# SSC CPO 16th-March-2019-Shift-2

## Reasoning

**Instructions**

For the following questions answer them individually

**Question 1**

**If AT = 20 and BEG = 70, then BANK = ..........**

A  318

B  308

C  228

D  282

    **Answer:** B

**Explanation:**

In conversion table, $A = 1, T = 20, B = 2, E = 5, G = 7, N = 14, K = 11$.

So, $AT = 1 \times 20 = 20$, $BEG = 2 \times 5 \times 7 = 70$.

Then, $BANK = 2 \times 1 \times 14 \times 11 = 308$.

B is correct answer.

**Question 2**

**Identify the number that does NOT belong in the given series.**
**5, 9, 17, 29, 55, 65**

A  55

B  29

C  9

D  5

    **Answer:** A

**Explanation:**

$5 + 4 = 9, \ 9 + 4 \times 2 = 17, \ 17 + 4 \times 3 = 29, \ 29 + 4 \times 4 = 45, 45 + 4 \times 5 = 65$.

So, it should be 45, not 55.

Hence, A is correct choice.

**Question 3**

**Three of the following four numbers are alike in a certain way and one is different. Identify the different one.**

A  2047

B  4702

C  6041

D  4306

    **Answer:** C

**Explanation:**

$2047 = 23 \times 89$.

$4702 = 2 \times 2351$.

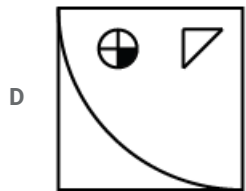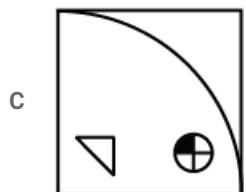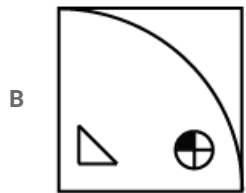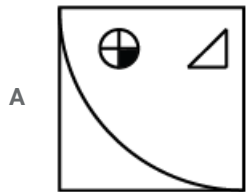$6041 = 1 \times 6041$.

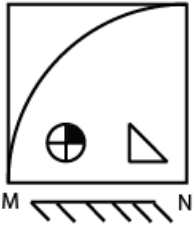$4306 = 2 \times 2153$.

each number ,rather than 6041, is a product of two different prime numbers .

So, C is correct.

**Question 4**

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



A



B

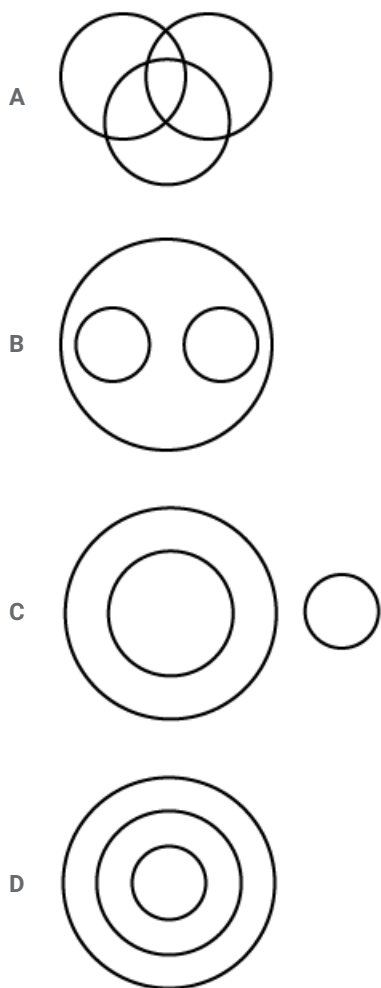

C



D



**Answer:** D

**Explanation:**

Reverse image will appear in the mirror.

Image in option D is the correct choice.

**Question 5**

Select the Venn diagram that represents the correct relationship between the following classes.
Vegetables, Brinjal, Apple

A

B

C

D

Answer: C

**Explanation:**
Brinjal is a vegetable but apple is a fruit.

So, Diagram in C shows right relation between them.

**Question 6**

Select the set of numbers that is similar to the following set of numbers.
(18, 54, 36)

A  (16, 40, 32)

B  (10, 40, 20)

C  (2, 6, 10)

D  (8, 24, 16)

Answer: D

**Explanation:**
$(18, 54, 36) \longrightarrow 18 + 36 = 54.$

Similarly,$(8, 24, 16) \longrightarrow 8 + 16 = 24.$

Other options are not valid.

D is correct choice.

## Question 7

**Select the word-pair in which the two words are related in the same way as are the two words in the given word-pair.**
**Steel : Iron**

**A**   Chromium : Silver

**B**   Brass : Copper

**C**   Bronze : Iron

**D**   Nickel : Tin

   **Answer:** B

**Explanation:**
Steel is an alloy of Iron.

Similarly, Brass is an alloy of Copper.

B is correct choice.

## Question 8

**Choose the option which has the same relation as the words given below :**
**Airplane : Airport/Hangar**

**A**   Car : Garage

**B**   Farm : Grains

**C**   Objects : Store/Storehouse

**D**   Horse : Saddle

   **Answer:** A

**Explanation:**
Airplanes are parked inside Airport.

Similarly, Cars are parked inside Garage.

Option A is correct.

## Question 9

**Which two numbers should be interchanged to make the following equation correct?**
$7 - 8 \div 4 + 5 \times 3 = 8 \times 3 + 6 \div 2 - 3$

**A**   4 and 5

**B**   7 and 5

**C**   4 and 2

**D**   6 and 7

   **Answer:** B

**Explanation:**
$8 \times 3 + 6 \div 2 - 3 = 24.$

if we interchange 7 and 5 then first equation will become $5 - 8 \div 4 + 7 \times 3 = 24$.

So, option B is correct.

**Question 10**

**Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order.**
**1) Editor**
**2) Publisher**
**3) Author**
**4) Reader**
**5) Bookseller**

**A** 3, 1, 2, 5, 4

**B** 4, 3, 1, 2, 5

**C** 1, 3, 2, 5, 4

**D** 3, 2, 1, 5, 4

**Answer:** A

**Explanation:**
$Author \longrightarrow Editor \longrightarrow Publisher \longrightarrow Bookseller \longrightarrow Reader$.

A is correct.

**Question 11**

**If '$\times$' stands for addition, '$\div$' stands for subtraction, '$+$' stands for multiplication and '$-$' stands for division, then what will be the value of the following expression?**
$26 \div 13 \times 8 + 6 - 2$

**A** 17

**B** 47

**C** 27

**D** 37

**Answer:** D

**Explanation:**
rearranging the expression,

$26 - 13 + 8 \times 6 \div 2$

$= 26 - 13 + 8 \times 3$

$= 26 - 13 + 24$

$= 50 - 13$

$= 37$.

D is right.

**Question 12**

Two statements are given, followed by two conclusions I and II. Assuming these statements to be true, even if they seem to be at variance with commonly known facts, decide which of the given conclusions logically follow (s) from the statements.
Statements:
Some roads are metros.
Some metros are cars.
Conclusions:
I. All cars are either roads or metros.
II. Some cars are metros.

A   Only conclusion I follows.

B   Neither conclusion I nor II follows.

C   Only conclusion II follows.

D   Either conclusion I or II follows.

   **Answer:** C

**Explanation:**
"Some roads are metros" and "Some metros are Cars" means Some cars can not be metros as well as Some cars can not be roads.

But some cars are metros.

So, option C is correct.

**Question 13**

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

A   Lion

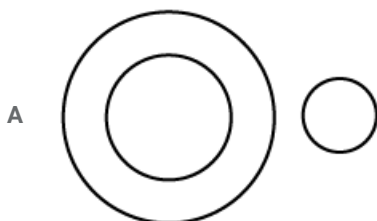B   Whale

C   Elephant

D   Shark

   **Answer:** D

**Explanation:**
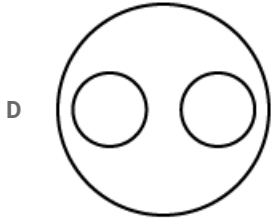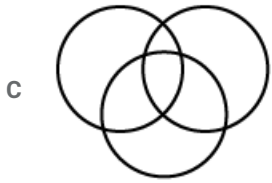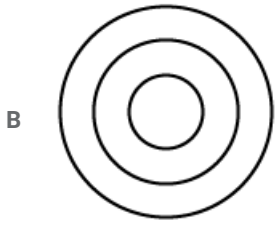Lion,Elephant and Whale have bones , but Shark is made of Cartilage.

So, D is correct choice.

**Question 14**

Select the Venn diagram that represents the correct relationship between the following classes.
Jaisalmer, Jaipur, Rajasthan

A

**B**



**C**



**D**



**Answer:** D

**Explanation:**

Jaisalmer and Jaipur both are cities of Rajasthan.

So, option D shows correct relation between them.

**Question 15**

**Three of the following four number-pairs are alike in a certain way and one is different. Identify the different one.**

**A** 37 : 75

**B** 29 : 59

**C** 28 : 56

**D** 26 : 53

**Answer:** C

**Explanation:**

$37 : 75 \longrightarrow 37 \times 2 + 1 = 75, 29 : 59 \longrightarrow 29 \times 2 + 1 = 59, 26 : 53 \longrightarrow 26 \times 2 + 1 = 53.$

But,$28 : 56 \longrightarrow 28 \times 2 = 56.$

So, C is correct.

**Question 16**

**Select the option that is related to the third term in the same way as the second term is related to the first term.**
**ADGJ : ZWTQ :: MPSV : .........**

**A** NKHE

**B** MKHE

**C** NJGC

**D** GJLM

**Answer:** A

**Explanation:**

In Conversion table, $A = 1, D = 4, G = 7, J = 10$. and $Z = 26, W = 23, T = 20, Q = 17$.

So, $A + Z = D + W = G + T = J + Q = 27$.

Similarly, $M = 13, P = 16, S = 19, V = 22$.

So, $M + N = P + K = S + H = V + E = 27$.

So, NKHE is correct choice.

**Question 17**

**'Optimist' is related to 'Pessimist' in the same way as 'Cheerful' is related to ' .........**

A   Selfish

B   Beautiful

C   Ugly

D   Gloomy

 **Answer:** D

**Explanation:**

Pessimist is opposite word of Optimist.

And Gloomy is opposite word of Cheerful.

D is correct.

**Question 18**

**Select the set of numbers that is similar to the following set of numbers.**
**(12, 37, 112)**

A   (15, 46, 139)

B   (7, 24, 73)

C   (13, 40, 118)

D   (9, 28, 83)

 **Answer:** A

**Explanation:**

(12,37,112) ------> $12 \times 3 + 1 = 37,\ 37 \times 3 + 1 = 112$.

Similarly, (15,46,139) -----> $15 \times 3 + 1 = 46,\ 46 \times 3 + 1 = 139$.

So, option A is correct choice.

