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National Analytical Aptitude Test

## NISA - NATIONAL ANALYTICAL APTITUDE TEST 2022

21 st Century Skills Test for Students to be Future ready I Initiative by NISA (National Independent Schools Alliance)

## DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Total Questions: 40
Time: 6D Minutes

## Instructions for the Candidate

(a) You have 40 multiple-choice questions in this Test Paper. Attempt each question and write answers that are most correct according to you. There is only one right answer for each question.
(b) Manage your time properly. Remember that, on average, you can spend upto 1.5 minute on each question.
(c) Start the test only when your Teacher / Invigilator gives you the permission to start and on completion of the test, please wait for her / his instruction before returning the OMR Sheet.
(d) Mark all your answers on the OMR sheet provided
(e) While marking on the OMR sheet, ensure that you are marking the appropriate option with a dark coloured pencil. The correct method is shown below:

| Correct Method |  |  |
| :--- | :--- | :---: |
| (C) (D) |  |  |

(f) If you need to change an answer that you have already marked - erase the first marking completely, before marking the new answer. Answers with multiple markings, different markings or incomplete markings will be scored as wrong.


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STUDENT NAME (IN CAPITAL LETTERS)


SCHOOL NAME (IN CAPITAL LETTERS)
$\square$
$\square$

| 1) | Simplify (3y) ${ }^{\prime 2}+\mathrm{x}^{2}-(2 \mathrm{y})^{2}$ |  |
| :---: | :---: | :---: |
|  | A) $2 y^{2}$ | C) $y^{2}+x^{2}$ |
|  | B) $5 y^{2}+x^{2}$ | D) $6 y^{2}+x^{2}$ |
| 2) | Solve $\frac{3}{5}+\frac{x}{10}=-\frac{1}{5}+\frac{x}{5}$ |  |
|  | A) $x=2$ | C) $x=1 / 5$ |
|  | B) $x=-4$ | D) $x=2 / 5$ |
| 3) | The result of trebling a number is the same as adding 12 to it. The number is |  |
|  | A) 9 | C) 6 |
|  | B) 0 | D) -6 |
| 4) | A circle of radius 5 cm is inscribe | aded portion. $(\pi=3.1)$ |
|  | A) $25 \mathrm{~cm}^{2}$ | C) $77.5 \mathrm{~cm}^{2}$ |
|  | B) $177.5 \mathrm{~cm}^{2}$ | D) $22.5 \mathrm{~cm}^{2}$ |
| 5) | Calculate the height of a cylinder with volume $500 \mathrm{~cm}^{3}$ and the base radius 8 cm ? |  |
|  | A) 2.48 cm | C) 8.42 cm |
|  | B) 4.28 cm | D) 1.26 cm |
| 6) | Find the Angle marked with letter P . |  |
|  | A) Angle $\mathrm{B}=41^{\circ}$, angle $\mathrm{E}=56^{\circ}$ | C) Angle $\mathrm{B}=141^{\circ}$, angle $\mathrm{E}=141^{\circ}$ |
|  | B) Angle $\mathrm{B}=121^{\circ}$, angle $\mathrm{E}=116^{\circ}$ | D) Angle $\mathrm{B}=121^{\circ}$, angle $\mathrm{E}=121^{\circ}$ |
| 7) | The length of a diagonal of rectangle of length 8 cm and width 6 cm is |  |
|  | A) 10 cm | C) 5 cm |
|  | B) 14 cm | D) 100 cm |
| 8) | Find AD. |  |
|  | A) 6 | C) 80 |
|  | B) $\sqrt{ } 80$ | D) $\sqrt{ } 22$ |


| 9) | In a parallelogram if $\angle \mathrm{A}=(5 \mathrm{x}+7)^{\circ}, \angle \mathrm{B}=(3 \mathrm{x}-3)^{\circ}$, what is the value of $\angle \mathrm{A}$ ? |  |
| :---: | :---: | :---: |
|  | A) 117 | C) 119 |
|  | B) 63 | D) 61 |
| 10) | If the mean of five observations: $x, x+2, x+4, x+6, x+8$ is 13 , then the value of x is |  |
|  | A) 9 | C) 3 |
|  | B) 6 | D) 12 |
| 11) | The median of the following observations is Observations: 41,39,48,52,41,48,36,41,37,35. |  |
|  | A) 39 | C) 41 |
|  | B) 52 | D) 37 |
| 12) | The equation relating the cooking time ' t ', and mass ' m ' kg , for a cake is $\mathrm{t}=(3 \mathrm{~m}+1) / 4$. The mass of a cake requires a cooking time of 2.8 hours is |  |
|  | A) 11.2 Kg | C) 4.08 Kg |
|  | B) 3.4 Kg | D) 2.4 Kg |
| 13) | In the given figure, find $\angle \mathrm{AOC}$ if $\angle \mathrm{ABC}=46^{\circ}$ |  |
|  | A) $102^{\circ}$ | C) $92^{\circ}$ |
|  | B) $54^{\circ}$ | D) $134^{\circ}$ |
| 14) | The value of c and d in the given figure is $\qquad$ |  |
|  | A) $\mathrm{C}=81^{\circ}, \mathrm{D}=84^{\circ}$ | C) $\mathrm{C}=84^{\circ}, \mathrm{D}=79^{\circ}$ |
|  | B) $\mathrm{C}=79^{\circ}, \mathrm{D}=81^{\circ}$ | D) $\mathrm{C}=101^{\circ}, \mathrm{D}=84^{\circ}$ |
| 15) | Write any two points lying on the negative direction of X axis. |  |
|  | A) $(1,0)(2,0)$ | C) $(-1,0)(-2,0)$ |
|  | B) $(-1,0)(2,0)$ | D) $(0,-1)(0,-2)$ |
| 16) | Which one of these is not a polynomial? |  |
|  | A) $2 x^{2}+3$ | C) $\sqrt{ } 3 x-3$ |
|  | B) $x+\frac{1}{x}$ | D) $\frac{7}{5} y-10$ |


