbers is 36, then their LCM is:

- **A** 252
- **B** 630
- **C** 126
- **D** 1260

Answer: D

Explanation:

We know that

product of two numbers=LCM×HCF

of these two numbers.

So, required LCM = 45360/36 = 1260.

D is correct choice.

#### **Question 108**

₹ 2,40,000 is taken as loan for three years compounded annually at 12.5% p.a. At the end of first year. the interest is revised to 12% p.a. The total amount to be repaid at the end of third year is:

- **A** ₹ 3,26,400
- **B** ₹ 3,34,800
- **C** ₹ 3,38,688

**₽** ₹ 3,42,648

# Answer: C

# Explanation:

At the end of first year amount becomes

 $= 240000 \times 1.125 = 270000.$ 

interest rate cut down to 12% from second year.

So, at the end of third year the amount will become  $= 270000 \times 1.12 \times 1.12.$ 

= 338688.

C is correct choice.

# **Question 109**

ABCD is a cyclic quadrilateral such that AB is a diameter of the circle circumscribing it and angle  $ADC = 125^{\circ}$ . Then angle BAC is equal to:

A 
$$20^{\circ}$$

B  $30^{\circ}$ 

 $\mathbf{C}$   $60^{\circ}$ 

D  $35^{\circ}$ 

Answer: D

# **Explanation:**

Sum of opposite angles of a quadrilateral is 180°.

So, $\angle ADC + \angle ABC = 180°$ .

or, $\angle ABC = 55\degree$  .

Again for semicircle,

 $\angle ACB = 90^{\circ}.$ 

 $\angle BAC =$ 

 $180 - \angle ACB - \angle ABC$ 

or, $\angle BAC = 180 - 90 - 55 = 35°$ 

D is correct choice.

**Question 110** 

How many soap cakes of size 8 cm x 4.5 cm x 2 cm can be kept in a carton of size 11 m x 0.82 m x 0.63 m? Latek

**A** 81052

**B** 75626

**C** 73498

**D** 78925

Answer: D

**Explanation:** Volume of the carton

 $=(11 imes 0.82 imes 0.63)m^3$ 

 $=(1100 imes 82 imes 63)cm^3$ 

 $= 5682600 cm^3.$ 

Volume of a soap cake

 $=(8 imes 4.5 imes 2)cm^3$ 

```
= 72 cm^{3}.
```

So, number of soap cakes can be kept inside the carton

= 5682600/72 = 78925.

D is correct choice.

```
Question 111
```

```
8% of 5 litres is:
```

- **A** 0.4 ml
- **B** 400 ml
- **C** 40 ml
- **D** 4 ml
  - Answer: B

Explanation:

5 litres = 5000 ml.

```
So, 8 percent of 5000 ml = 5000 ml 	imes 0.08
```

= 400 m l.

B is correct choice.

Question 112



The given bar chart shows production of steel by companies A, B, C and D for years 2014, 2015, 2016 (in tonnes).

**A** 358.33

In the given bar-chart, the average production of steel at 'C' for the year 2014-2016 is:

- **c** 423.58
- **D** 400

Answer: A

# Explanation:

Total production at C from 2014-2016 is

= 325 + 250 + 500 = 1075.

Average production of C during these periods is = 1075/3 = 358.33.

A is correct choice.

**Question 113** 

If the height of an equilateral triangle is  $10\sqrt{3}$  cm, the area is:

- **A**  $124\sqrt{3} \ cm^2$
- **B**  $75\sqrt{3} \ cm^2$
- **c**  $80\sqrt{3} \ cm^2$
- **D**  $100\sqrt{3} \ cm^2$

Answer: D

#### **Explanation:**

If side of an equilateral triangle is a, then hieght of that triangle =  $a\sqrt{3}/2$ .

so, $a\sqrt{3}/2 = 10\sqrt{3}$ . or,a = 20. area $= (1/2) \times (a\sqrt{3}/2) \times a$  $= (1/2) \times 10\sqrt{3} \times 20$ .  $= 100\sqrt{3}$ .

Option D is correct choice.

# Question 114

PA and PB are two tangents to a circle with centre O, from a point P outside the circle. A and B are points on the circle. If  $\angle PAB = 47^{\circ}$ , then  $\angle OAB$  is equal to:

A  $43^{\circ}$ 

- **B**  $45^{\circ}$
- c  $50^{\circ}$
- D  $20^{\circ}$

Answer: A

# Explanation:

We know that tangents drawn from a same point outside circle are of equal length.

So, triangle PAB is an isosceles triangle.

So, $\angle PAB = \angle PBA = 47^{\circ}$  $\angle APB = 180^{\circ} - 94^{\circ} = 86^{\circ}$ 

again, triangle OAB is isosceles triangle.

So, $\angle OAB = \angle OBA$ 

and  $\angle AOB + \angle APB = 180^{\circ}$ 

So, $\angle AOB = 94^{\circ}$ 

So, $\angle OAB = (180 - 94)^{\circ}/2 = 43^{\circ}$ 

So, Option A is correct choice.

