## NATIONAL TEACHERS COUNCIL

# ALL INDIA TALENT SEARCH EXAMINATION <br> 2019 

## Class

Time Allowed: 90 Minutes
Maximum Mark: 50
This Test Booklet contains 10 pages. Do not open the Test Booklet until you are asked to do so. Important instructions

1. The Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully with blue/black ball point pen only.
2. This question paper contains 50 multiple choice questions each of one mark. The question paper is divided into two sections, Section A and Section B
3. Section $\boldsymbol{A}$ is Scholastic Aptitude Test (SAT), contains 30 questions. This section covers Mathematics \& General Science
4. Section B is Mental Ability Test (MAT), Computer Awareness and General Knowledge, contains 20 questions.
5. Each question should be answered by darkening the appropriate circles (A, B, C or D) with a blue or black ball pen.
6. All questions are compulsory. There will be no negative marks for wrong answer.
7. Answer recorded once in the answer sheet cannot be altered.
8. All rough works should be done only in the space provided for rough work in this question paper.
9. Calculator is not permitted in the examination hall.
10. Candidate should write his / her name in the space provided for the purpose.


Candidate's Signature

## SCIENCE (Question No 1 to 10)

1 Which one of the following is NOT an excretory organ of our body?
[A] Kidney
[B] Skin
[C] Heart
[D] Lungs

2 If a person's diet consists of rice, dal and curds only, he is likely to suffer from a deficiency of
[A] Vitamins
[B] Fats
[C] Proteins
[D] Starch

3 Organisms that require oxygen must transfer molecules of oxygen from their environment to their cells. In humans, which two systems are directly involved in the transfer of oxygen from the environment to their cells?
[A] Circulatory and nervous
[B] Respiratory and digestive
[C] Digestive and nervous
[D] Respiratory and circulatory

4 Arun studied two groups of things shown in the table below.

| Biodegradable | Non-Biodegradable |
| :--- | :--- |
| Fruit peel | Gold chain |
| Meat | Poly bag |
| Dairy products | Aluminium can |

He made following inferences. Which one of the inferences is correct?
[A]All non-biodegradable objects are hard
[B] All living things are non-biodegradable
[C] Biodegradable objects come only from animals
[D] Most things obtained from living organisms are biodegradable
5 The students could rotate the globe quickly or slowly. If the globe could rotate only at the rate that Earth actually rotates, about how long would each complete rotation take?
[A] 30 days
[B] 60 minutes
[C] 24 hours
[D] 365 days

6 A large area of forest was destroyed completely by forest fire. Which of the following statement holds true regarding it?
(i) More soil will be eroded as the soil is not protected by trees from wind and rain
(ii) The land will have more fresh air as there are lesser trees to take in oxygen
(iii) Wildlife will inhabit the cleared area because more space is available now
(iv) New trees will grow quickly to replace the burnt ones as the ash of the burnt trees will make the soil more fertile
[A] (i) only
[B] (i) \& (iv) only
[C] (i), (ii) \& (iv) only
[D] (i), (ii), (iii) \& (iv)

7 Four items are placed at same distance from a magnet. Which one of the objects will be the easiest for the magnet to pull?
[A] a 1-gram piece of paper
[B] a 2-gram eraser
[C] a 3-gram steel paper clip [D] a 4-gram iron nail
$8 \quad$ Which one of the following is a change of state due to heat gain?
[A] Water becoming ice cubes in an ice tray
[B] Ice becoming a puddle of water
[C] water in a pond becoming solid during winter
[D] Steam becoming water droplets on a metal lid
$9 \quad$ How would you test the permeability of soil?
[A] By rolling some soil between your fingers
[B] By waiting for rain and then observing the soil
[C] By measuring how much water you pour into pots of different soils and comparing how much drains away
[D] By watering the soil and letting it drain onto litmus paper
10 Carbon dioxide is different from sea water as
[A] It has no definite mass
[B] It has no definite shape
[C] It has no definite volume
[D] All of these

## MATHEMATICS (Question No 11 to 30)

11 Predecessor of $100,000,000$ is
[A] 99999999
[B] 9999999
[C] 999999
[D] 90000099

12 In the given number $\mathbf{8 9 0 4 3 6}$, if you write 0 in place of 4 , by how much the resulting number be less than this given number?
[A] 40
[B] 400
[C] 436
[D] 36

13 The common factors of 56 \& 44 are
[A] 1, 2, 4
[B] 1, 2, 11
[C] 1,8
[D] 2

14 Odd one out
[A] $1: 3$
[B] $2: 6$
[C] $2: 5$
[D] $3: 9$

15 What is the solution of the expression $\mathbf{3} \times 10+9 \times 2$
[A] 48
[B] 78
[C] 84
[D] 114

16 Which one of the following number is NOT divisible by 3 ?
[A] 6741
[B] 776631
[C] 1529
[D] 150481
$17 \quad 6342 \times 5 \times 10 \times 0 \times 8=$ ?
[A] 0
[B] 459920
[C] 2299600
[D] 292960

18 Which of the following number is divisible by 9 ?
[A] 5632103
[B] 497365
[C] 867105
[D] 26905

19 Arun bought 4 soap bars weighing 125 g and 3 detergent cakes weighing 280 g each. The total weight of the soap and detergents is
[A] 1 kg 590 g
[B] 1 kg 840 g
[C] 1 kg 240 g
[D] 1 kg 340 g