**Question 19**

**Select the number-pair in which the two timbers are related in the same way as are the two numbers of the given number pair.**
**13 : 174**

A   15 : 224

B   8 : 69

C   14 : 200

**D** $9:81$

**Answer:** B

**Explanation:**
13:174 ----> $13^2 + 5 = 174$.

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

But ,other options does not satisfy the same logic.

So, option B is correct choice.

**Question 20**

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

**A** KOTZ

**B** DHMS

**C** GIMP

**D** FJOU

**Answer:** C

**Explanation:**
KOTZ ----> $K + 4 = O$, $O + 5 = T$, $T + 6 = Z$.

DHMS ----> $D + 4 = H$, $H + 5 = M$, $M + 6 = S$.

GIMP -----> $G + 2 = I$, $I + 4 = M$, $M + 3 = P$.

FJOU -----> $F + 4 = J$, $J + 5 = O$, $O + 6 = U$.

So, C is correct choice.

**Question 21**

**In a certain code langiage, SON is written as 345 and ROAM is written as 6412. How will RANSOM be written as in the same language?**

**A** 615342

**B** 651342

**C** 615324

**D** 612435

**Answer:** A

**Explanation:**
From given condition,

$S = 3$, $O = 4$, $N = 5$ , $R = 6$, $A = 1$, $M = 2$.

$RANSOM = 615342$.

option A is correct.

**Question 22**

**Three of the following four number-pairs are alike in a certain way and one is different. Identify the different one.**

**A** 15 : 115

**B** 23 : 161

**C** 29 : 203

**D** 27 : 189

Answer: A

**Explanation:**

23:161 means $7 \times 23 = 161$.

29:203 means $7 \times 29 = 203$.

27:189 means $7 \times 27 = 189$.

but 15:115 is not in same pattern.
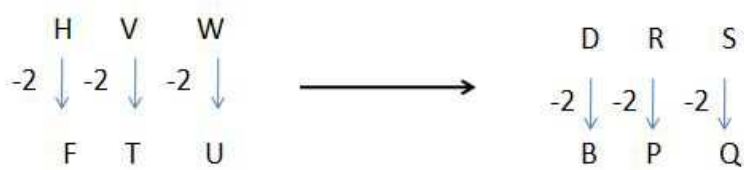
So, option A is correct.

**Question 23**

**Select the option that is related to the third term in the same way as the second term is related to the first term.**
**HVW : FTU :: DRS : .......**

**A** FTU

**B** BOQ

**C** BPQ

**D** APQ

Answer: C

**Explanation:**



So, option C is correct.

**Question 24**

**Which number will replace the question mark (?) in the following series?**
**1, 4, 3, 4, 7, 7, 13, 13, ?**

**A** 20

**B** 22

**C** 31

**D** 21

Answer: D

**Explanation:**
it is an alternative series. where 1,3,7,13 in a series and 4,4,7,13 are also in a series.

$1 + 2 = 3$

$3 + 4 = 7$

$7 + 6 = 13$

$13 + 8 = 21$

So, next number is 21 in the above series.

option D is correct.

**Question 25**

**Which number will replace the question mark (?) in the following series?**
**7, 14, 33, 70, 131, ?**

**A** 190

**B** 218

**C** 131

**D** 222

   **Answer:** D

**Explanation:**
Difference between consecutive numbers have been taken.

$14 - 7 = 7, \ 33 - 14 = 19, \ 70 - 33 = 37 \ and \ 131 - 70 = 61$ .

again, these 7,19,37,61 are also in a series in following manner.

$19 - 7 = 12, \ 37 - 19 = 18, \ 61 - 37 = 24.$
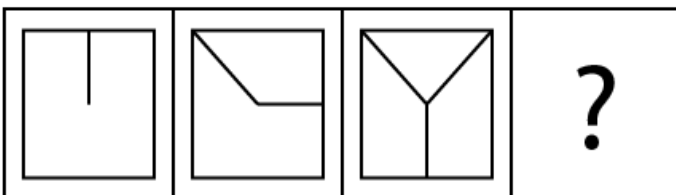
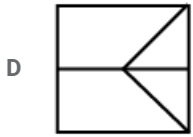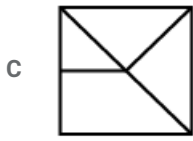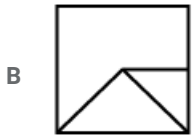So, next number will be added by 30 to 61(which will be 91). And it will be added to 131.

So, required number is $= 131 + 61 + 30 = 222.$

option D is correct.

**Question 26**

**Select the option that will come next in the given series.**



A

B



C



D

**Answer:** C

**Explanation:**
In first diagram, one line is join to the middle of a side.

2nd diagram, 45 degree anticlockwise and then 90 degree clockwise.

3rd diagram, again 90 degree clockwise and 45 degree clockwise.

So, option C is right choice as 4th diagram .

**Question 27**

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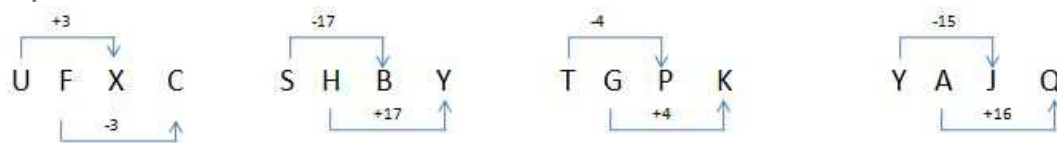
A  UFXC

B  SHBY

C  TGPK

D  YAJQ

**Answer:** D

**Explanation:**



So, YAJQ is not in same pattern .Hence, option D is correct.

**Question 28**

**Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order.**
**1) Knee**
**2) Heel**
**3) Ankle**
**4) Thigh**
**5) Calf**

A  2, 3, 1, 4, 5

B  2, 3, 1, 5, 4

C  4, 5, 3, 2, 1

**D** 2, 3, 5, 1, 4

    **Answer:** D

**Explanation:**

From upside down, first comes Thigh, then Knee, after that Calf, then Ankle, and at last Heel.

If we reverse it, we get (2,3,5,1,4) as an order.

So, option D is correct.

**Question 29**

If sign '+' is interchanged with '÷' and number '2' is interchanged with '6', which of the following equations would be correct?

**A** $8 + 6 \div 2 = 8$

**B** $2 + 8 \div 6 = 6$

**C** $2 + 8 \div 2 = 8$

**D** $2 + 6 \div 8 = 11$

    **Answer:** D

**Explanation:**

if +sign is interchange with ÷ and 2 is interchange with 6, then

$2 + 6 \div 8$ becomes $6 \div 2 + 8$.

$6 \div 2 + 8 = 3 + 8 = 11$.

So, option D is correct choice.

**Question 30**

Choose the mirror image of the given word if the mirror is placed to the right of the word.

MOUNTAIN

**A** ИIATИUOM

**B** MOUNTAIN

**C** ИIATИUOM

**D** NIATNUOM

    **Answer:** A

**Explanation:**

if we place anything in front of a mirror, it will show symmetric image of that object.

So, N will appear upside down in the mirror and other will appear as it looks like.

So, option A is correct choice.

**Question 31**

Select the option that will come next in the given series.



A



B



C



D
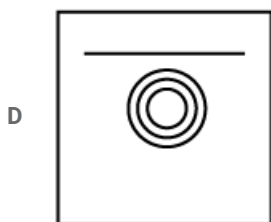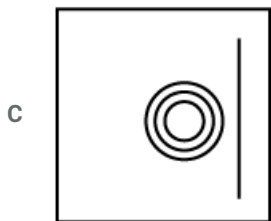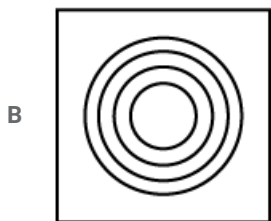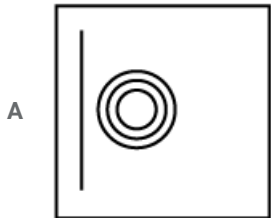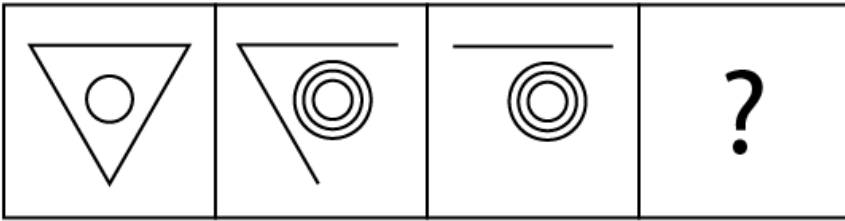


**Answer:** B

**Explanation:**

By observation ,we can say that one side of triangle is removed from each image

and one smaller circle is added to next image. So,final image should remain with only four circle (one inside

another).

So, Option B is correct choice.

**Question 32**

How many squares are there in the following figure?
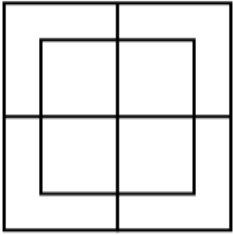


A   8

B   14

C   10

D   12

   **Answer:** C

**Explanation:**
1 large square , 4 small square , 4 medium small square and 1 medium square is there in the picture.



1 large square

4 medium large square

4 small square

1 medium large square in centre

Total number of square=1+4+4+1=10.
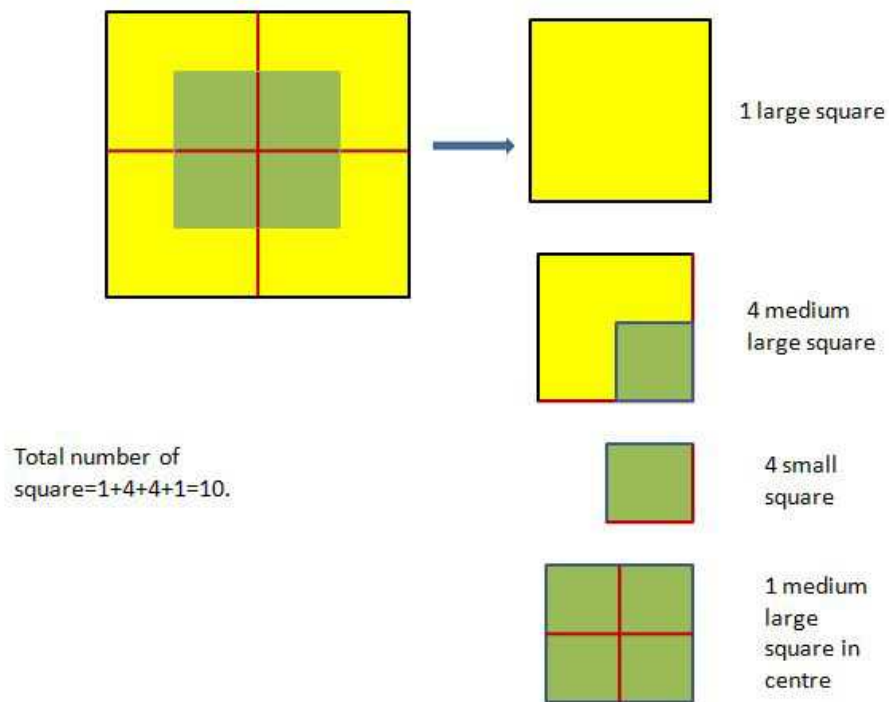
option C is correct.