# Question 115

Which of the following solids has least number of faces?

- A Cube
- B Cone
- C Triangular prism
- D Square pyramid

Answer: B

# Explanation:

Cone has only 2 faces.

Option B is correct choice.

# **Question 116**

The given bar chart shows production of steel by companies A, B, C and D for years 2014, 2015, 2016 (in tonnes).



In the given bar-chart, which company has the maximum total production of steel?

- A C
- **B** D
- DB

C A

#### Answer: B

# Explanation:

Total productions of steel of four companies are given below :

A = 150 + 300 + 500 = 950. B = 200 + 400 + 400 = 1000. C = 325 + 250 + 500 = 1075. D = 400 + 500 + 600 = 1500.Option B is correct choice.

#### Instructions

The given pie-chart shows the numbers of tourists for the year 2015, traveling from India and to India.



#### **Question 117**

In the given pie-chart, if 1657850 is the total number of tourists visiting India, how many visited from Australia:

- **A** 563669
- **B** 589320
- **C** 457602
- **D** 331570
  - Answer: A

#### **Explanation:**

34% visited from Australia.

```
So, required answer = 0.34 	imes 1657850
```

= 563669.

A is correct choice.

**Question 118** 

In the given pie-chart. from which country tourists have come to India more than Indians going to that country:

- A Australia and Africa
- B Europe
- C USA

Australia only

## Answer: A

# Explanation:

From both the pie chart it is clear that both Africa and Australia have more tourist than

Indians went to that country.

Option A is correct.

# Instructions

For the following questions answer them individually

# **Question 119**

# The given bar chart shows production of steel by companies A. B, C and D for years 2014, 2015, 2016 (in tonnes).



In the given bar-chart, what is the percentage production of 'B' in 2014 to the total production of 2014?

**A** 19.4%

**B** 20%

**C** 27.6%

**D** 18.6%

Answer: D

# Explanation:

Total production of 2014 was

= 150 + 200 + 325 + 400

= 1075.

Production of B in 2014 was

= 200.

So, required percentage = 200/1075.

= 18.60

D is correct choice.

The price of petrol was raised by 15%. By how much percentage should a motorist reduce the consumption of petrol so that the expenditure on it does not increase?

**A** 
$$9_{11}^{2}\%$$

**B**  $15_{13}^{3}\%$ 

c  $13_{23}^{1}\%$ 

D  $\frac{7}{68\%}$ Answer: C

**Explanation:** Let ,the initial price of petrol was

= 100.

After increase, price of petrol

$$= 100 + 100 \times 15/100 = 115.$$

so,reduction in consumption would be

 $=((115-100)/115) \times 100$ 

 $= (15/115) \times 100.$ 

$$= 300/23$$

So,Option C is correct.

#### **Question 121**

If a cuboid has I = 24 cm, b = 16 cm. h = 7.5 cm, its lateral surface area is:

**A**  $720 \ cm^2$ 

**B**  $2880 \ cm^2$ 

**C**  $600 \ cm^2$ 

**D**  $1440 \ cm^2$ 

Answer: C

#### **Explanation:**

Lateral Surface area of Cuboid = 2(l+b)h.

 $= 2 \times (24 + 16) \times 7.5 = 600 cm^2.$ 

C is correct.

#### **Question 122**

TWO pipes A and B can fill a tank in 45 minutes. If pipe A can fill an empty tank in 1 hour, how long will it take pipe B to fill the empty tank?

A 2 hours

B 3 hours

- C 1 hour
- D 4 hours

#### Answer: B

# Explanation:

A can empty full tank in 1 hour or 60 minutes. so,A can fill (1/60) part of tank in 1 minute. A and B both can fill (1/45) part of tank in 1 minute. So, B can fill (1/45 - 1/60) = (4 - 3)/180 = 1/180part in 1 minute. or, in 180 minutes (3 hour) B can fill the full tank. B is correct.

#### **Question 123**

The number 66249 is divisible by which of the single digit numbers:

- A Only by 3 and 9
- B Only by 3 and 7
- C Only by 9
- D Only by 3
  - Answer: A

## **Explanation:**

6 + 6 + 2 + 4 + 9 = 27

which is divisible by 3 & 9.

Option A is true.

**Question 124** 

The marked price of a dress is ₹ 2,340 which is 25% above the cost price. If the dress is sold at a profit of 10%. the profit earned on the dress is:

# **A** ₹234

**B** ₹ 187.20

**C** ₹ 197

**D** ₹175.50

Answer: B

## **Explanation:**

Let say, Cost price is = c.

So, marked price is = 1.25 imes c.

So, 1.25c = 2340.

or, c = 1872.

So, Profit earned =  $1872 \times 0.10 = 187.2$ .

Option B is correct.

