

KH

Exam for
Young Scientists..!



J-2023

SCIENCE APTITUDE TEST

CLASS 5

ANSWER KEY WITH SOLUTION

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PART - I : MENTAL ABILITY

1.

Sol. (d) Sunday

2.

Sol. (b) I

Skip a letter in the sequence: A, C, E, G, I

3.

Sol. (b) 32 Ruppees3 pencils \rightarrow 12 Rupees1 pencil $\rightarrow \frac{12}{3} = 4$ Rupees8 pencils $\rightarrow 8 \times 4 = 32$ Rupees**Ans. 32**

4.

Sol. (a) Add odd numbers starting from 3

$$2 + 3 = 5$$

$$5 + 5 = 10$$

$$10 + 7 = 17$$

$$17 + 9 = 26$$

Ans. 26

5.

Sol. (a) ICEMANCINEMA \rightarrow ICEMAN

ICEMAN is the meaning full word

6.

Sol. (c) Multiply by 2

$$8 \times 2 = 16$$

$$16 \times 2 = 32$$

$$32 \times 2 = 64$$

$$64 \times 2 = 128$$

Ans. 32

7.

Sol. (d) Squares of the natural numbers

$$1 \times 1 = 1$$

$$2 \times 2 = 4$$

$$3 \times 3 = 9$$

$$4 \times 4 = 16$$

$$5 \times 5 = 25$$

Ans. 25

8.

Sol. (d) Carrot : Others are fruits

9.

Sol. (c) 4

10.

Sol. (b) Joyful

11.

Sol. (c) ROTCAR

First three letters in POTATO are shifted to the end
CARROT becomes ROTCAR

12.

Sol. (d) Square of the number at the other end.

13.

Sol. (c) Front

Antonym of back.

14.

Sol. (d) Rishi is the only son of his mother and the boy is his son. Therefore Rishi is the father of the boy in the photograph.

15.

Sol. (a) North-east**PART - II : MATHEMATICS**

1.

Sol. (b)

$$\frac{1}{2}, \frac{1}{3}, \frac{2}{5}, \frac{3}{4}$$

LCM of 2, 3, 5, 4 = 60

$$\frac{1}{2} \times \frac{30}{30} = \frac{30}{60} \Rightarrow \frac{1}{3} \times \frac{20}{20} = \frac{20}{60} \Rightarrow \frac{2}{5} \times \frac{12}{12} = \frac{24}{60} \Rightarrow \frac{3}{4} \times \frac{15}{15} = \frac{45}{60}$$

$\therefore \frac{20}{60} = \frac{1}{3}$ is the smallest

2.

Sol. (d) 24 units

Perimeter of rectangle = 2(length + breadth) = 2(8 + 4) = 2 × 12 = 24 units.

3.

Sol. (b) $\frac{1}{4}$ of 20 = $\frac{1}{4} \times 20 = 5$

4.

Sol. (c) Number of sides in a hexagon = 6

5.

Sol. (b) 1 metre = 100 cm

6.
Sol. (c) Area of rectangle = length x breadth = $10 \times 3 = 30$ sq. units
7.
Sol. (c) 2 is the smallest prime number
8.
Sol. (c) 4 is the smallest composite number
9.
Sol. (b) $\frac{3}{4} + \frac{1}{4} = \frac{4}{4} = 1$
10.
Sol. (c) 1 litre = 1000 ml
11.
Sol. (b) In a circle, diameter = $2 \times$ radius \therefore Radius = $\frac{\text{diameter}}{2} = \frac{12}{2} = 6$ cm
12.
Sol. (a) 0 is the smallest whole number
13.
Sol. (d) Counting by fours starting by 4 will be: 4, 8, 12, 16, 20, 24,
 \therefore The fifth number will be 20
14.
Sol. (b) Proper fraction
15.
Sol. (a) $999 + 1 = 1000$
16.
Sol. (c) $45 \div 45 = 1$ $\therefore x = 45$
17.
Sol. (c) Largest 9 digit number will be 999999999
18.
Sol. (c) Line segment
19.
Sol. (a) Seven sided geometrical figure is called heptagon.
20.
Sol. (b) In an equilateral triangle, lengths of all three sides are equal.
21.
Sol. (a) 4 times 8 = $4 \times 8 = 32$
22.
Sol. (c) Perimeter of square = $4 \times$ side = $4 \times 24 = 96$ cm
23.
Sol. (c) Degree