**Question 33**

If in a language, 'foot' is called 'elbow', 'elbow' is called 'ankle', 'ankle' is called 'palm', 'palm' is called 'finger' and 'finger' is called 'knee', then in that language, on what would one wear a ring?

A   Ankle

B   Knee

C   Palm

D   Finger

**Answer:** B

**Explanation:**

Clearly, one should wear ring in finger ,but  finger is called knee.

So,option B is correct choice.

**Question 34**

**Three of the following four number-pairs are alike in a certain way and one is difierent. Identify the different one.**

A   9 : 729

B   13 : 2197

C   7 : 343

D   17 : 4814

**Answer:** D

**Explanation:**

729 is perfect cube of 9,2197 is perfect cube of 13 and 343 is perfect cube of 7.

But 4814 is not perfect cube of 17.

So, option D is correct answer.

**Question 35**

**Select the option that is embedded in the following figure. (Rotation is not allowed)**



A



B



C



D



**Answer:** C

**Explanation:**



If we extract these deep red line shape
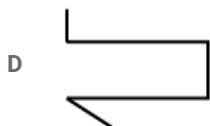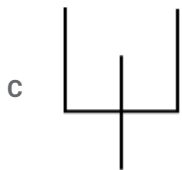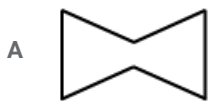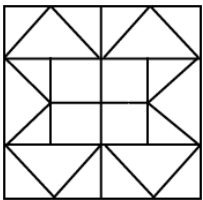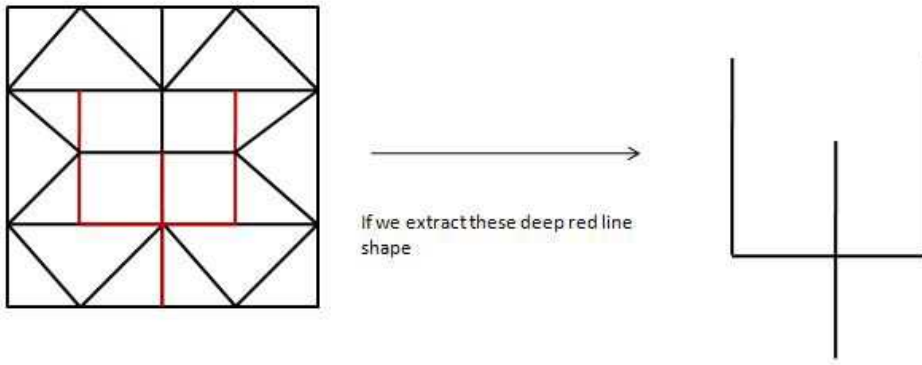
Option C is correct choice.

## Question 36

Two statements are given, followed by two conclusions I and II Assuming these statements to be true, even if they seem to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.
Statements:
No Tablet is lion.
All lions are bells.
Conclusions:
I. No bell is tablet.
II. Some bells are lions.

A   Only conclusion I follows.

B   Both conclusions I and II follow.

C   Only conclusion II follows.

D   Neither conclusion I nor II follows.

  **Answer: C**
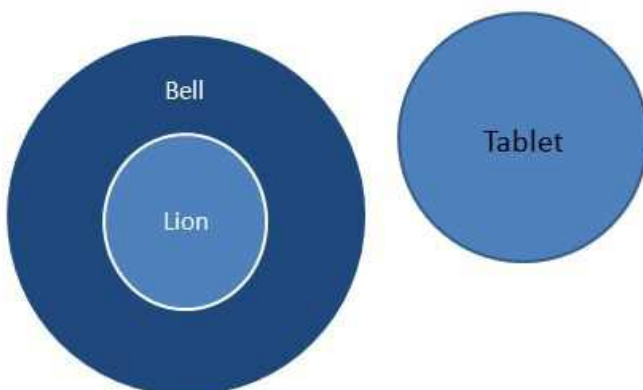
**Explanation:**



So, some bells are Lion and some Tablet may be Bell. So, option C is correct.

## Question 37

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

**A** EZH

**B** EAH

**C** EZI

**D** DZI

Answer: C

Explanation:
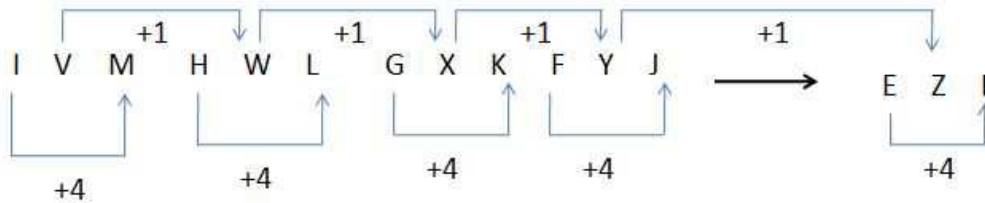


So, option C is correct.

Question 38

Which letter will replace the question mark (?) in the following series?
B, E, H, K, N, ?

**A** O

**B** P

**C** Q

**D** N

Answer: C

Explanation:
Each letter is forwarded by three space.

$B + 3 = E, E + 3 = H, H + 3 = K, K + 3 = N, N + 3 = Q.$

option C is correct.

Question 39

Select the Venn diagram that represents the correct relationship between the following classes.
Fathers, Doctors, Singers

A 

B 

C



D
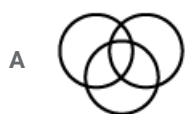
**Answer:** A

**Explanation:**

some father may be doctor or singer. some doctor may be father or singer.

some singer may be doctor or father. Or, some father may be doctor as well as singer.

And some fathers may not be singer or doctor and vice versa.

So, option A is correct.

**Question 40**

**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.**
**68 : 30**

**A** 350 : 49

**B** 222 : 131

**C** 125 : 27

**D** 520 : 350

**Answer:** D

**Explanation:**

$68 = 17 \times \ 2 \times \ 2 \ \& \ 30 \ = 5 \times \ 3 \times \ 2.$

So, both of them are multiplication of at least two different numbers.

$520 = 2^3 \times \ 13 \times \ 5 \ and \ 350 = 5^2 \times \ 7 \times \ 2.$

but,other pairs are not having the same condition.

So, option D is correct.

**Question 41**

**The sequence of folding a piece of square paper and the manner in which the folded paper has been cut is shown. How would this paper look when unfolded?**



A

B



C



D
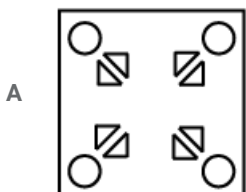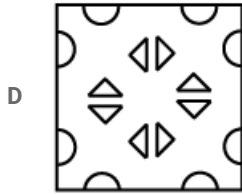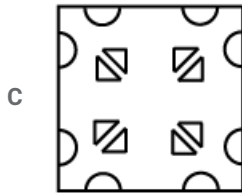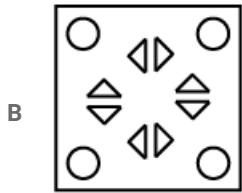
**Answer:** D

**Explanation:**

After folding the paper by four squared piece and cutting the whole thing by half circle outside & by triangle inside,

it will give you total of 8 half circle on each sides and 8 small triangle inside each folded piece having 2 half circle outside and 2 triangle inside.

So, option D is correct.

**Question 42**

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

A   Potato

B   Garlic

C   Tomato

D   Ginger

**Answer:** C

**Explanation:**

Potato,Garlic and Ginger grows under the soil but Tomato grows in tree branch.

So,option C is correct.

**Question 43**

**A man is facing towards the east. He then turns $45°$ anti-clockwise, again $180°$ anti-clockwise and then $225°$ clock wise. In which direction is he facing now?**

A   West

B   North

C   South

D   East

**Answer:** D

**Explanation:**

He rotated total of $45 + 180 = 225$ degree in anti-clockwise direction and then rotate same 225 degree in clockwise direction.

So, he did not changes his initial position. He stays in facing towards East.

So, option D is correct.

## Question 44

**If in a certain code, EDITION is written as VWRGRLM, then which word will be coded as SLMVHGB?**

**A**   HAUGHTY

**B**   HONESTY

**C**   AMNESTY

**D**   EDITORS

   **Answer:** B

**Explanation:**

In conversion table,

$E = 5, D = 4, I = 9, T = 20, O = 15, N = 14$

and $V = 22, W = 23, R = 18, G = 7, L = 12, M = 13$

EDITION is coded by adding the number of (E,V),(D,W),(I,R),(T,G),(O,L),(N,M).

$E + V = D + W = I + R = T + G = I + R = O + L = N + M = 27.$

Similarly,

$HONESTY = (8, 15, 14, 5, 19, 20, 25) \ and \ SLMVHGB = (19, 12, 13, 22, 8, 7, 2) \,.$

$H + S = O + L = N + M = E + V = S + H = T + G = Y + B = 27.$

So, option B is correct choice.

## Question 45

**'Belgium' is related to 'Europe' in the same way as 'Japan' is related to '.....'.**

**A**   Africa

**B**   Australia

**C**   Asia

**D**   Europe

   **Answer:** C

**Explanation:**

Belgium is an European country,

and Japan is an Asian country.

So, option C is correct.

## Question 46

**From his house, Avinash went to Kapil's house situated 500 m towards the north-east of his own house. From there, both of them went to Varun's house situated 400 m towards the south of Kapil's house. What is the shortest distance between Avinash's current location and his location at the beginning?**

**A** 900 m

**B** 400 m

**C** 300 m

**D** 500 m

Answer: C

Explanation:
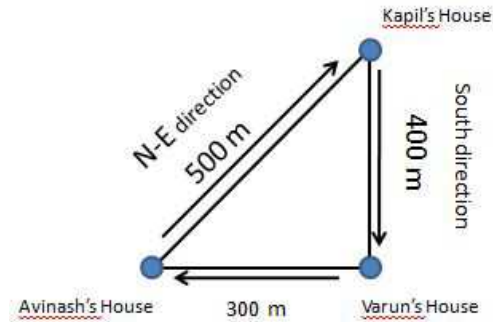


Using Pythegoras Theorem,

Shortest distance $\sqrt{500^2 - 400^2} = \sqrt{90000} = 300$.

So, option C is correct.

## Question 47

Select the option that is related to the third number in the same way as the second number is related to the first number.
23 : 138 :: 17 : .........

**A** 96

**B** 102

**C** 346

**D** 56

Answer: B

Explanation:
23:138 ==> $23 \times 6 = 138$.