#### **Question 125**

If  $x = a \, \cos \theta + b \, \sin \theta$  and  $y = a \, \sin \theta - b \, \cos \theta$ , the value of  $x^2 + y^2$  is:

- **A**  $a^2 b^2$
- B a-b
- **C**  $a^2 + b^2$
- D a+bAnswer: C

# **Explanation:**

$$\begin{split} x &= aCos\theta + bSin\theta \\ x^2 &= (aCos\theta + bSin\theta)^2 \\ &= a^2Cos^2\theta + b^Sin^2\theta + 2ab \\ Cos\thetaSin\theta. \\ \text{Similarly,} \\ y^2 &= b^2Cos^2\theta + a^2Sin^2\theta \\ &- 2abCos\thetaSin\theta. \\ \text{So,} x^2 + y^2 \\ &= (a^2 + b^2)Cos^2\theta + (a^2 + b^2) \\ Sin^2\theta. \\ &= (a^2 + b^2)(Cos^2\theta + Sin^2\theta). \\ \text{we know,} Cos^2\theta + Sin^2\theta = 1. \\ \text{So,} x^2 + y^2 &= a^2 + b^2. \\ \text{Option C is correct.} \end{split}$$

#### **Question 126**

A and B are standing on the same side of a wall and observe that the angles of elevation to the top of the wall are  $45^{\circ}$  and  $60^{\circ}$  respectively. If the height of the wall is 50 M. the distance between A and B is: (Use  $\sqrt{3} = 1.73$  and  $\sqrt{2} = 1.41$ )

- **A** 25.07 m
- **B** 21.10 m
- **C** 17.38 m
- **D** 14.65 m
  - Answer: B

# Explanation:

So,  $50/(distanceA) = tan 45\degree = 1$ 

or, distance of  ${\cal A}=50m.$ 

 $50/(distance of B) = tan 60^{\circ} = \sqrt{3}$ 

or,distance of B  $= 50/\sqrt{3} = 28.86m.$ 

So,distance between A and B

= 50 - 28.86 = 21.14.

So, Option B is correct.

# Question 127

Three painters have to spend 6 hours a day for 12 days to finish a work. If after 3 days one painter leaves, in how many days the remaining work will be completed?

**A** 
$$15^{2}_{3}$$

**B**  $13^{1}_{2}$ 

**C** 11

# **D** 8

Answer: B

# Explanation:

Total 12 imes 6 = 72 hours work.

In 3 days they will work for  $6\times3=18 {\rm hours.}$ 

3 people work in a day for 6 hours.

3 people work in 12 days for 72 hours.

1 man will work in a day for 2 hours.

then, 2 man will work in a day for 4 hours.

work left of  $72-18=54 \ {\rm hours.}$ 

2 man work for 4 hours in a day.

or, 2 man work for 1 hour in  $\left(1/4
ight)$  day.

or,2 man work for 54 hour in

54/4 = 27/2 days.

So, Option B is correct.

# Question 128

The value of  $4\sin^2 30^\circ + 3\cot^2 60^\circ$  is:

```
A 1
```

- **B**  $\sqrt{3}$
- **c** 2
- **D** ()

Answer: C

# Explanation:

 $Sin30^{\circ} = 1/2$  and  $Cot60^{\circ} = 1/\sqrt{3}$ So, $4 \times Sin^2 30^{\circ} = 4 \times (1/4) = 1$ and  $3 \times Cot^2 60^{\circ} = 3 \times (1/3) = 1$ So,Sum of these two is 2. Option C is correct.

A pipe can fill a tank in 30 minutes. Due to two leakages A and B, the filled tank would be drained off in  $1\frac{1}{2}$  hour and  $1\frac{1}{4}$  hour respectively. How long will it take to fill the tank if the pipe, A and B are left open?

**A** 
$$1^{7}_{8}$$
 hour

**B**  $1^{1}_{3}$  hour

**c**  $1\frac{4}{5}$  hour

**D**  $1^{5}_{6}$  hour

Answer: A

# Explanation:

0.5 hour will take to full tank.

So, in 1 hour it will fill 2 times of tank.

first drain will clear  $\left(2/3\right)$  part of the tank in 1 hour.

second drain will clear (4/5) part of the tank in 1 hour.

So, in 1 hour ,both the tank will clear (together) = (2/3) + (4/5) = 22/15.

part of the tank.

So, when these three open together,

the resultant part will fill in 1 hour

= 2 - (22/15) = 8/15.

So, full tank will be filled in 15/8 hours.

So, Option A is correct.

#### **Question 130**

The table shows Income and expenditure of a person for 3 years (in thousands):

Statement of Income and Expenditure			
Year	Income	Expense	Savings
2000	110	103	+7
2001	223	214	+9
2002	243	197	+46
2003	189	232	-43

In the given table. if a person invested his savings every year at 8% simple interest, how much interest will he earn at the end of 2003?

**A** 7.46

**B** 6.80

**C** 4.96

**D** 5.52

Answer: B

Explanation:

Total interest earn will be

 $= 7\times0.08\times3 + 9\times0.08\times2 + 46\times0.08$ 

= 6.8.

B is correct choice.