20 The number 32.736 correct to two places of decimal is
[A] 32.70
[B] 32.740
[C] 32.746
[D] 32.730

21 The following model is shaded to represent $2 \frac{3}{10}$


Which decimal does the model represent?
[A] 0.23
[B] 2.03
[C] 2.30
[D] 20.3

22 L C M of 24, 36 and 40 is
[A] 120
[B] 240
[C] 360
[D] 480

23 A tailor had a piece of cloth 8 m long. He cut 3 smaller pieces of cloth each $\frac{3}{4} m \mathrm{~m}$ from it. How many metres of cloth were left?
[A] $\frac{1}{4} m$
[B] $\frac{3}{4} m$
[C] $2 \frac{1}{4} m$
[D] $5 \frac{3}{4} m$

24 The greatest number that will divide $37,50,123$ leaving remainder 1,2 and 3 respectively is
[A] 12
[B] 10
[C] 15
[D] 9

25 In the triangle given below, angle P measures $140^{\circ}$. Angle Q has the same measure as angle R . What is the measure of angle Q ?

$$
\begin{aligned}
& \text { [A] } 20^{\circ} \\
& \text { [B] } 40^{\circ} \\
& \text { [C] } 70^{\circ} \\
& \text { [D] } 80^{\circ}
\end{aligned}
$$



26 What is the value of the following expression?

$$
50+[100-\{35-(30-20)\}] \times 2
$$

[A] 0
[B] 50
[C] 100
[D] 200

27 If your present age is $P$, then your age 6 years ago was
[A] P-6
[B] $6-\mathrm{P}$
[C] $P+6$
[D] 6 X P

28 In a map, 1 cm is used to represent 100 km . Find the distance between the two places in the map if the actual distance between them is 200 km .
[A] 20 cm
[B] 10 cm
[C] 2 cm
[D] 2 m

29 A group of 100 students were asked which hobby they like. The Venn diagram shows the data


What is the ratio of number of students who like both music and dance, but not dramatics to the number of students who likes only dramatics?
[A] $6: 1$
[B] $1: 6$
[C] $1: 3$
[D] $3: 1$

30 Name the type of triangle shown in the figure below
[A] Equilateral triangle
[B] Isosceles triangle
[C] Right triangle
[D] Scale triangle


## SECTION B

31 Which one of the following is not related to agro based industry?
[A] Sugarcane
[B] Cotton
[C] Tea
[D] Wheat

32 Which one of the following is not a source of energy'?
[A] Coal
[B] Petroleum
[C] Fire
[D] Firewood

33 Which launch vehicle was used for launching Chandrayaan 2?
[A] ASLV
[B] PSLV
[C] GSLV
[D] SLV

34 Which one of the following is the staple food crop of India?
[A] Wheat
[B] Rice
[C] Corn
[D] Jowar

35 Pick out the odd one
Teacher, Principal, Student, Reader, Professor
[A] Student
[B] Professor
[C] Principal
[D] Reader

36 Anisha is living in Chennai. She planned to visit Delhi in her midterm holiday. In which direction she need to travel?
[A] South
[B] North West
[C] South West
[D] North East

37 Choose the figure which is different from the rest.

[A] 1
[B] 2
[C] 3
[D] 4

38 Replace the question mark
$\mathbf{B}, \mathbf{D}, \mathbf{F}, \mathbf{I}, \mathbf{L}, \mathbf{P}, \quad$ ?
[A] R
[B] S
[C] T
[D]U

39 Replace the question mark.


[A] | $Q$ |
| :---: |
| 9 |

[B] | $Q$ |
| ---: |
|  |




[D] | S |
| :--- |
|  |

40 Replace the question mark.

| 3 | 97 | 81 |
| :--- | :--- | :--- |

[A] 243
[B] 729
[C] 423
[D] 279

41 Replace the question mark:

$$
\mathbf{1}, \quad 5, \quad 13, \quad 25, \quad ?
$$

[A] 41
[B] 44
[C] 23
[D] 55

42 Which answer figure will complete the question figure?


43 Find the number of triangles in the given figure.
[A] 16
[B] 18
[C] 19

[D] 21
44 Two cups of water were placed into each of the open containers. Predict what the water levels will be tomorrow.

[A] The same amount of water will be left in both.
[B] There will be more water left in container B than in A.
[C] There will be more water in container A than in B.
[D] They will both still have two cups of water.
45 This map is best to explain:
[A] Indian boundary
[B] Rivers of India
[C] Indian states
[D] Neighbors of India


46 Which one of the following is not an integral part of a computer?
[A] CPU
[B] Monitor
[C] Mouse
[D] UPS

47 All of the following are examples of storage devices except
[A] Hard disk drives
[B] Printers
[C] Floppy disk drives
[D] CD drives

48 Which key combination helps you to undo last action performed?
[A] $\mathrm{Ctrl}+\mathrm{Y}$
[B] $\mathrm{Ctrl}+\mathrm{Z}$
[C] $\mathrm{Ctrl}+\mathrm{X}$
[D] $\mathrm{Ctrl}+\mathrm{Y}$

49 What type of keys are 'ctrl' and 'shift'?
[A] Adjustment
[B] Function
[C] Modifier
[D] Alphanumeric

50 Devices used to transmit data over telecommunications lines.
[A] Drives
[B] Drive bays
[C] Modems
[D] Platform

## SPACE FOR ROUGH WORK