Similarly, 17:102 ==> $17 \times 6 = 102$.

So, option B is correct.

## Question 48

If the following figure is folded to form a cube, how many dots would appear on the face opposite the face bearing four dots?
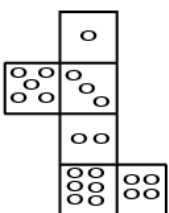
**A** 5

**B** 3

**C** 6

**D** 2

Answer: A

Explanation:

If we fold the above figure , 1 and 2 will go by the side of 3 as well as 5 and 4 come by their side.

And 6 will appear opposite of 3.

So, 5 and 4 appear opposite to each other.

So, option A is correct.

**Question 49**

**Select the option in which the given figure is embedded.**



A



B



C



D
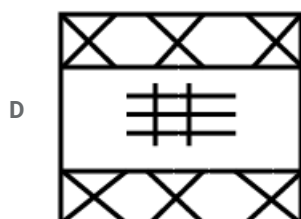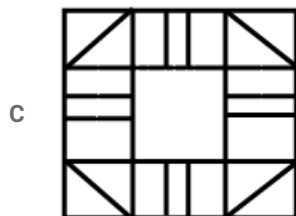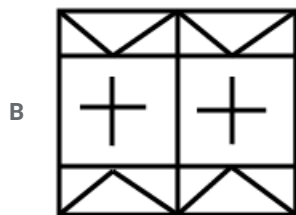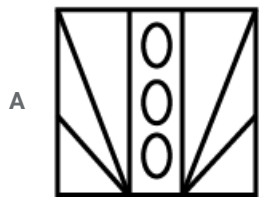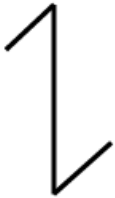


Answer: B
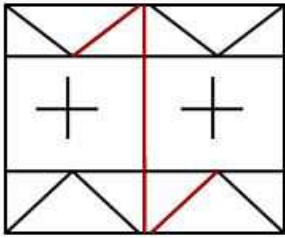
**Explanation:**



If you take the red deep line ,you will get the figure →

So, option B is correct choice.

**Question 50**

Select the option that will come next in the given series.



A 

B 

C 

D 
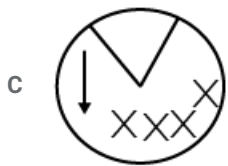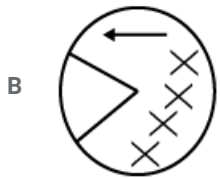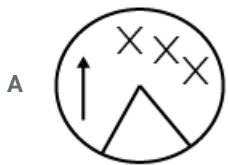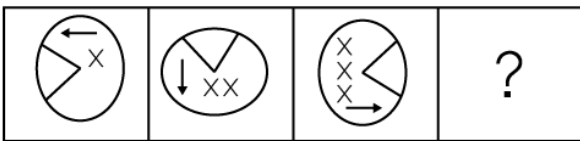
**Answer:** D

**Explanation:**

The given series shows that each picture moves anticlockwise accordingly and a "X" sign is added to the each image.

So, option D is correct choice.

# General knowledge

**Question 51**

**Which of the following would you associate with the word 'dioptre'?**

A  Urology

B  Ophthalmology

C  Neurology

D  Oncology

**Answer:** B

**Question 52**

**.......... fabric fiom Madhya Pradesh is registered with a GI tag.**

A  Pembarthi

B  Chanderi

C  Bhagalpuri

D  Sholapuri

**Answer:** B

**Question 53**

**Which of the following is NOT a nationalised bank?**

A  South Indian Bank

B  Syndicate Bank

C  Canara Bank

D  Vijaya Bank

**Answer:** A

**Question 54**

**Which of the following is NOT a national political party?**

A  Nationalist Congress Party

B  Bhartiya Janata Party

C  United Democratic Party

D  Indian National Congress

**Answer:** C

**Question 55**

'Expectation is the root of all heartache' is a quote by ..........

A   William Shakespeare

B   Dalai Lama

C   Mahavir

D   Buddha

   Answer: A

**Question 56**

Considered one of the best in India, Temi Tea garden is the only tea estate in the state of:

A   West Bengal

B   Sikkim

C   Assam

D   Odisha

   Answer: B

**Question 57**

Which renowned tabla player's son is also a famous tabla player who has collaborated with international bands?

A   Ustad Bismillah Khan

B   Ustad Amjad Ali

C   Ustad Allah Rakha

D   Ustad Rashid Khan

   Answer: C

**Question 58**

Who was the first Indian woman to win an Olympic medal?

A   Karunam Malleswari

B   Saina Nehwal

C   Mary Kom

D   Sakshi Malik

   Answer: A

**Question 59**

......... was honoured with the "Outstanding Parliamentarian Award" in 2017.

**A** Hukum Dev Narayan

**B** Bhartruhari Mahtab

**C** Ghulam Nabi Azad

**D** Dinesh Trivedi

   **Answer:** B

## Question 60

**........ is the biography of Sachin Tendulkar.**

**A** The Test of My Life

**B** Playing to Win

**C** Playing It My Way

**D** Ace Against Odds

   **Answer:** C

## Question 61

**In humans, each cell normally contains ........... pairs of chromosomes.**

**A** 22

**B** 24

**C** 23

**D** 21

   **Answer:** C

## Question 62

**Mangal Pandey was hanged in 1857 for attacking the British officers in:**

**A** Allahabad

**B** Benaras

**C** Calcutta

**D** Barrackpore

   **Answer:** D

## Question 63

**Who discovered radium?**

**A** Abdus Salam

**B** Alexander Fleming

C Pierre and Marie Currie

D Ronald Ross

Answer: C

## Question 64

Who is the second woman Speaker of the Lok Sabha?

A Smriti Irani

B Nirmala Sitharaman

C Meira Kumar

D Suman Mahajan

Answer: D

## Question 65

India celebrates National Engineer's Day on September 15, which is the birth anniversary of:

A Veeru Shahastrabuddhi

B Mokshagundam Visvesvaraya

C E. Sreedharan

D Shiva Ayyadurai

Answer: B

## Question 66

............ was the first President of the Bhartiya Janata Party.

A Kushabhau Thakre

B Atal Bihari Vajpayee

C Lal Krishna Advani

D Murli Manohar Joshi

Answer: B

## Question 67

Nepa Nagar in Madhya Pradesh is known for:

A Steel Mills

B Pottery

C  Sugar Mills

D  Newsprint Factory

Answer: D

## Question 68

'All the world's a stage, And all the men and women merely players' — is a phrase from the play:

A  Macbeth

B  Julius Ceaser

C  The Merchant of Venice

D  As You Like It

Answer: D

## Question 69

The Thimithi festival in Tamil Nadu is celebrated in the honor of:

A  Padmavati

B  Sita

C  Draupadi

D  Surpanakha

Answer: C

## Question 70

Security Printing and Minting Corporation of India Limited (SPMCIL) was established in:

A  2001

B  2005

C  2003

D  2006

Answer: D

## Question 71

Penicillin, one of the world's first antibiotics, was discovered by:

A  Marie Curie

B  Alexander Fleming

C  Alexander Graham Bell

D  Pierre Curie

**Answer:** B

## Question 72

**The Wright brothers completed the world's first successfiil controlled powered flight in:**

A  1908

B  1909

C  1911

D  1903

  **Answer:** D

## Question 73

**The Bahujan Samaj Party was formed in:**

A  1988

B  1984

C  1976

D  1967

  **Answer:** B

## Question 74

**Which of the following has an odometer?**

A  Water heater

B  Car

C  Blood pressure monitoring device

D  Air pump

  **Answer:** B

## Question 75

**The ............ period has been described as the 'golden age' of Indian history.**

A  Mughal

B  Maratha

C  Gupta

D  Buddhist

  **Answer:** C

**Question 76**

Which of the following is NOT a printing press of the Security Printing and Minting Corporation of India Limited (SPMCIL)?

A   Bank Note Press

B   Bank Security Press

C   Currency Note Press

D   Security Printing Press

Answer: B

**Question 77**

The Sanskrit phrase "Atithi Devo Bhava" means:

A   I salute you

B   The guest is God

C   Good day

D   See you soon

Answer: B

**Question 78**

Which Indian State/Union Territory has the shortest coastline?

A   Gujarat

B   Maharashtra

C   Puducherry

D   Tamil Nadu

Answer: C

**Question 79**

Who among the following is the highest-rated Visually impaired chess player in India?

A   Darpan Inani

B   Baskaran Adhiban

C   Krishnan Sasikiran

D   Pentala Harikrislma

Answer: A

**Question 80**

............ was officially acknowledged as the most recorded artist in music history by the Guinness Book of World Records in 2011.

A   Mariah Carey

B   Asha Bhosle

C   Lata Mangeshkar

D   Beyonce

Answer: B

**Question 81**

Which Gharana of classical singing did late Pandit Bhimsen Joshi belong to?

A   Etawah

B   Malhar

C   Kirana

D   Dhrupad

Answer: C

**Question 82**

As of January 2019 ........... was the longest serving Chief Minister of Gujarat.

A   Keshubhai Patel

B   Narendra Modi

C   Madhav Singh Solanki

D   Chimanbhai Patel

Answer: B

**Question 83**

Ohm's Law states that:

A   Electric current = Voltage / Resistance

B   Power = Voltage $+$ Current

C   Power = Voltage $\times$ Current

D   Electric current = Resistance / Voltage

Answer: A

**Question 84**

The Test of My LIfe is an autobiography of.

**A** Yuvraj Singh

**B** Sachin Tendulkar

**C** MS Dhoni

**D** Gautam Gambhir

Answer: A

## Question 85

**The names of Wright brothers credited with inventing the aeroplane were:**

**A** William and Oliver

**B** William and Orville

**C** Wilbur and Orville

**D** Wilbm and Oliver

Answer: C

## Question 86

**As on December 12, 2018 The Nationalist Congress Party was led by:**

**A** Sudhakar Reddy

**B** Sharad Pawar

**C** Rahul Gandhi

**D** Sitararn Yechury

Answer: B

## Question 87

**Kanishka was a ........... king.**

**A** Kushan

**B** Gupta

**C** Maurya

**D** Chola

Answer: A

## Question 88

**'Sardeshmukhi' in the Maratha regime was a:**

**A**   Designation equivalent to Peshwa

**B**   A coin during the Maratha regime

**C**   Tax levied on revenue

**D**   Name given to Shivaji

   **Answer:** C

## Question 89

**.......... is the stigma of Crocus Sativus L.**

**A**   Safiron

**B**   Turmeric

**C**   Artichoke

**D**   Ginger

   **Answer:** A

## Question 90

**What is known as Hunter's Moon in the West, is called as ........... in India.**

**A**   Pausha Purnima

**B**   Magha Purnima

**C**   Chaitra Purnima

**D**   Kartik Purnima

   **Answer:** D

## Question 91

**Which of the following states is NOT famous for the Bhut Jolokia pepper?**

**A**   Odisha

**B**   Nagaland

**C**   Manipur

**D**   Assam

   **Answer:** A

## Question 92

**Inertia is proportional to:**

**A**   Mass

**B** Weight

**C** Length

**D** Height

Answer: A

## Question 93

Fulminology is the study of:

**A** Volcanic eruptions

**B** Lightening

**C** Natural gases

**D** Atmosphere

Answer: B

## Question 94

The ........ is a tax on production/manufacture of goods within the country.