**Question 131** 

A drives at the rate of 45 km/h and reaches its destination 4 minutes late. If speed is 60 km/h. A reaches 5 minutes early. The distance traveled by A is:

A 24 km

**B** 21 km

**C** 27 km

**D** 30 km

Answer: C

#### **Explanation:**

Let say, distance travel is X km.

Time taken at 45km/h speed is=  ${}^X_{45} hr$ .

and time taken 60km/h speed is=  ${}^X_{60}$  hr.

So,  $\begin{array}{cccc} X & 4 & X & 5 \\ X & 45 & 60 & 60 & 60 & 60 \\ \text{or, } \begin{array}{c} X & X & 4 & 5 \\ 45 & 60 & 60 & 60 & 60 \\ \text{or, } \begin{array}{c} 4X - 3X & 4 + 5 \\ 180 & 8 & 60 \\ \text{or, } \begin{array}{c} X & 9 \\ 3 & 8 & 1 \\ \text{or, } \end{array} \\ \text{or, } X = 27. \\ \text{So, C is correct choice.} \end{array}$ 

## **Question 132**

A tall rectangular vessel is half filled with water. The base dimension of the vessel is 62 cm x 45 cm. A heavy metal cube of edge 15 cm is dropped into the vessel. The rise in level of the vessel is:

A 1.21 cm

**B** 1.15 cm

**C** 1.07 cm

**D** 1 cm

Answer: A

**Explanation:** Let, say x is the rise level of the cube.

So, Volume of the water that would be filled

= 62 imes 45 imes x.

Volume of the cube =  $15 \times 15 \times 15 = 3375 cm^3$ .

So, 62 imes 45 imes x = 3375

or, X = 1.21(approx).

So, A is correct choice.

The given pie-chart shows the numbers of tourists for the year 2015. traveling from India and to India.



In the given pie-chart, if the number of tourists visiting India is 21,35,600 and the number from India to other countries is 20,45,450, how many more people visited USA from India than from USA to India?

- A 303833
- **B** 358097
- **C** 342675
- **D** 287698

Answer: A

#### **Explanation:**

The number of people visited from USA

to INDIA=  $2045450 \times 0.42 = 859089$ .

The number of people visited from INDIA to USA  $=2135600\times0.26=555256.$ 

So, required number is

- = 859089 555256.
- = 303833.

Option A is correct.

Question 134

A bought 600 gm, 750 gm, 1.1 kg, 2.3 kg and 800 gm packs of dal from a shop. What is the average weight of the packs?

- A 11.1 kg
- **B** 111 gm
- **C** 1.11 gm
- **D** 1.11 kg
  - Answer: D

**Explanation:** He bought a total of 5 packets.

Total weight = (.6 + .75 + 1.1 + 2.3 + .8)KG.

= 5.55 KG.

Average weight = 5.55/5 = 1.11 kg.

Option D is correct.

A trader gives a discount of 4% for purchases above ₹ 25,000, 6% for purchases above ₹ 35,000 and 8% for purchases above ₹ 50,000. If an item is purchased for ₹ 38,500. what would be the amount of discount?

**A** ₹ 3,740

- **B** ₹ 1,810
- **C** ₹ 3,080

**D** ₹ 2,310

Answer: D

# **Explanation:**

Discount over 35000 rupees purchase is

= 6

So, discount amount =  $38500 \times 0.06$ .

= 2310 rupees.

D is correct choice.

**Question 136** 

If the height of a pole and the distance between the pole and a man standing nearby are equal, what would be the angle of elevation to the top of the pole?

- A  $60^{\circ}$
- **B**  $90^{\circ}$

 $\mathbf{C}$   $30^{\circ}$ 

D  $45^{\circ}$ 

Answer: D

#### **Explanation:**

Here,

```
height distance(h) = base distance(b).
```

So, tan(angle) = (h/b) = 1 = tan(45°).

So, angle of elevation  $=45\,^{\circ}.$ 

Option D is correct.

Question 137

 $(-4) imes (-8) \div (-2) + 3 imes 5$  is equal to:

```
A -1
```

**B** 1

**C** 31

**D** -31

Answer: A

Explanation:

 $(-4) \times (-8) \div (-2) + 3 \times 5$ =  $(-4) \times 4 + 3 \times 5$ . = -16 + 15. = -1.

A is correct choice.

### **Question 138**

The table shows Income and expenditure of a person for 3 years (in thousands):

Statement of Income and Expenditure			
Year	Income	Expense	Savings
2000	110	103	+7
2001	223	214	+9
2002	243	197	+46
2003	189	232	-43

In the given table, what is the percentage of expenditure on income in the year 2002?(round off)

#### **A** 85%

**B** 78%

- **C** 82%
- **D** 81%

Answer: D

#### **Explanation:**

Expense in 2002 = 197 thousands.

and Income in 2002 = 243 thousands.

So, required percentage is

= 197/243 = 81(approx).

D is correct.

#### **Question 139**

The dimensions of a swimming pool are 66 m x 35 m x 3 in. How many hours will it take to fill the pool by a pipe of diameter 35 cm with water flowing at speed 8 m/s?

