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

## Logical Reasoning Sample Test Class-3

Total-Question:15
Time:15.0 Mins

| PATTERN \& MARKING SCHEME |  |
| :---: | :---: |
| Section | (1) Logical Reasoning Sample Test Class-3 |
| No. of Questions | 15 |
| Marks per Ques. | 1 |

## Logical Reasoning Sample Test Class-3

## Q 1.

In the figure, there are $\qquad$ possible combinations of 1 boy and 2 girls.


A 10
B 12


D 6

## Q 2.

Select the correct mirror image of Figure $(X)$ along the mirror MN.


Figure ( X )


| $r$ | $A$ |
| :---: | :---: |
| $s$ | $G$ |


C

| $Z$ | 8 |
| :---: | :---: |
| $レ$ | $\forall$ |




Q 3.

Which of the following words is not embedded in the Figure $(X)$ ?


Figure $(X)$

A ON
B TO
C QO
D OK

## Q 4.

If 'Pen' is written as 'Eraser', 'Eraser' is written as 'Book' and 'Book' is written as 'Watch', then $\qquad$ is used to erase anything written wrong.

A Pen
B Eraser
C Book
D Watch

## Q 5.

Find the odd one out.

B


## C



## D



Q 6.

There is a certain relationship between fig. (i) and (ii).Establish the same relationship between fig. (iii) and (iv) by selecting a figure from the given options which will replace the (?) in fig. (iv).

(i)

(ii)

(iii) (iv)
B



Q 7.

Find the missing numbers, if a certain rule is followed in the figure.

A 56,80
B 48,80
C 56,88
D 48,88

Q 8.

Miss Jindal is taking an English test. The time (in mins) taken by each student is given below.

| Priya | Megha | Garima | Latika | Amit | Zarrin | Vaishali | Tanu | Kavita | Komal |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19 | 16 | 15 | 18 | 12 | 25 | 20 | 9 | 30 | 14 |

Who will finish the test first and who will be last respectively?

A Kavita, Komal
B Tanu, Kavita
C Amit, Zarrin
D Priya, Komal

Q 9.

Select the figure from the given options which will complete the pattern in Fig. (X).


Fig. (X)

## Q 10.

Count the number of straight lines in the given figure.


A 20
B 21
C 22
D 23

Q 11.

Find the odd one out.


Q 12.
How many triangles are there in the given figure?


A 26
B 30
C 31
D 32

## Q 13.

## Which box is the heaviest?



Q 14.

Which of the following options show the mirror image of Fig. $(X)$, if the mirror is placed along MN?


Fig. (X)


B


C


D


## Q 15.

Which figure comes next in the given figure pattern?

| 8 | $\Delta$ | $\Delta$ |  |  | $\Delta$ |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8 | $\Delta$ | 8 | $\Delta$ | 8 | $\Delta$ | 8 | $\Delta$ |
| 8 |  | 8 |  | 8 |  | 8 |  |

A | $\Delta$ | 8 |
| :--- | :--- |
| $\triangle$ | 8 |

B | 8 | $\Delta$ |
| :--- | :--- |
| 8 | $\Delta$ |

C


## Answers

## Logical Reasoning Sample Test Class-3

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

## Solutions:

## S 1.

Let's start making the combinations for Kush -

1. Sanchi-Manha
2. Sanchi-Sidak
3. Sanchi-Sidhi
4. Manha-Sidak
5. Manha-Sidhi
6. Sidak-Sidhi

So, there are 6 combinations with Kush.
That means there would be same 6 combinations with Pranay.
So, total combinations will be $6+6=12$.
Hence, the correct answer is Option B.

## S 2.

Let's imagine the mirror-image of Figure $X$. We take the Square first. 1 would be in topleft box. A would be in top-right box. 2 would be in bottom-left box. B would be in bottomright box. All alphabets would be facing the opposite direction. The Circle with crisscrossed lines will be on the right of the Square.


Figure (X) N B
So, Option $B$ is the right answer.

## S 3.

Let's try to embed the letters in each option on given Figure $X$. Blue shows the Figure $X$. Black shows the embedded letters.
A. ON -


Figure ( X )
B. TO


Figure ( X )
C. QO - We can embed the O, but not Q.
D. OK -


Figure ( x )
So, the right answer is Option C.

## S 4.

Eraser is used to erase anything written wrong. But Eraser is written as Book. S, Book (Option C) is the correct answer.