**A** Sales tax

**B** Excise duty

**C** Service tax

**D** Customs duty

Answer: B

## Question 95

Devanagari evolved from the .......... script.

**A** Brahmi

**B** Inuktikut

**C** Hebrew

**D** Kana

Answer: A

## Question 96

............ won a gold medal by setting a world record score in the men's skeet final event of the 8th Asian Shotgun Championship held in Kuwait in December 2018.

**A** Saeed Al Maktoum

**B** Angad Vir Singh Bajwa

C   Vijay Kumar

D   Jitu Rai

    **Answer:** B

## Question 97

**Which Indian state has the maximum number of sea ports?**

A   Tamil Nadu

B   Maharashtra

C   Gujarat

D   Kamataka

    **Answer:** B

## Question 98

**The Mughal empire reached its greatest extent under:**

A   Jahangir

B   Shah Jahan

C   Akbar

D   Aurangzeb

    **Answer:** D

## Question 99

**............ means the minimum lending rate which is determined by the Reserve Bank of India (RBI) and no bank is allowed to lend funds below this rate.**

A   Cash reserve ratio

B   Base rate

C   Repo rate

D   Marginal cost

    **Answer:** B

## Question 100

**This contemporary Indian dancer who merged Kathak and Kathakali with other dance forms has been awarded the Sangeet Natak Akademi Award in 1996 and Padma Shri in 2007. His/her name is:**

A   Birju Maharaj

**B** Jailal Misra

**C** Astad Deboo

**D** Uday Shankar

    **Answer:** C

# Quant

**Instructions**

For the following questions answer them individually

**Question 101**

If $x - \frac{1}{x} = 2\sqrt{2}$, then $x^2 + \frac{1}{x^2}$ **is equal to:**

**A** 16

**B** 12

**C** 11

**D** 10

    **Answer:** D

**Explanation:**

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

Squaring both sides

$(x - \frac{1}{x})^2 = (2\sqrt{2})^2$

using identity

*(a□b)²□a²□2ab□b²*

$x^2 - 2 \times x \times \frac{1}{x} + \frac{1}{x^2} = 8$

$x^2 + \frac{1}{x^2} = 10$

**Question 102**

**2.4 converted to percentage is.**

**A** 0.24

**B** 24

**C** 240

**D** 2.4

    **Answer:** C

**Explanation:**

Converting to a percentage →$$

$$= \frac{24}{10} \times 100\% = 24 \times 10\% = 240\%$$

## Question 103

**A can do a work in 30 days, B can do the same work in 48 days. After working alone for 20 days A left and B started working, how long will B take to complete the work?**

**A** 24 days

**B** 28 days

**C** 38 days

**D** 16 days

**Answer:** D

**Explanation:**

A takes 30 days to complete - 1 work

so A takes 1 day to complete - $\frac{1}{30}$ of the work

A work for 20 days $= 20 \times \frac{1}{30} = \frac{2}{3}$ of the work

work left $= 1 - \frac{2}{3} = \frac{1}{3}$

B takes 48 days to complete - 1 work

so B takes 1 day to complete $\frac{1}{48}$ of the work

for completion for $\frac{1}{3}$ it take

$= \frac{\frac{1}{3}}{\frac{1}{48}} = \frac{48}{3} = 16 days$

## Question 104

**The given pie-chart shows favourite sport of students of a school.**



**Sport**

- Cricket
- Football
- Basketball
- Hockey

**In the given pie-chart, if there were 1280 students in all, how many liked football?**

**A** 102

**B** 550

**C** 230

**D** 384

**Answer:** D

**Explanation:**

Total student=1280

percentage of student like football=30%

$$= \frac{30}{100} \times 1280 = 384$$

**Question 105**

The sides of a triangle are in the ratio 3 : 2 : 4 and the perimeter is 72 cm. The sides are:

**A** 24, 16, 32

**B** 48, 24, 12

**C** 36, 24, 12

**D** 36, 18, 9

   **Answer:** A

**Explanation:**
   1. ssume of three sides are 3a, 2a and 4a
   2. Sum of all sides is 72 = 3a+2a+4a = 9a
   3. From step 2, a=8
   4. Sides are 24, 16 and 32

**Question 106**

What percent of 2.4 m is 3.2 cm?

**A** 75%

**B** 7.5%

**C** $1000\frac{1}{3}\%$

**D** $13\frac{1}{3}\%$

   **Answer:** D

**Explanation:**
let x %  of 2.4 m is 3.2 cm

$$= \frac{x}{100} \times 240 = 3.2$$

$$= x = 13\frac{1}{3}\%$$

**Question 107**

A shopkeeper buys a book for ₹2,500 and marks its price at 15% above cost. He allows a discount of ₹345. The discount percentage is:

**A** 10

**B** 12

**C** 11

**D** 13

   **Answer:** B

**Explanation:**
CP=₹2,500

marks its price at 15% above cost price

$$=\frac{115}{100} \times 2500 = 2875$$

MP=2875,He allows a discount of ₹345.

discount percentage=$\frac{345}{2875} \times 100 = 12\%$

## Question 108

A sum at a Simple interest of 8% pa. becomes $\frac{7}{5}$ of itself in how many years?

**A** 5

**B** $2\frac{1}{2}$

**C** $3\frac{1}{2}$

**D** 2

**Answer:** A

**Explanation:**
Let the principal (P) = ₹100

∴ Amount (A) = ₹100 × $\frac{7}{5}$ = ₹140

∴ S.I. = A - P = ₹140 - ₹100

= ₹40

Rate (R) = 8% p.a.

∴ Time = (S.I. × 100)/(P × R) = (40 × 100)/(100 × 8)

= 5 Years

## Question 109

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 $\angle OAB = 38°$, then $\angle APB$ is equal to:

**A** $25°$

**B** $35°$

**C** $20°$

**D** $76°$

**Answer:** D

**Explanation:**

Since OA is perpendicular to PA and also, OB is perpendicular to PB

∠APB + ∠AOB = 180°

50°+ ∠AOB = 180°

∠AOB = 180° - 50° = 130°

In △AOB,

OA = OB = radii of same circle

∠OAB = ∠OBA = 38°

Again, ∠OAB + ∠OBA + ∠AOB = 180°

38° +38°+ ∠AOB = 180°

∠AOB= 180° - 76° = 104°

Since OA is perpendicular to PA and also, OB is perpendicular to PB

∠APB + 104°= 180°

∠APB = 180°-104°

∠APB=76°

**Question 110**

**The largest number of four digits that is exactly divisible by 15, 21 and 30 is:**

A   9840

B   9910

C   9830

D   9870

   **Answer:** D

**Explanation:**
The Largest number of four digits is 9999.

Required number must be divisible by L.C.M. of 15,21,30= 210

On dividing 9999 by 210,we get 129 as remainder .

Required number = (9999-129) = 9870.

**Question 111**

The given bar chart, shows the sales (in thousands) for sets of televisions of three companies in three years.



In the given bar-chart, What is a difference between the average sales of televisions A and B for 3 years?

**A** 78

**B** 56

**C** 104

**D** 60

**Answer:** D

**Explanation:**

Total television sales by A=430+360+550=1340

Average=Total Sales}{ no. of year}=\frac{1340}{3}=

Total television sales by B=350+430+380=1160

Diffrence=1340-1160=180

Average= $\frac{Total\ Sales\ diffrence}{no.\ of\ year} = \frac{180}{3} = 60$

**Question 112**

Two pipes can fill a cistern in 72 and 90 minutes respectively. If both the pipes are left open how long will it take for the cistern to be half full?

**A** 40 minutes

**B** 24 minutes

**C** 48 minutes

**D** 20 minutes

**Answer:** D

**Explanation:**

If both the pipes are left open then total efficiency =10+8=18

Time takne by both pipe to fill the half tank($\frac{720}{2} = 360$) is $\frac{360}{18} = 20\ minutes$

**Question 113**

**A watch was sold at a profit of 10%. Had it been sold at ₹77 more the profit percent would have been 12%. The cost price of the watch is:**

A   ₹3,760

B   ₹3,850

C   ₹3,945

D   ₹3,900

   **Answer:** B

**Explanation:**
Let the C P of the toy = Rs.100

If the gain is 10%, the first S P = 100 + 10 = Rs.110

If he had been sold Rs.77 more gain = 12 %

Therefore second S P = 100 + 12 = Rs 112 .

Difference in second S P and first S P = Rs.2 [ 112 - 110=2]

If Rs,2 is the difference in S P , cost price = Rs. 100

If the difference in S P is Rs.77, cost price = $\frac{100}{2} \times 77 = 50x77 = Rs3850$

**Question 114**

**Find the cost of carpeting a room which is 11 m long and 6 m broad by a carpet which is 60 cm broad at the rate of ₹112.50 per meter.**

A   ₹12,375

B   ₹13,280

C   ₹11,695

D   ₹12,040

   **Answer:** A

**Explanation:**
Area of room = 11 × 6 = 66 m$^2$  Width of carpet = 60/100 m =.6m

Length of carpet =$\frac{66}{0.6}$=110m

Cost of carpeting = 110 × 112.50 =₹12,375

**Question 115**

**A trader allows a discount of 8% on marked price. If the selling price is ₹667, the discount in rupees is:**

**A** ₹47

**B** ₹54

**C** ₹58

**D** ₹43

   **Answer:** C

**Explanation:**

let MP be x(100%)

MP - Discount = SP

Discount=8%

SP=667

100%-8%=92=SP

MP= $\frac{100}{92} \times 667$

=725

discount=MP-SP

=725-667=58

**Question 116**

**A field is 119 m $\times$ 18 m in dimension. A tank 17 m $\times$ 6 m $\times$ 3 m is dug out in the middle and the soil removed is evenly spread over the remaining part of the field. The increase in level on the remaining part of the field is:**

**A** 14 cm

**B** 13 cm

**C** 15 cm

**D** 12 cm

   **Answer:** C

**Explanation:**

Given, Dimension of the field = 119 m $\times$ 18 m

Dimension of the pit = 17 m $\times$ 6 m $\times$ 3 m

Volume of earth removed from the pit = 17 m $\times$ 6 m $\times$ 3 m=306$m^3$

Area of the remaining field

= Area of the field - Area of the pit

= 119 m $\times$ 18 m - 17 m $\times$ 6 m

= 2040 $m^2$

Since, the earth removed is evenly spread over the remaining area of the field.