Α	2.	7	5

**B** 3.5

- **C** 2.5
- **D** 3.2

Answer: C

#### **Explanation:**

Amount of water contain in pool

 $=(66 imes 35 imes 3)m^3=6930m^3.$ 

Radius of pipe = 0.175m.

So, Amount of water can flow through the pipe is  $=(0.175 imes 0.175 imes (22/7) imes 8)m^3/s.$ 

$$= 0.77m^3/s.$$

So, it will take 6930/0.77 = 9000s.

or, = 9000/3600 = 2.5 hours.

Option C is correct.

#### **Question 140**

The price of a refrigerator is ₹ 22,000. A shopkeeper marks its price 15% above its cost price and gives a discount of 8%. The discount is:

**A** ₹ 1,960

**B** ₹ 1,824

**C** ₹ 1,672

**D** ₹ 2,024

Answer: D

Explanation:

The cost price is = 22000.

Marked price is =  $1.15 \times 22000$ .

= 25300.

He gives 8 percent discount,

```
So, discount = 25300 	imes 0.08
```

=2024

So, Option D is correct.

Question 141

The least number that should be added to 10000 so that it is exactly divisible by 327 is:

**A** 327

**B** 237

**C** 137

- **D** 190
  - Answer: C

# Explanation:

327 is a multiple of 3.

So, a number should be added to 10000 which will make it divisible by 3.

And 327 is also a multiple of 109.

So, To make 10000 completely divisible by 327, a number should be added to that number which would be divisible by 109 also.

So, (10000 + 137) = 10137 is divisible by 3 as well as 109.

So,Option C is correct.

A car consumes 5.4 litres of petrol to cover 60.48 km, how many kilometers be covered with 22 litres of petrol?

- **A** 246.4
- **B** 238.62
- **C** 240.24
- **D** 243.5

Answer: A

#### **Explanation:**

5.4 litres helps to cover 60.48 KM.

So, 1 litre will help to cover

 $60.48 \div 5.4 = 11.2KM.$ 

Then 22 litres will help to cover

 $11.2 \times 22 = 246.4 KM.$ 

So, Option A is correct choice.

## **Question 143**

 $(2x-1)^3 + (3x-4)^3 + (x-7)^3 = (6x-3)(3x-4)(x-7)$ , then what is the value of x ?

- **A** 5
- **B** 8

**C** 2

#### **D** 3

Answer: C

#### **Explanation:**

By using trial and error method, if we use

x = 2,

L.H.S = 27 + 8 - 125 = -90.

and  $R.H.S = 9 \times 2 \times (-5) = -90.$ 

So, x=2, is right answer.

C is correct answer.

#### **Question 144**

The table shows Income and expenditure of a person for 3 years (in thousands):

Statement of Income and Expenditure			
Year	Income	Expense	Savings
2000	110	103	+7
2001	223	214	+9
2002	243	197	+46
2003	189	232	-43

In the given table, if a person reduced his expenditure by 10%, by how much would his total savings increased?

- **A** 69.8
- **B** 83
- **C** 74.6
- **D** 78.2

Answer: C

#### **Explanation:**

Totalexpense = 746.if expense reduced by 10 percent,then expenditure become =  $746 \times 0.90$ = 671.4.So, Savings becomes = 765 - 671.4 = 93.6Previous savings was = 7 + 9 + 46 - 43 = 19.so, Savings will increased by = 93.6 - 19 = 74.6.

Totalincome = 110 + 223 + 243 + 189 = 765

Option C is correct.

Question 145

The greatest number of four digits which is exactly divisible by 24, 36 and 54 is:

- **A** 9990
- **B** 9924
- **C** 9936
- **D** 9960
  - Answer: C

Explanation:

 $9936 = 12 \times 12 \times 23 \times 3.$ 

So, 24,36 and 54, all of these numbers have the common factors in 9936.

But, numbers in other options don't have common factors.

So, Option C is correct.

**Question 146** 

The simple interest on a certain sum at 15% p.a. for three years is ₹ 7,200. The sum is:

- **A** ₹16,000
- **B** ₹ 24,000
- **C** ₹ 32,000
- **D** ₹ 48,000
  - Answer: A

## Explanation:

 $Interest = P \times n \times (r/100).$ So,7200 =  $P \times 3 \times 0.15.$ or,  $P = 7200 \div (3 \times 0.15).$ or, P = 16000.Option A is correct.

## **Question 147**

If  $a^3 + b^3 = 416$  and a + b = 16, then  $(a - b)^2 + ab$  is equal to:

- **A** 32
- **B** 22
- **C** 24
- **D** 26

Answer: D

# Explanation:

 $(a + b)^3 - 3ab(a + b) = a^3 + b^3$ So,  $(a + b)^3 - 3ab(a + b) = 416$ or, $16^3 - 3 \times ab \times 16 = 416$ or, $3680 = 3 \times ab \times 16$ or,3ab = 230. or,ab = 230/3. And  $(a - b)^2 = (a + b)^2 - 4ab$ . or, $(a - b)^2 = 16^2 - 920/3$ or, $(a - b)^2 = -152/3$ . So,  $(a - b)^2 + ab = (230 - 152)/3 = 78/3 = 26$ . So, D is correct. Question 148

The cube root of 3375 equal to.

