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NATIONAL CYBER OLYMPIAD (NCO) NATIONAL SCIENCE OLYMPIAD (NSO) INTERNATIONAL MATHEMATICS OLYMPIAD (IMO)

## Logical Reasoning Sample Test Class-10

## Total-Question:15

Time:15.0 Mins

| PATTERN \& MARKING SCHEME |  |
| :---: | :---: |
| Section | (1) Logical Reasoning Sample Test Class-10 |
| No. of Questions | 15 |
| Marks per Ques. | 1 |

## Logical Reasoning Sample Test Class-10

Q 1.
If yesterday was Saturday's tomorrow and tomorrow is Wednesday's yesterday, then what day would it be today?

A Sunday
B Monday
C Tuesday
D Friday

## Q 2.

In the following letter series, some of the letters are missing which are given in that order as one of the options below it. Select the correct option. ba $\qquad$ cb___b $\qquad$ bab $\qquad$
A acbb
B bacc
C bcab
D cabb

## Q 3.

Study the following information and answer the question given below.
I. A, B, C, D, E, F, G and H are standing in a row facing North.
II. $B$ is not a neighbour of $G$.
III. $F$ is at the immediate right of $G$ and neighbour of $E$.
IV. G is not at the extreme end.
$V$. A is sixth to the left of $E$.
VI. H is sixth to the right of $C$.

After making the linear arrangement, we join them to form a circular arrangement by joining $A$ and $H$.
Which of the following is the odd one out?
A B-D
B E-F
C $\mathrm{A}-\mathrm{C}$
D $\mathrm{H}-\mathrm{G}$

## Q 4.

The positions of four policemen $\mathrm{A}, \mathrm{B}, \mathrm{C}$ and D is given in a circular park. The park is divided into sixteen plots. $\mathrm{P}, \mathrm{Q}, \mathrm{R}$ and K are the offenders whom they have to catch after given moves. The given figure shows their positions.
(Note that the by-lanes are North-South and East-West.)


If $A, B, C$ and $D$ were to move clockwise four plots and $P, Q, R$ and $K$ were to move anti clockwise six plots, then out of the given options, who two would be North and South respectively?

A P and A
B R and D
C Q and B
D P and C

## Q 5.

In the following number series, how many 4 s are there, which are immediately preceded by a pair of numbers whose product is more than the product of the pair of numbers immediately following 4?

$$
534648947645748448023431472
$$

A 4
B 5
C 6
D 2

Q 6.

There are seven figures, the first and last of which are unmarked, and the remaining are marked as P, Q, R, S and T. These seven figures form a series. However, one of the five marked figures does not fit into the series. Identify that figure in the given options.


A P
B Q
C R
D S

## Q 7.

A large cube is dipped into a tub filled with colour. When the cube is taken out, it is observed that all its sides are painted. This large cube is now cut into 125 small but identical cubes. How many of the smaller cubes have exactly three faces painted?

A 4
B 8
C 9
D None of these

## Q 8.

Following two figures show the expenditure on various items by families $A$ and $B$ Which of the conclusions given below is not correct?



A A spends more on food than b.
B $B$ spends more on clothing than a
C B spends equal amounts on food and clothing.
D A spends more on rent than on any other item.

In a certain code language, the letters immediate next to vowels are replaced with D, all other consonants with preceding letters and the vowels are replaced with Z . How will the word STANDING be written in that code language?

A RSZMCZMF
B TSZMCZFM
C RSZMCZDF
D RSZDCZDF
10.

Two rows of numbers are given. The resultant number in each row is to be worked out separately based on the following rules and the question below the rows of numbers is to be answered. The operations of numbers progress from left to right.
Rules:
(i) If an even number is followed by another even number, they are to be added.
(ii) If an even number is followed by a prime number, they are to be multiplied.
(iii) If an odd number is followed by an even number, the even number is to be subtracted from the odd number.
(iv) If an odd number is followed by another odd number, the first number is to be added to the square of the second number.
(v) If an even number is followed by a composite odd number, the even number is to be divided by the odd number.

| 36 | 13 | 39 |
| :--- | :--- | :--- |
| 77 | 30 | 7 |

Which will be the outcome if the resultant of the second row is divided by the resultant of the first row?

A 12
B 16
C 8
D 6

## Q 11.

The given square grid shows the plan of a playground. The bench is North of the toy car.

| Bench |  | R |  |
| :---: | :---: | :---: | :---: |
|  | Q | Slide |  |
| Toy-car | P |  |  |
| S | Swing |  | See-saw |

The town council wants to plant a tree in the playground.
The location of the tree is to be North of the swing and South-West of the slide. Identify the position where the tree will be planted.

A P
B Q
C R
D S

Q 12.

A dealer sold six cars - M, N, O, P, Q and R- during a period of Monday to Saturday, one car on each day.
(i) The car O was sold at least before three cars.
(ii) The car R was sold on Tuesday.
(iii) Both the cars N and Q were sold at least before one car.
(iv) The car P was sold immediately after the car O .
(v) At least four cars were sold after the car Q.