∴ Increase in level of remaining field × Area of remaining field = Volume of earth removed from the pit

Increase in level of remaining field = $\frac{306}{2040}$ =0.15m=15cm

**Question 117**

**Divide ₹8,288 between A, B and C such that the proportion of their shares is 5 : 7 : 9. The share of C is:**

**A**  ₹2,032

**B**  ₹3,552

**C**  ₹3,872

**D**  ₹2,612

    **Answer:** B

**Explanation:**

Let A, B and C get 5x, 7x and 9x, respectively.

5x+7x+9x = 16x = 8288, or 21x = 8288, x= $\frac{1184}{3}$

C=9x =$9 \times \frac{1184}{3} = 3,552$

**Question 118**

**If 15 men can do a piece of work in 14 days, how many men will be needed to do the work in 30 days?**

**A**  8

**B**  10

**C**  7

**D**  9

    **Answer:** C

**Explanation:**

To do work in 14 days, men required = 15

To do work in 1 day, men required = $14 \times 15$

**So, to do the work in 30 days, men required**

= $\frac{14 \times 15}{30} = 7$

**Question 119**

**The interest on ₹24,000 in 2 years compounded annually when the rates are 8% p.a and 10% p.a for two successive years is:**

**A**  ₹3,994

**B**  ₹4,512

**C**  ₹5,040

**D**  ₹5,866

    **Answer:** B

**Explanation:**

Principal (P) = ₹ 24,000

Time (t) = 3 Years

Rate = (R₁) = 8%

Rate = (R₂) = 10%

Amount = P (1 + (R$_1$/100)) (1 + (R$_2$/100))

$$=24000(1 + \tfrac{8}{100})(1 + \tfrac{10}{100})$$

$$24000(\tfrac{108}{100})(\tfrac{11}{10})$$

=28512

C.I. = Amount - Principal

=28512-24000=4512

**Question 120**

$15 - \{5 + 24 \div (3 \times 9 - 15)\}$ **is equal to.**

A   -2

B   $11\frac{1}{3}$

C   $6\frac{1}{4}$

D   8

  **Answer:** D

**Explanation:**

$15 - \{5 + 24 \div (3 \times 9 - 15)\}$

$15 - \{5 + 24 \div 12\}$

$15 - \{7\}$

8

**Question 121**

**The angle of elevation of a flying drone from a point on the ground is** $60°$. **After flying for 5 seconds the angle of elevation drops to** $30°$. **If the drone is flying horizontally at a constant height of** $1000\sqrt{3}$ **m, the distance travelled by the drone is:**

A   2000 m

B   1000 m

C   3000 m

D   4000 m

  **Answer:** A

**Question 122**

**An oil merchant has 3 varieties of oil of volumes 432, 594 and 702 litres respectively. The number of cans of equal size that would be required to fill the oil separately is:**

A   13, 15, 17

B   8, 11, 13

C   8, 13, 15

D  6, 9, 11

**Answer:** B

**Explanation:**
We need to find the GCD-that is Greatest Common Divisor

gcd(432,594,702) = 54

number of cans of equal size to fill the oil separately is

$\frac{432}{54} = 8$

$\frac{594}{54} = 11$

$\frac{702}{54} = 13$

**Question 123**

The table below shows the admission and transfer in standards 1-3 of a school.

| std | 2015 Existing | Admission | Transfer | 2016 Admission | Transfer |
|-----|----------|-----------|----------|-----------|----------|
| 1 | 232 | 12 | 8 | 23 | 36 |
| 2 | 241 | 6 | 11 | 15 | 10 |
| 3 | 248 | 16 | 13 | 21 | 24 |

**In the given table, in Standard 1, how many students were there at the end of year 2016?**

A  223

B  228

C  236

D  232

**Answer:** A

**Explanation:**
Existing student in std 1 =232

new admission=12

Transfer=8

so total student in 2015=232+12-8=236

New admission in 2016=23

transfer=36

so total student in 2016=236+23-36=223

**Question 124**

**The average of squares of numbers 1 to 5 is:**

A  11

B  5

C  8

D  9

**Answer:** A

**Explanation:**
square of first five number $1^2, 2^2, 3^2, 4^2, 5^2$

sum= 1+4+9+16+25=55

average = $\frac{Total\ sum}{total\ number}$

= $\frac{55}{5} = 11$

**Question 125**

**210102 can be divided exactly by:**

**A**  7

**B**  3

**C**  4

**D**  8

   **Answer:** B

**Explanation:**
210102 can be divided exactly by 3

Numbers are **divisible by 3** if the sum of all the individual digits is evenly **divisible by 3**.

2+1+1+2=6

**Question 126**

**A pipe can fill a tank in 4 hours and a leak at the bottom can empty that full tank in 6 hours. If after the tank is $\frac{1}{3}$ full, the leak is completely closed, how much time from beginning will it take for the tank to get filled completely?**

**A**  12 hours

**B**  4 hours

**C**  9 hours

**D**  $\frac{20}{3}$ hours

   **Answer:** D

**Explanation:**
A pipe can fill a tank in 4 hours and a leak at the bottom can empty that full tank in 6 hours

Let the tank capacity is LCM (4,6)=12

Fill Pipe efficiency=3

Leakage efficiency=2

$\frac{1}{3}$ of tank=4

so both open still $\frac{1}{3}$ of tank fill.let it take 'x' hour

3x-2x=4

x=4 hour

After that only pipe fill the remaining part of tank i.e 8 and time taken to complete the remaining part is

$\frac{8}{3}$

Total time=$4 + \frac{8}{3}$

$= \frac{20}{3}$ hours

**Question 127**

In an examination, Shreya score 84 out of 90 in Mathematics, 45 out of 50 in Science, 23 out of 25 in Computer Science and 68 out of 80 in English. In which subject did Shreya score the highest percentage?

**A** Mathematics

**B** English

**C** Science

**D** Computer Science

Answer: A

**Explanation:**

Shreya score 84 out of 90 in Mathematics, 45 out of 50 in Science, 23 out of 25 in Computer Science and 68 out of 80 in English.

percentage=$\frac{obtain\ marks}{Total\ marks} \times 100$

Mathematices %=$\frac{84}{90} \times 100 = 93.33\%$

Science%=$\frac{45}{50} \times 100 = 90\%$

Computer science%=$\frac{23}{25} \times 100 = 92\%$

English%=$\frac{68}{80} \times 100 = 85\%$

**Question 128**

$(-4) \times (1020 \div 85 \times 3 - 22)$ **is equal to.-**

**A** -402

**B** -56

**C** 912

**D** 72

Answer: B

**Explanation:**

$(-4) \times (1020 \div 85 \times 3 - 22)$

$(-4) \times (36 - 22)$

$(-4) \times 14 = -56$

**Question 129**

**The value of** $\cos^2 45° + \sin^2 30° - \sin^2 60°$ **is equal to.**

**A** $\frac{3}{2}$

**B** $\frac{1}{2}$

C   0

D   1

  Answer: C

**Explanation:**

$\cos^2 45° + \sin^2 30° - \sin^2 60°$

we know $\cos 45° = \frac{1}{\sqrt{2}}, \sin 30° = \frac{1}{2}, \sin 60° = \frac{\sqrt{3}}{2}$

put these values in given equation

$(\frac{1}{\sqrt{2}})^2 + (\frac{1}{2})^2 - (\frac{\sqrt{3}}{2})^2$

$\frac{1}{2} + \frac{1}{4} - \frac{3}{4} = 0$

**Question 130**

A, B and C are partners in a firm sharing profit in the ratio of 3 :4: 5. If they set aside 4% of the profits as emergency find and shared the rest of the profit and B gets his share of profit as ₹1,81,400, the amount of profit set aside for emergency fund is:

A   ₹27,845

B   ₹18,140

C   ₹22,675

D   ₹24,500

  Answer: C

**Explanation:**

profit sharing ratio: A:B:C =3 :4: 5

If they set aside 4% of the profits as emergency. so 96%(X) of total profit shared between them

B gets his share of profit as ₹1,81,400 i.e= $\frac{4}{12}$ of total profit shared between them

$\frac{4}{12} \times X = 181400$

$X = 544200$

96%=544200

4%= $\frac{544200}{96} \times 4 = 22,675$

**Question 131**

If $(x-2)^3 + (x-3)^3 + (x-10)^3 = (x-2)(x-3)(3x-30)$, then what is the value of $x$ ?

A   7

B   5

C   18

D   3

  Answer: B

**Explanation:**

$(x-2)^3 + (x-3)^3 + (x-10)^3 = (x-2)(x-3)(3x-30)$

use the identity

**Question 132**



In the triangle given above $\angle ADB = 90°$ , $\angle ABC = 45°$, **AD = 10 cm, AC = 20 cm. The length of BC is:**

A   10 cm

B   27.32 cm

C   18.42 cm

D   14.14 cm

Answer: B

**Question 133**

**The given bar chart, shows the sales (in thousands) for sets of televisions of three companies in three years.**



**In the given bar-chart, if profit earned per television by C in 1992 was ₹825, the total profit earned was:**

A   ₹51150 1akhs

B   ₹5115 1akhs

C   ₹511.5 1akhs

D   ₹51.15 lakhs

Answer: B

**Explanation:**

Total Videocon TV sold in 1992=620 thousand

Profit earned per TV=825

So total profit =$825 \times 620000$=₹5115 1akhs

**Question 134**

**A gardener planted 1936 saplings in a garden such that there were as many rows of saplings as the columns. The number of rows planted is:**

A   46

**B** 44

**C** 48

**D** 42

Answer: B

**Explanation:**

let number of rows =number Of columns =x

total number of saplings =$rows \times column$

so, x²=1936

x=root of (1936)=44

thus number of rows =44 and number of columns =44

**Question 135**

**A boy walks 15 m in 7 seconds and then walks back in 5 seconds. His average speed (in m/s) is:**

**A** 6

**B** 2.5

**C** 3.25

**D** 4

Answer: B

**Explanation:**

He walked 30 meters in 12 min

average speed = Distance Covered / Total Time Taken In Minutes

$=\frac{30}{12} = 2.5m$

**Question 136**

**If $a^3 + b^3 = 432$ and $a + b = 12$,then $(a+b)^2 - 3ab$ is equal to:**

**A** 42

**B** 52

**C** 36

**D** 38

Answer: C

**Explanation:**

$(a+b)^2 - 3ab$

$a^2 + b^2 + 2ab - 3ab$

$a^2 + b^2 - ab$.........1

Use $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$,

$432 = 12(a^2 - ab + b^2)$,

$(a^2 - ab + b^2) = (a + b)^2 - 3ab = \frac{432}{12} = 36$

**Question 137**

The given bar chart, shows the sales (in thousands) for sets of televisions of three companies in three years.



In the given bar-chart, what is the ratio of television sales between A in year 1992 and C in year 1991?