**A** 35

- **B** 25
- **C** 55
- **D** 15

Answer: D

Explanation:  $3375 = 15 \times 15 \times 15.$ 

So, cube root of 3375 is 15.

D is correct.

**Question 149** 

A marketing agent earns a commission of 2% on first ₹ 2,00,000. 1.5% on next ₹ 2,00,000 and 1% on the remaining amount of sales made in a month, If the sales achieved by the agent for the month of April 2018 are ₹ 5,68,000, the commission earned is:

**A** ₹8,680

**B** ₹7,730

**C** ₹ 8,240

**D** ₹ 7,105

Answer: A

**Explanation:** Sales made in month of April

= 568000 - 200000 - 200000 = 168000.

So, first commission earned

 $= 200000 \times 0.02 = 4000.$ 

second commission earned

 $200000 \times 0.015 = 3000.$ 

and third commission earned

 $168000 \times 0.01 = 1680$ 

Total comission earned

4000 + 3000 + 1680 = 8680.

So, Option A is correct.

#### **Question 150**

 ${3 \atop 4} + {5 \atop 2} [{1 \atop 4} imes ({8 \atop 5} - {4 \atop 3})]$  is equal to:

**A**  $^{13}_{24}$ 

**B**  $\frac{3}{4}$ 

**c**  ${}^{1}_{4}$ 

**D**  $\begin{array}{c} 11 \\ 12 \end{array}$ 

```
Answer: D
```

# Explanation:

 $= {\begin{array}{*{20}c} 3 & 1 \\ 4 & + & 6 \\ \end{array}}$  $= {\begin{array}{*{20}c} 9+2 \\ 12 \\ 12 \\ \end{array}}$  $= {\begin{array}{*{20}c} 11 \\ 12 \\ \end{array}}.$ 

D is correct choice.

# English

**Instructions** For the following questions answer them individually

#### Question 151

Select the most appropriate meaning of the given idiom. to leave no stone unturned

- A to comprehensively arrange things
- B to fully revise something produced
- C to completely renovate an old building
- D to make all possible efforts

Answer: D

#### Question 152

Select the most appropriate word to fill in the blank.

Around 1,900-4,200 years before the present time was a time of ..... change in India, characterized by the deurbanization of the Indus Valley civilization.

- A promising
- B weighty
- **C** profound
- D reflective

Answer: C

**Question 153** 

Select the antonym of the given word. DYE

- A blend
- B bleach
- C wash
- D live
  - Answer: B

Select the most appropriate word to fill in the blank. The study has uncovered differences in how the brain ...... visual information in patients with various types of lazy eye.

- A exchanges
- B transforms
- C changes
- D processes

Answer: D

## **Question 155**

Select the wrongly spelt word.

- A allergic
- B alegorical
- **C** altitude
- D alpine
  - Answer: B

## **Question 156**

Identify the segment in the sentence. which contains the grammatical error. For the long-term strength of the economy the limit of corporate stock buybacks is a potential solution.

- A is a potential solution
- B strength of the economy
- C limit of corporate stock buybacks
- **D** For the long term

Answer: C

**Question 157** 

Identify the segment in the sentence. which contains the grammatical error. We are witnessing the worse level of income inequality in decades.

- A in decades.
- B the worse level of
- c income inequality
- D are witnessing
  - Answer: B

Select the most appropriate meaning of the given idiom. to pigeon hole

- A to blindly accept someone
- B to typecast someone
- C to call someone names
- D to hurriedly reject someone

Answer: B

# Question 159

Select the most appropriate word to fill in the blank.

Depression is now the single largest illness in the world: suicide is thus the second leading cause of death among ....... and young adults.

- A boys
- **B** infants
- C girls
- D adolescents

Answer: D

**Question 160** 

Select the antonym of the given word. DESTINATION

- A arrival
- B origin
- C departure
- D target

Answer: B

#### **Question 161**

Select the most appropriate word to fill in the blank. Cells in our body have built-in ...... to divide and grow to optimum size.

- A appliances
- B mechanism
- C approaches

#### **D** tools

Answer: B

**Question 162** 

Select the wrongly spelt word.

- A resplendent
- B resistance
- **C** resurrect
- D reseptacle

Answer: D

**Question 163** 

Select the most appropriate meaning of the given idiom. to make no bones about

- A to state something clearly
- B to reveal the hidden structure
- **C** to consume only the fleshy part
- D to make something unsubstantial

Answer: A

#### **Question 164**

Select the most appropriate meaning of the given idiom. to hold a brief for

- A to support someone's cause
- B to write a speech for someone
- C to upset someone's campaign
- D to wait for someone
  - Answer: A

#### 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 number.

Passage:

#### **Question 165**

Select the most appropriate option to fill in blank No.1.