| 17) | If $\mathrm{f}(\mathrm{x})=3 \mathrm{x}+5$, then $\mathrm{f}(7)-\mathrm{f}(5)$ is equal to |  |
| :---: | :---: | :---: |
|  | A) 6 | C) -6 |
|  | B) 3 | D) -3 |
| 18) | The value of $16^{\frac{3}{4}}$ divided by $16^{-\frac{1}{4}}$ is |  |
|  | A) $3 / 4$ | C) $1 / 2$ |
|  | B) 4 | D) 16 |
| 19) | The value of $\left(1^{3}+2^{3}+3^{3}\right)^{-3 / 2}$ |  |
|  | A) $1 / 216$ | C) $1 / 64$ |
|  | B) $1 / 6$ | D) 216 |
| 20) | The value of $2.99999 \ldots$ in the form of $\mathrm{p} / \mathrm{q}$, where p and q are integers and $\mathrm{q} \neq 0$ is |  |
|  | A) $x=2 / 1$ | C) $x=2.99 / 2$ |
|  | B) $x=3 / 2$ | D) $x=3 / 1$ |

## SECTION 02 - LOGICAL REASONING

| 21) | Which of these words would appear first in reverse dictionary order? |  |  |
| :---: | :---: | :---: | :---: |
|  | A) Paleontologist | C) Paleopat |  |
|  | B) Paleographical | D) Paleoeco |  |
| 22) | Arrange the following words in the order in which they would appear in a dictionary : 1.Palliative, 2.Pallet, 3.Palatial, 4.Palatableness |  |  |
|  | A) $1,2,3,4$ | C) $3,2,1,4$ |  |
|  | B) 2,1,3,4 | D) $4,3,2,1$ |  |
| 23) | Arrange the following words in the reverse of the order in which they would appear in a dictionary : 1.Orthogonality, 2.Orthopsychiatry, 3. Orthogenetic, 4.Orthodontist |  |  |
|  | A) $1,2,3,4$ | C) $3,2,1,4$ |  |
|  | B) 2, 1,3,4 | D) $4,3,2,1$ |  |
| 24) | Arrange the following in a meaningful order: 1.Carbon Emission, 2.Sea Level Rising, 3. Glacier Melting, 4. Global Warming |  |  |
|  | A) $1,4,3,2$ | C) $3,2,1,4$ |  |
|  | B) $2,1,3,4$ | D) $4,3,2,1$ |  |
| 25) | Which of these following words cannot be formed with the letters in the word "FACTIONALIZING"? |  |  |
|  | A) FICTION | C) CAPTIO |  |
|  | B) NATION | D) FACTIO |  |
| 26) | Which of these following words cannot be formed with the letters in the word "ZEPHYRANTHESES"? |  |  |
|  | A) ZEPHYR | C) RANT |  |
|  | B) PARENTHESES | D) PARENT |  |
| 27) | Which of these following words cannot be formed with the letters in the word "BACTERICIDALLY" |  |  |
|  | A) YEAST | C) CIDER |  |
|  | B) DAILY | D) DALLY |  |


| 28$)$ | Which of these following words can be formed with the letters in the word "ECCLESIASTI- <br> CAL" |  |  |
| :--- | :--- | :--- | :--- |
|  | A) STICK | C) CALLIPER |  |
|  | B) SCIATIC | D) CLICK |  |
| 29$)$ | What is the number of meaningful words that can be made from the letters C,A,T,T,I using all <br> the letters (each letter can be used only once per word)? |  |  |
|  | A) 4 | C) 3 |  |
|  | B) 2 | D) 1 |  |

Questions 30-40 : Read the following paragraph to answer the questions below:

Paragraph: 8 friends A,B,C,D,E,F,G \& H are sitting in a circle. A sits between $\mathrm{C} \& \mathrm{D}, \mathrm{B}$ sits facing A positioned between E \& F. E sits on the immediate left of G while D sits on the immediate left of H. G \& H sit facing each other.



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\begin{aligned}
& \text { Affordable Schooling } \\
& \text { Commendable Learning }
\end{aligned}
$$



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