**A**  1 : 1

**B**  1 : 2

**C**  2 : 1

**D**  1 : 3

**Answer:** A

**Explanation:**

television sales by A in year 1992=550

television sales by C in year 1991=550

Ratio=550:550=1:1

**Question 138**

A swimming pool is 40 m in length, 30 m in breadth and 2.2 m in depth. The cost of cementing its floor and the four sides at ₹25/m$^2$ is:

**A**  ₹43,980

**B**  ₹37,540

**C**  ₹34,260

**D**  ₹37,700

**Answer:** D

**Explanation:**

It is clear that we have to cement only 5 sides , 4 lateral sides and from bottom.. Using this concept our formula become

 Area to be cemented = Total surface area - area of top .

=> Area to be cemented = 2 [ ( L × B ) + ( B × H ) + ( H × L ) ] - [ L × B ]

L ( length ) = 40 m

B ( breadth ) = 30 m

H ( depth or height ) =2.2 m

Now putting values in formula...

Area to be cemented = 2 [ (40 × 30 ) + ( 30 × 2.2 ) + ( 2.2 × 40 ) ] - [ 40 × 30 ]

Area to be cemented = 2 [ ( 1200 ) + ( 66 ) + ( 88 ) ] - [ 1200 ]

Area to be cemented = 2 [ 1354 ] - [ 1200 ]

Area to be cemented = 2708 - 1200

Area to be cemented =$1508 m^2$

Now cost of cementing is ₹ 25 per metre square , So cost of cementing 560 m^2

Cost = 580 × 25

Cost = ₹ 37700

Cost of cementing will be ₹ 37700

## Question 139

The value of $\cot^2 A - \frac{1}{\sin^2 A}$ **is equal to:**

**A**  0

**B**  -1

**C**  -2

**D**  1

**Answer:** B

**Explanation:**

$\cot^2 A - \frac{1}{\sin^2 A}$

we know $\cot A = \frac{\cos A}{\sin A}$

$= \frac{\cos^2 A}{\sin^2 A} - \frac{1}{\sin^2 A}$

Take LCM

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

$\frac{\sin^2 A}{\sin^2 A} = 1$

## Question 140

**A river is 3 m deep and 36 m wide which flows at the rate of 5 km/h in to the sea. The volume of water that runs into the sea per minute is:**

**A**  8300 m$^3$

**B**  9000 m$^3$

**C**  7600 m$^3$

**D**  6400 m$^3$

**Answer:** B

**Explanation:**

Depth, width if river and speed of water flowing in it.

Volume if water that flows in river = 3 m × 36 m × 5 km/h

= 3 m × 36 m × 5 × 1000 m /h

= 3 m × 36 m × 5000 m/h

= 54,00,000 m³/hr

Hence, amount of water flow in 1 hr = 540000 m³

Anount of water flow in 60 mins = 540000 m³

Amount of water flows in 1 min = 540000 m³/60

Amount of water flows in 1 min = 9000 m³

Hence, the amount of water that runs into sea per minute is 9000 m³

**Question 141**

**A part of the journey is covered in 31.5 minutes at 80 km/h and the remaining part in 16 minutes at 75 km/h. The total distance of the journey is:**

**A**  45 km

**B**  38 km

**C**  62 km

**D**  54 km

Answer: C

**Question 142**

**The given pie-chart shows favourite sport of students of a school.**



**In the given pie-chart, what is the difference in percentage between liking for football and basketball?**

**A**  10

**B**  8

**C**  13

**D**  12

Answer: D

**Explanation:**
Football liking=30%

Basketball liking=18%

Difference=30-18=12%

**Question 143**

A girl 1.2 m tall can just see the sun over a 3.62 m tall wall which is 2.42 m away from her. The angle of elevation of the sun is:

**A** 60°

**B** 30°

**C** 90°

**D** 45°

Answer: D

**Explanation:**

let AB be the height of the wall and CD be the height of boy

with BC as distance between them.

we have AE = AB-BE = 3.62-1.2 = 2.42m

and ED = BC = 2.42m

in triangle AED, we have

tanΦ = P/B = 2.42/2.42

tanΦ = 1

∴ Φ = 45°

Hence the sun is elevated at an angle of 45 °.

**Question 144**

The table below shows the admissions and transfers in standards 1-3 of a school.

| std | 2015 | | | 2016 | |
|---|---|---|---|---|---|
| | Existing | Admission | Transfer | Admission | Transfer |
| 1 | 232 | 12 | 8 | 23 | 36 |
| 2 | 241 | 6 | 11 | 15 | 10 |
| 3 | 248 | 16 | 13 | 21 | 24 |

In the given table, what was the total strength in Standards 1-3 at the end of 2015?

**A** 723

**B** 721

**C** 710

**D** 704

Answer: A

**Explanation:**

Total student in Std 1 in 2015=232+12-8=236

Total student in Std 2 in 2015=241+6-11=236

Total student in Std 3 in 2015=248+16-13=251

Total=236+236+251=723

**Question 145**

ABCD is a cyclic quadrilateral such that AB is a diameter of the circle circumscribing it and angle ADC = $144°$. Then angle BAC is equal to: ($\pi = \frac{22}{7}$)

A $60°$

B $150°$

C $54°$

D $40°$

Answer: C

**Question 146**

Which least number should be added to 1000 so that the number obtained is exactly divisible by 37?

A 1

B 25

C 36

D 13

Answer: C

**Explanation:**

1000 ÷ 37 , quotient = 27, remainder = 1

Since remainder is not zero.

So, 1000 is not exactly divisible by37

So, we take next multiple of 37. Next multiple = 28

So, $23 \times 28 = 1036$

So, 1036 is exactly divisible by 37.

1036 - 1000 = 36

**Hence, 36 is the least number to be added to 1000.**

**Question 147**

The given pie-chart shows favourite sport of students of a school.



In the given pie-chart, if the school strength was 2500, how many liked cricket more than hockey?

A 1075

B 504

C  900

D  750

   **Answer:** C

**Explanation:**
school strength was 2500

44% school strength lik cricket= $\frac{44}{100} \times 2500 = 1100$

8% school strength lik Hocky= $\frac{8}{100} \times 2500 = 200$

Difference =1100-200=900

**Question 148**

**A rectangular solid is 20 $cm$ long and 12 $cm$ wide. If its volume is 2160 $cm^3$, the height is:**

A  11 cm

B  10 cm

C  12 cm

D  9 cm

   **Answer:** D

**Explanation:**
we first need the formula for the volume V of a rectangular solid (box):

Volume V = lwh, where l is the length, w is the width, and h is the height of the rectangular solid.

We are given that the volume V = 2160 cm³, length l = 20 cm, and width w = 12cm.
Now, to solve for the height h of the rectangular solid, we simply substitute the given information into the formula for volume V and then perform the necessary calculations and algebraic simplifications as follows:

V = lwh
2160 cm³ = (20 cm)(12 cm)(h)
2160 cm³ = (240 cm²)(h)
2160 cm³/240 cm² = h
9 cm = h

**Question 149**

**The table below shows the admission and transfer in standards 1-3 of a school.**

| std | Existing | 2015 | | 2016 | |
| --- | --- | --- | --- | --- | --- |
| | | Admission | Transfer | Admission | Transfer |
| 1 | 232 | 12 | 8 | 23 | 36 |
| 2 | 241 | 6 | 11 | 15 | 10 |
| 3 | 248 | 16 | 13 | 21 | 24 |

**In the given table, what was the difference between admission and transfer in standard 3 in year 2016?**

A  3

B  9

C  8

D  5

   **Answer:** A

**Explanation:**

Total admission in 2016 in std3 =21

Total transfer in 2016 in std3 =24

Difference=24-21=3

**Question 150**

A train 100 m long running at uniform speed crosses a station which is 500 m long in 25 seconds. How long will it take for the train to pass a station that is 380 m long?

A   21 seconds

B   20 seconds

C   19 seconds

D   22 seconds

**Answer:** B

**Explanation:**
Total distance=(100+500) m

=600 m

Time=25 secs

Speed= $\frac{Distance}{Time}$

Speed= $$\frac{600}{25}$$ m/sec

= 24m/sec

Now distance480(380+100)m

Time=$$\frac{Distance}{Speed}$$

=$$\frac{480}{24}=20$$

# English

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

**Question 151**

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

A third of us are feeling compelled to check our phones in the middle of the night.

A   A third among us feeling compelled to check our phones

B   A third of us feel compelled to check our phones

C   No substitution required

D   A third of us feel compelled checking our phones

**Answer:** B

**Question 152**

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

A harsh chaotic mixture of sounds

A   consonance

B   dissonance

C   cacophony

D   euphony

Answer: C

**Question 153**

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

Scientists have found that life was creeping and crawling about the Earth 1.5 billion years early than previously thought.

A   previously thought

B   1.5 billion years early than

C   Scientists have found

D   about the Earth

Answer: B

**Question 154**

Select the wrongly spelt word.

A   horrible

B   heiress

C   hospitallity

D   hostility

Answer: C

**Question 155**

Select the synonym of the given word.
DETRACTORS

A   devotees

B   reviewers

C   critics

D   admirers

**Answer:** C

**Question 156**

**Select the synonym of the given word.**
**IMMINENT**

**A**  important

**B**  forthcoming

**C**  immature

**D**  truthful

**Answer:** B

**Instructions**

Read the following passage and answer the questions given after it.
Passage:

We often worry about lying awake in the middle of the night - but it could be good for you. A growing body of evidence from both science and history suggests that the eight-hour sleep may be unnatural. In the early 19903, psychiatrist Thomas Wehr conducted an experiment in which a group of people were plunged into darkness for 14 hours every day for a month. It took some time for their sleep to regulate but by the fourth week the subjects had settled into a very distinct sleeping pattern. They slept first for four hours, then woke for one or two hours before falling into a second four-hour sleep. Though sleep scientists were impressed by the study, among the general public the idea that we must sleep for eight consecutive hours persists.

In 2001, historian Roger Ekirch of Virginia Tech published a seminal paper, drawn fiom 16 years of research, revealing a wealth of historical evidence that humans used to sleep in two distinct chunks. Roger Ekirch says a 1595 engraving by Jan Saenredam is evidence of activity at night. His book At Day's Close: Night in Times Past, published four years later, unearths more than 500 references to a segmented sleeping pattern - in diaries, court records, medical books and literature, from Homer's Odyssey to an anthropological account of modern tribes in Nigeria.

Much like the experience of Wehr's subjects, these references describe a first sleep which began about two hours after dusk, followed by waking period of one or two hours and then a second sleep. "It's not just the number of references - it is the way they refer to it, as if it was common knowledge,"Ekirch| says. During this waking period people were quite active. They often got up, went to the toilet or smoked tobacco and some even visited neighbors. Most people stayed in bed, read, wrote and often prayed. Countless prayer manuals fi'om the late 15th century offered special prayers for the hours in between sleeps. Ekirch found that references to the first and second sleep started to disappear during the late 17th Century. This started among the urban upper classes in northem Europe and over the course of the next 200 years filtered down to the rest of Western society. By the 19208 the idea of a first and second sleep had receded entirely fiom our social consciousness. He attributes the initial shift to improvements in street lighting, domestic lighting and a surge in coffee houses - which were sometimes open all night. As the night became a place for legitimate activity and as that activity increased, the length of time people could dedicate to rest dwindled.