- A margins
- B forefront
- C background
- **D** beginning

Answer: B

## **Question 166**

Select the most appropriate option to fill in blank No.2.

- A scapegoats
- **B** victims
- C accused
- D retainers

Answer: A

#### Question 167

Select the most appropriate option to fill in blank No.3.

- A on
- B by
- C from
- D with

Answer: B

**Question 168** 

Select the most appropriate option to fill in blank No.4.

- A his
- B their
- C its
- D our
  - Answer: B

**Question 169** 

Select the most appropriate option to fill in blank No.5.

- A responsibility
- B target

- c outcome
- **D** priority
  - Answer: A

Instructions For the following questions answer them individually

Question 170

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

identification with another person's feelings

- A empathy
- B charity
- **C** humanity
- D antipathy

Answer: A

**Question 171** 

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

person who pretends to have special knowledge or skill

- A egotist
- B charlatan
- C scholar
- D student

Answer: B

Question 172

Select the antonym of the given word. UNCANNY

- A fantastic
- B ordinary
- C logical
- D wise

Answer: B

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it. select No improvement.

<u>The avalanche of new data have been as overwhelming</u> that many scientists who were skeptical about Bronze Age migrations into India have changed their opinions.

- A The avalanche of new data has been as overwhelming
- B The avalanche of new data has been so overwhelming
- C The avalanche of new data have been so overwhelming
- D No improvement

Answer: B

#### **Question 174**

Identify the segment in the sentence, which contains the grammatical error. There is something special about life: the closer one looks to these performances. the more impressive the show becomes.

- A something special about
- B the more impressive
- **C** these performances
- D the closer one looks to

Answer: D

#### **Question 175**

Identify the segment in the sentence, which contains the grammatical error.

In the ideal 21st century classroom. children are actually excited about going to school. and there is little or no discipline problems because everyone is eager to learn.

- A children are actually excited
- B In the ideal 21st century classroom
- **C** there is little
- **D** everyone is eager

Answer: C

# **Question 176**

Select the synonym of the given word. COMPLIANT

- A submissive
- B protestor
- C obdurate

**D** resolute

Answer: A

**Question 177** 

Select the synonym of the given word. LAUNCHING

- **A** introducing
- B driving
- **C** running
- **D** navigating

Answer: A

**Question 178** 

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it. select No improvement.

A phenomenon called the polar vortex has hit central and eastern parts of the United States. It has brought with it snow, brutally cold temperatures and <u>potentially life-threatening wind chill</u>.

- A potentially life-threaten windy chills.
- B No improvement
- C potentially life-threatened wind chill.
- D potential life-threatening wind chill.

Answer: B

#### **Question 179**

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it. select No improvement.

Though we have developed the technology for process wastewater with the textile industry. it can be used for any other industrial wastewater.

- A processing wastewater in the textile industry
- B processing wastewater from the textile industry
- C processed wa stewater from the textile industry
- D No improvement

Answer: B

#### Instructions

Read the following passage and answer the questions that follow-Passage:

The Blue Mormtains. just 90 minutes from Sydney. get their name from the natural blue haze created by vast eucalyptus forests in this World Heritage area. Titty droplets of oil released from the trees mix with water vapour and sunlight to produce the distinctive colour.

Etched with deep fissures that have been chiselled and shaped over ages from the sandstone of an ancient sea. the Blue Mountains is ideal for the th'illing adventure sport of canyoning. A rope-assisted descent into a canyon or cave. canyoning gives access to a beautiful subterranean world. With its dramatic vistas. soaring forests. deep gorges. waterfalls and htmdreds of kilometres of walking trails, the Blue Momitains saves its best for bushwalkers.

A highlight of the Greater Blue Moruitains World Heritage Area. Jenolan Caves is a labyrinth of stalactite-lined limestone chasms carved by undergrormd rivers . Set in a deep and secluded valley on the western edge of the Blue Mormtains. the pure underground rivers and amazing fomiations inside the caves make this one of the finest cave systems in the world. With 11 spectacular show caves, underground rivers and awe-inspiring formations, you can explore the caves on a guided day tour. get goose bumps on a ghost tour or enjoy a monthly cave concert with natiu'al acoustics and fairy tale ambience.

Another way to experience the natural splendom' of the Blue Mountains is by biking or walking. Blue Mountain Bikes provide a mobile service that meets you with bikes. equipment and maps. You can also discover the Blue Mountains' rich Aboriginal heritage on a walking tour with a local guide. It's best to join a guided tour if you're unfamiliar with the region and weather conditions. A trip to the Blue Mountains wouldn't be complete without visiting Katoomba. There you can ride the Scenic Skyway gondola across Jamison Valley. taking in views of the Three

Sisters. Mount Solitaiy and Katoomba Falls. You can also visit the Scenic Railway. the world's steepest incline railway. descending more than 400 metres (0.25 miles) down the escarpment. This thrilling ride passes through a long trumel and gorge. ending 011 the valley floor, and is a huge hit with children.