If Mr. Jindal is purchased a car sold on Wednesday, then the car purchased by him is
A M
B N
C 0
D P

## Q 13.

' $X+Y$ means ' $Y$ is brother of $X$ '; ' $X \times Y$ ' means ' $Y$ is husband of $X$ '; ' $X-Y$ ' means ' $X$ is mother of $Y$ '; and ' $X \div Y$ ' means ' $X$ is father of $Y$ '. Then which of the following expressions indicates ' P is grandmother of T '?

A $Q-P+R \div T$
B $P \times Q \div R-T$
C $P \times Q \div R+T$
D $\mathrm{P}+\mathrm{Q} \div \mathrm{R}-\mathrm{T}$

Q 14.

A trader in order to code the cost price of an article used the letters of psicholazy in the form of '0 to 9 ' respectively. If an article was sold for Rs 1015.58 to earn the $16 \%$ gain, then which of the following code stands for cost price?

A AIL.HP
B AIL.HS
C ZYA.HO
D ZAO.OP

## Q 15.

Find the missing figure from the options which will continue the series in given Problem Figures.


D


## Answers

## Logical Reasoning Sample Test Class-10

| 1.B | $2 . B$ | $3 . D$ | $4 . B$ | $5 . B$ | $6 . A$ | $7 . B$ | $8 . D$ | $9 . D$ | $10 . C$ | $11 . A$ | $12 . C$ | $13 . B$ | $14 . D$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 15.A

## Solutions:

## S 1.

Saturday's tomorrow is Sunday. This is my yesterday.
Wednesday's yesterday is Tuesday. This is my tomorrow.
Answer - (B) Monday

S 2.
|b a $\qquad$ c| b $\qquad$ b $\qquad$ | b ab $\qquad$ There should be 12 letters in the series. b a c c The 12 letters are 4 sets each starting with ' $b$ '.
And followed by 'abc'.
Answer - (B) bacc

## S 3.

$F$ is at the immediate right of $G$ and neighbour of $E$. - G F E A is sixth to the left of $E$. A $\qquad$ E So, A __ G F E
$H$ is sixth to the right of C. C $\qquad$ H
Also, B is not a neighbour of $\overline{\mathrm{G}}$.
So, the three gaps have to be filled by $B, C$ and $D$
So, ACBDGFEH
Answer - (D) H-G are the odd one out.

## S 4.



Answer - (B) R and D

## S 5.



The $1^{\text {st }}$ four- $15<24$, the $2^{\text {nd }}$ four- $24<72$ the $3^{\text {rd }}$ four- $72>54$
The $4^{\text {th }}$ four- $42>35$ the $5^{\text {th }}$ four- $35>32$ the $6^{\text {th }}$ four- $32=32$
The $7^{\text {th }}$ four- $32>0$ the $8^{\text {th }}$ four- $6>1$ the $9^{\text {th }}$ four- $3<14$
Answer - (B) 5

## S 6.

Each square is divided in half. One part of this shaded.
In $P$ the shaded part should be on top.
Answer - (A) P

S 7.


The cubes at all the corners will have 3 of its adjacent faces painted.
Answer - (B) 8

## S 8.

Answer - (D) A spends more on rent than on any other item.

## S 9.

Step1: The letters immediate next to vowels are replaced with D-STAD DID G Step2: All other consonants with preceding letters - R S ADCIDF Step3: The vowels are replaced with Z - R S Z D C Z D F Answer - (D) RSZDCZDF

S 10.

361339 From (ii) $36 \times 13=468$
(v) $468 / 39=12 \ldots . \mathrm{R} 1$

77307 From (iii) $77-30=47$
From (iv) $47+(7)^{2}=47+49=96 \ldots \mathrm{R} 2$
R2/R1 = 96/12 = 8
Answer-(C) 8

S 11.
$Q$ and $P$ are both North of the swing. But $P$ is South-West of the slide.
Answer-(A) P

S 12.

Monday, Tuesday, Wednesday, Thursday, Friday and Saturday.
From (v) - Q was sold on Monday or Tuesday
(ii) - The car $R$ was sold on Tuesday.

So, Q was sold on Monday.
From (i) - O was sold on Mon, Tues or Wed.
From above - $\mathbf{O}$ was sold on Wed. And $P$ was sold on Thursday.
Answer-(C) O
$P$ is grandmother of $T$
'+' means brother, so the required relation should not have brother or ' + '
$P \times Q=Q$ is the husband of $P$. So $P$ is a female.
$Q \div R=Q$ is the father of $R$. So $P$ is the mother of $R$.
$R-T=R$ is the mother of $T$.
Answer-(B) $P \times Q \div R-T$

## S 14.

Given, psicholazy
0123456789
If ' $x$ ' is the cost price then Selling price $=x+16 \%$ of ' $x$ ' $116 x / 100=1015.58$
So, $x=101558 / 116=$ Rs. 875.50
Code for cost price $=$ ZAO.OP
Answer-(D) ZAO.OP

## S 15.

The number of petals increases by 1.
So the number of petals should be 5 .
The circle is moving corner to corner anticlockwise.
So, the circle should be at the top left.
Answer-(A)