## S 5.

Table (Option A), Bed (Option C) and Chair (Option D)- all are furniture. But Ball (Option $B$ ) is the odd one out.

## S 6.

If we cut the top of Figure (i) - a cone, we will get Figure (ii). Similarly, if we cut the top of Figure (iii) - a cylinder, we will get the same figure, but the cylinder will be of short height.
So, Option B is the correct answer.

## S 7.

Study the numbers carefully. They are all multiples of 8 .
$8 \times 1=8----1^{\text {st }}$ No.
$8 \times 2=16$
$8 \times 3=24----2^{\text {nd }}$ No.
$8 \times 4=32$
$8 \times 5=40$----- $3^{\text {rd }}$ No.
$8 \times 6=48$
$8 \times 7=56$
$4^{\text {th }}$ No. (?)
$8 \times 8=64$
$8 \times 9=72----5^{\text {th }}$ No.
$8 \times 10=80$
$8 \times 11=88----6^{\text {th }}$ No. (?)
So, Option C is the right option.

## S 8.

The one who takes least time will be first to finish the test. Least time is 8 minutes. That means Tanu finished the test first.
The one who takes most time will be the last to finish the test. Highest time is 30 minutes. That means Kavita finished the test last.
So, Option B is the correct answer.

## S 9.

Study the top 2 boxes. The arrows that are pointing to the north in left-side box are pointing to the south in right-side box. And those pointing south in left-side box are pointing north in the right-side box.
If we follow the same pattern in the bottom boxes, then in the right-side box, $1^{\text {st }}$ and $4^{\text {th }}$ arrows will point south. $2^{\text {nd }}$ and $3^{\text {rd }}$ arrows will point north. So, Option D is the correct answer.

S 10.

Straight line is a line which does not wave or curve. So, let's count all the straight lines in the picture.
The correct answer is 21 (Option B).

S 11.

Let's check the images given in the options.
The images in Option A, Option B and Option C have 1 long line and 6 short ones. But the image in Option D has 1 long line and 7 short ones.
That means Option D is the odd one out.

S 12.

Let's count the number of triangles in the given figure.


Total no. of triangles $=8+8+4+4+4+4=32$
Let's see how. We have divided the picture in 3 parts $-\mathrm{a}, \mathrm{b}$ and c .
Take Part a first and count the triangles.


There are 4 such triangles
So, Part a has 8 triangles.
Part b is same as Part a. So, Part b also has 8 triangles.
Now, let's take Part c.


There are 8 such triangles.
 There are 6 such triangles.


There are 2 such triangles.
So, Part C has 16 triangles.
So, the total triangles in the given picture are $=a+b+2$
$=8+8+16=32$
So, Option D is the right answer.

## S 13.

We have to find the heaviest box. Let's give the four weighing scales the names $a, b, c$ and d.
Now, we will check each weighing scale and decide which gift box is heavy.
Let's put lightest box at top and heaviest at bottom.
Scale a $\rightarrow$ Pink box is heavier than Green box.
Green
Pink
Scale $2 \rightarrow$ Green box is heavier than Orange.
Orange
Green
Pink
Scale $3 \rightarrow$ Yellow box is heavier than Orange.
Orange
Green, Yellow

Pink
Scale $4 \rightarrow$ Yellow is heavier than Pink. That means we should place Yellow below pink.
Orange
Green
Pink
Yellow
That means Yellow gift box is the heaviest of all four boxes.
So, Option D is the right answer.

## S 14.

We have to find the mirror-image of Figure $X$.


Fig. ( $X$ )
It's a symmetrical figure. That means the mirror image will be exactly same in shape and colour. Only two things will be different -
First, the order of letters in the blue spaces will reverse. So, A will be in first space, 8 remains in the second space, 7 will be in third space.

Second, the letters will face opposite direction. 7 and $C$ will face in the opposite direction. A and 8 look the same even when reversed.


So, Option B is the correct answer.

## S 15.

Each box has circles and triangles.
Note that the number of circles is decreasing by 1.
That means $5^{\text {th }}$ box will have 2 circles.
Also note that $1^{\text {st }}$ and $3^{\text {rd }}$ boxes have 1 triangle. $2^{\text {nd }}$ and $4^{\text {th }}$ have 2 triangles. That means $5^{\text {th }}$ box will have 1 triangle.
Now, let's check the options and see which box has 2 circles and 1 triangle. So, Option C is the right answer.