With thousands of plants from the southem hemisphere and around the world, including the rare Wollemi Pine, the Blue Mormtains Botanic Garden at Mormt Tomah is a must-see for nature lovers. The cool climate garden is 1000 metres (0.62 miles) above sea level and has shunting views across the area. Wander around the estate and explore the many formal gardens. The region is also worth checking out to understand why it was classified a World Heritage Area.

#### Question 180

#### The Blue Mountains get their unique colour from

- A Merging of sunlight and water droplets with eucalyptus oil.
- B water drops as they mix together in the sunlight.
- **C** drops of oil given out by trees in the region.
- D the eucalyptus trees that turn blue in the bright sunlight

#### Answer: A

#### Question 181

#### Which of the following experiences will a visit to the Jenolan caves NOT provide?

- A stalactite formations
- B cave concert with natural acoustics
- C underground rivers
- D shows featuring popular fairy tales

Answer: D

Match the places with experiences

1. Mount Tomah	a) Sharp descent through a narrow	
	valley; underground process	
2. Jenolan Caves	<li>b) Sky ride across a valley; breath</li>	
	taking views of mountains	
3. Scenic Railway	c) entertaining shows; cave formations	
4. Katoomba	d) uncommon varaities of pine trees; protected areas	

# Match the places with experiences

- **A** 1-a), 2-d), 3-b), 4-c)
- **B** 1-a), 2-b), 3-d), 4-c)
- C 1-d), 2-c), 3-a), 4-b)
- **D** l-d), 2-c), 3-b), 4-a)

Answer: C

# **Question 183**

What do the river waters do to the cave walls?

- A create fearful waterfalls
- B give beautiful shapes and patterns
- C create ghosts and fearful images
- D provide a place to put up sound and light shows

Answer: B

**Question 184** 

Where are you likely to read this piece?

- A essay book
- B travel brochure
- C personal diary
- D newspaper report
  - Answer: B

## Instructions

For the following questions answer them individually

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

South Asia. reaching from Afghanistan in the west to Bangladesh in the east, is <u>home to at last six hundred languages</u> belonging to six large language families.

- A No improvement
- B home to at least six hundred languages
- C home to at least six hundred language
- D home to at most six hundred languages

Answer: B

```
Question 186
```

Select the most appropriate meaning of the given idiom. to blow hot and cold

- A to work like bellows and blow air
- B to exhale heat and inhale cold
- C to be friendly and unfriendly at the same time
- D to show favour and disfavour alternately

Answer: C

**Question 187** 

Select the antonym of the given word. FERTILE

- A barren
- B damaging
- **C** enemy
- D fresh

Answer: A

**Question 188** 

Select the synonym of the given word. STIMULATION

- A enthusiasm
- B indolence
- **C** provocation
- D eagerness

Answer: C

Question 189

Select the synonym of the given word. REPLACED

- A removed
- B moved
- C instituted
- D substituted

Answer: D

**Question 190** 

Select the word, which means the same as the group of words given. method of talking in a roundabout way

- A talkative
- B circumlocution
- **C** elocution
- D convoluted
  - Answer: B

#### **Question 191**

Select the word, which means the same as the group of words given. a person claiming to be superior in culture and intellect to others

- A patrician
- B highbrow
- C elite
- D noble

Answer: B

Question 192

Select the wrongly spelt word.

- A contiguous
- **B** confirmed
- C confarmist
- D contagious

Answer: C
#### **Question 193**

Select the antonym of the given word. SEVER

- A remove
- B trim
- **C** keep
- D unite
  - Answer: D

### **Question 194**

Identify the segment in the sentence. which contains the grammatical error.

The subway system has become very safe and it has come a long way since the 1980s and 1990s where violence was rampant.

- A has become very safe
- B a long way
- **C** where violence
- D it has come

Answer: C

Question 195

Select the wrongly spelt word.

- A reciepient
- B recede
- **C** recent
- D receipt

Answer: A

Question 196

Select the wrongly spelt word.

- A assension
- B ascent
- **C** assertion
- D accent
  - Answer: A

## Question 197

Select the most appropriate word to fill in the blank.

Similar to physical ailments, mental illness is also rooted in a ..... basis, as opposed to beliefs which attribute mental illnesses to the presence of evil spirits.

- A logical
- **B** biological
- C physical
- D biochemical

Answer: B

### **Question 198**

Select the word, which means the same as the group of words given. something which is easily breakable

- A docile
- B fragile
- **C** fertile
- D futile

Answer: B

**Question 199** 

Select the synonym of the given word. CONTAMINATING

- A investing
- B polluting
- **C** containing
- D encompassing

Answer: B

# **Question 200**

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it. select No improvement.

Genetic influx from Central Asia in the Bronze Age was strongly male-driven, consistent with the patriarchal social structure <u>attributing to the Indo-European</u> pastoralist society.

- B No improvement
- C attributed to the Indo-European
- D attributed by the Indo-European

Answer: C