24.
Sol. (d) $2\% \text{ of } 100 = \frac{2}{100} \times 100 = 2$
25.
Sol. (c) Circle
26.
Sol. (d) $26.6 = 2 \times 3$
 $8 = 2 \times 2 \times 2$
 $\text{LCM} = 2 \times 2 \times 2 \times 3 = 24$
27.
Sol. (d) Right-angled triangle
28.
Sol. (c) 90°
29.
Sol. (a) Fibonacci sequence: 1, 1, 2, 3, 5, 8, 13,
 $1 + 1 = 2 \Rightarrow 1 + 2 = 3 \Rightarrow 2 + 3 = 5 \Rightarrow 3 + 5 = 8 \Rightarrow 5 + 8 = 13$
30.
Sol. (a) Area of square = side x side = 49 sq. units
 Side x Side = 7×7
 Side = 7 units

Ans. 8

PART - III : PHYSICS & CHEMISTRY

1.
Sol. (b) About a month
 Moon completes one revolution around the Earth in about 27 days. This time period is known as sidereal month. Moon cycles through all its phases in 29.5 days. The time taken to go through all the cycles is known as synodic month.
2.
Sol. (c) Earth rotates in west to east direction
 The stars don't really move from the east to west, it is due to earth's rotation. The earth rotates from west to east, around its axis. Hence, stars appear to move from east to west.
3.
Sol. (c) Geothermal energy
 Geothermal energy is heat energy from the earth-Geo (earth) + thermal (heat). Geothermal resources are reservoirs of hot water that exist.
4.
Sol. (d) Ship - Spring force
 Ships - Spring force is incorrect option as Ships also experience Buoyant force.
 When a ship is floating in still water, the pressure of water on the boat below the waterline pushes upward, creating a buoyant force.

5.

Sol. (b) Screw

The machine made with the help of two or more than two simple machines is called a complex machine. Simple machine are devices with few or no moving parts that are used to modify motion and the magnitude of a force in order to perform work

6.

Sol. (a) Luminous.

Luminous objects are which emit light by their own. Examples: - Sun, flame of a burning candle. Non-luminous objects are which can not emit light on their own. These objects reflect light from luminous bodies. Examples: - Moon, Earth.

7.

Sol. (a) Opposite

When the light travels in a direction and it is blocked by an opaque object, it does not allow the light to pass through it because of which the shadow is formed on the opposite side of the source of light.

8.

Sol. (a) 1m = 100 cm

The conversion of measurement from km to centimeters can be done by multiplying the number of cm by 100.

9.

Sol. (b) energy

Energy is defined as the "ability to do work, which is the ability to exert a force. Energy is just the force that causes things to move

10.

Sol. (d)

Lunar eclipse occurs when earth position in between sun and moon, so b in figure represent earth.

11.

Sol. (d) 2.7 % Earth's water is fresh water.

12.

Sol. (d) (i) Using rainwater to add to Underground water
(ii) Storing rain water in tanks

13.

Sol. (d) Nitrogen, Argon, Helium present in Air

14.

Sol. (c) 21% oxygen and 78% nitrogen.

15.

Sol. (c) Water is natural resource.

16.

Sol. (a) Solid have definite volume and definite shape

17.

Sol. (c) sound don't have mass and no occupie space So, not matter

18.

Sol. (d) Salt is not example of element

19.

Sol. (d) Ponds, Rivers, Ground water is polluted by factories

20.

Sol. (c) CO₂ is taken by Plants to prepare the Food.

PART - IV : BIOLOGY

1.

Sol. (b) Ants move in a line because of their sense of smell

2.

Sol. (a) Owl has eyes in the front of it's head

3.

Sol. (d) Pitcher plant is an insectivorous plant

4.

Sol. (a) Seed coat is the outer part of a seed

5.

Sol. (b) Bihu is celebrated in Assam as harvest festival

6.

Sol. (b) polar bear is endangered

7.

Sol. (a) Anaemia is caused due to the deficiency of Iron

8.

Sol. (b) Honey bee lay their eggs from october to December

9.

Sol. (a) With the help of Whiskers lion sense the movement and vibration

10.

Sol. (c)