**Question 157**

**The above passage .......... that an eight-hour sleep is natural.**

**A**  confirms the myth

**B**  elaborates the myth

**C**  promotes the myth

**D**  examines the myth

**Answer:** D

**Question 158**

**What did the experiment conducted by Thomas Wehr prove?**

A   It brought into question that sleeping for four consecutive hours is necessary.

B   It proved sleeping for eight consecutive hours is not a norm.

C   It established that when the nights are longer, people slept in two distinct chunks.

D   It proved that all people slept in two distinct chunks of four hours.

   **Answer:** B

**Question 159**

**Roger Ekirch indicated that ..........**

A   sleeping for eight consecutive hours is a modern standard for sleep.

B   a segmented sleeping pattern was an established common habit in nations with long winters.

C   a segmented sleeping pattern was a historically established common old habit.

D   the practice of sleeping for eight consecutive hours was popularized by epics

   **Answer:** C

**Question 160**

**Which of the following options is NOT true with reference to the segmented sleeping pattern?**

A   People were physically active.

B   People were socially active.

C   People prayed actively.

D   People visited all-night coffee shops.

   **Answer:** D

**Question 161**

**What caused the idea of a first and second sleep to entirely recede from our social consciousness?**

A   Industrialization and introduction of night shifts

B   All-night coffee shops

C   A group of rich people defying sleep

D   An active night life facilitated by artificial lighting

   **Answer:** D

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

**Question 162**

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

the hard remains of a prehistoric animal or plant that are found inside a rock.

A   fossil

B   ruins

C   relics

D   vestiges

   **Answer:** A

**Question 163**

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

Creatures began moving properly around 570 million years ago shortly before  the Cambrian explosion sparked the first vertebrates.

A   the Cambrian explosion when sparked the first vertebrates.

B   No substitution required

C   the Cambrian explosion whom sparked the first vertebrates.

D   the Cambrian explosion who sparked the first vertebrates.

   **Answer:** B

**Question 164**

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

A study has uncovered a previously overlooked law of natural selection based on "survival of the slacker", that is,  spend all day lazing about could be good for human evolution.

A   No substitution required

B   spending all day lazing about must be good for human evolution

C   spend all day lazing about will be good for human evolution

D   spending all day lazing about could be good for human evolution

   **Answer:** D

**Question 165**

Select the most appropriate meaning of the underlined idiom in the given sentence.

When the mixer would not work Naren's mother said,  "If it's not one thing , it's another .How will I manage?"

A   when one thing goes wrong, then another, and another

B   when we entertain one guest, then there are many more coming

C   when we know a cause, then there isn't another to be looked for

D   when a machine is not functional, it makes others also malfunction

   **Answer:** A

**Question 166**

**Select the most appropriate meaning of the underlined idiom in the given sentence.**

**Sandhya was excited about getting her new posting but I told her  <u>"Dont count your chikens before they hatch"</u>.**

A   do not count on something that is not going to happen

B   do not wish for something that has not yet happened

C   do not count on a good thing that has not yet happened

D   do not expect something good to happen

   **Answer:** C

**Question 167**

**Identify the segment in the sentence, which contains the grammatical error.**
**More than 25% people admits they have not sent or received a hand-written letter in the past decade.**

A   a hand-written letter

B   More than 25% people admits

C   they have not sent or received

D   in the past decade

   **Answer:** B

**Question 168**

**Select the most appropriate meaning of the underlined idiom in the given sentence.**
**Anil and Suresh are just <u>finding their feet</u> in the new venture.**

A   beginning to understand the work and feeling confident

B   getting comfortable and getting a good salary

C   buying and using comfortable foot wear

D   making people fall at their feet, accepting defeat

   **Answer:** A

**Question 169**

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

**Security firms would get prosecuted for a breach of their duty if they do not introduced adequate procedures to protect children from harm.**

A   would get prosecuted

B   for a breach of their duty

**C** to protect children

**D** do not introduced

Answer: D

## Question 170

**Select the antonym of the given word.**
**MUDDLE**

**A** refuse

**B** order

**C** refute

**D** spoil

Answer: B

## Question 171

**Select the synonym of the given word.**
**CLINCHED**

**A** bounded

**B** finalized

**C** devoted

**D** argued

Answer: B

## Question 172

**Select the most appropriate meaning of the underlined idiom in the given sentence.**
**The politician began his speech by saying, " Lend me your ears".**

**A** to politely ask for someone's hearing-aid

**B** to politely ask for someone's speakers

**C** to politely ask for someone's full attention

**D** to politely ask for someone's headphones

Answer: C

## Question 173

**Select the most appropriate words to fill in the blanks.**

**Teaching is so much more than .......... in fiont of a whiteboard as one of the most important elements of teaching is ............ relationships with students.**

**A** standing; building

**B** waiting; building

**C** waiting; enabling

**D** standing; enabling

**Answer:** A

## Question 174

**Select the most appropriate words to fill in the blanks.**

**Although many western cultures are moving towards more .......... less hierarchical organizations, the new research suggests that ......... power structures and basic values of charity and fraternity are the cornerstones of successful societies.**

**A** organized; radical

**B** substantial; informal

**C** liberal; traditional

**D** liberal; radical

**Answer:** C

## Question 175

**Select the wrongly spelt word.**

**A** reinforcement

**B** remembrance

**C** reimburssement

**D** reflection

**Answer:** C

## Question 176

**Select the antonym of the given word.**
**COMPLACENT**

**A** conceited

**B** concerned

**C** contentious

**D** contended

**Answer:** B

## Question 177

**Select the antonym of the given word**
**LAUNCH**

**A** withdraw

**B** dinner

**C** release

**D** brake

    **Answer:** A

## Question 178

**Select the word, which means the same as the group of words given.**
**to show or state that someone or something is not guilty of something**

**A** escape

**B** pardon

**C** charge

**D** vindicate

    **Answer:** D

## Question 179

**Select the synonym of the given word.**
**ELUSIVE**

**A** distorted

**B** wrong

**C** intangible

**D** refined

    **Answer:** C

## Question 180

**Select the most appropriate meaning of the underlined idiom in the given sentence.**
**"Get down to brass tacks now", ordered the Team Leader, when he found that the targets were nowhere near completion.**

**A** start taking up the most important facts of a situation

**B** become angry about something that is not done

**C** come back to the tracks and start again

**D** examine the thumb tacks used to fix a notice

    **Answer:** A

## Question 181

**Select the most appropriate words to fill in the blanks.**
**Advocates say the idea of a basic income eliminates poverty traps and ......... income while ........... the individual and reducing paperwork.**

**A** redistributes; empowering

**B** earned; helping

**C** earns; eliminating

**D** distributes; empowers

**Answer:** A

**Question 182**

**Select the wrongly spelt word.**

**A** contraction

**B** contextual

**C** concievable

**D** commitment

**Answer:** C

**Question 183**

**Identify the segment in the sentence, which contains the grammatical error.**
**Last year the UK saw it's first child diagnosed with intemet addiction.**

**A** Last year

**B** the UK saw

**C** it's first child

**D** diagnosed with

**Answer:** C

**Question 184**

**Select the word, which means the same as the group of words given.**
**the science and art of growing fruits, vegetables, flowers, or ornamental plants**

**A** agriculture

**B** horticulture

**C** viniculture

**D** sericulture

**Answer:** B

## Question 185

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

Tesla designed system for sending electricity over the air through a series of enormous towers.

A   for sending electricity

B   Tesla designed system

C   through a series of enormous towers

D   over the air

Answer: B

## Question 186

Select the synonym of the given word.
REQUISITE

A   dominant

B   dynamic

C   critical

D   obligatory

Answer: D

## Question 187

Select the most appropriate words to fill in the blanks.
All societies are held together by seven universal moral rules, which include ........... to superiors and ........... the property of others.

A   deferring; respecting

B   deferring; guarding

C   following; respecting

D   conforming; guarding

Answer: A

## Question 188

Select the wrongly spelt word.

A   Inquisitive

B   Inherent

C   Inistitutional

D   Invitation

Answer: C

**Question 189**

Select the most appropriate words to fill in the blanks.

The idea of a basic income as a replacement for means-tested .......... payments has its share of supporters on both the left and the right of the political ..........

**A**  extra; support

**B**  goodness; zone

**C**  free; range

**D**  welfare; spectrum

  **Answer:** D

**Question 190**

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

Doing short bursts of high intensity exercise can be <u>most effective to weight loss than</u> moderate workouts.

**A**  more effective to weight loss than

**B**  No substitution required

**C**  most effective for weight loss than

**D**  more eflective for weight loss than

  **Answer:** D

**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:

Screen time is an inescapable reality of modern childhood, with kids of every age ............. (1) hours upon hours in front of iPads, smartphones and televisions. That's not always a bad thing: Educational apps and TV shows .............. (2) great ways for children to sharpen their developing brains and .............. (3) their communication skills-not to mention the break these .................... (4) provide to harried parents. But tread carefully: A number of troubling studies connect delayed cognitive ................. (5) in kids with extended exposure to electronic media.

**Question 191**

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

**A**  complying

**B**  spending

**C**  earning

**D**  cheating

  **Answer:** B

**Question 192**

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

**A** are

**B** is

**C** were

**D** have been

**Answer:** A

## Question 193

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

**A** improve

**B** bumish

**C** dull

**D** freshen

**Answer:** A

## Question 194

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

**A** vessels

**B** gadgets

**C** utensils

**D** products

**Answer:** B

## Question 195

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

**A** increment

**B** improvement

**C** progress

**D** change

**Answer:** C

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

**Question 196**

**Select the word, which means the same as the group of words given.**
**a company or person that makes or sells sweets or chocolate**

**A** confectioner

**B** vendor

**C** chef

**D** wholesaler

Answer: A


**Question 197**

**Select the wrongly spelt word.**

**A** apartheid

**B** appearance

**C** approppriate

**D** apparent

Answer: C

**Question 198**

**Select the antonym of the given word**
**EXPANSION**

**A** complaint

**B** constraint

**C** contraction

**D** constriction

Answer: C

**Question 199**

**Select the antonym of the given word.**
**EVASIVE**

**A** frank

**B** abusive

**C** opaque

**D** slippery

Answer: A

**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 substitution required.

The World Health Organization were classified Internet gaming as an official mental health disorder.

A  No substitution required

B  The World Health Organization classify Internet gaming

C  The World Health Organization has classified Internet gaming

D  The World Health Organization classifying Internet gaming

**Answer:** C