KHOJ-2025

Exam for Young Scientists..!

SCHOLARSHIPS up to ₹5 Crore

SCHOLARSHIP FOR HIGH ACHIEVERS AND NEEDY STUDENTS

SCIENCE APTITUDE TEST

CLASS - 5

SOLUTIONS

TEST CODE - 05

WhatsApp Channel

Result will be Declared on 14th Oct. 2025

Video Solutions will be available on
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PART - I : MENTAL ABILITY

1.

Sol. (d)

2.

Sol. (b) Rs. 25

If 2 pens cost Rs. 10, then 1 pen costs Rs. 5. So, 5 pens = 5 x 5 = Rs. 25.

3.

Sol. (d) Rose

All others are animals, while Rose is a flower

4.

Sol. (b) Joyful

It means the same as happy.

5.

Sol. (b)

6.

Sol. (b) 12

7.

Sol. (b) 60

Each number is decreasing by 10

8.

Sol. (a) R

The letters are skipping one alphabet in reverse order.

9.

Sol. (c) Spoon

All others are used for cutting, spoon is not

10.

Sol. (a) 1

11.

Sol. (a) Monday

Every 7th day repeats, so 8th = Monday.

12.

Sol. (b) 2nd

You take the place of the person you passed

13.

Sol. (a) Thursday

If the day after tomorrow is Sunday, today is Friday, making yesterday Thursday

14.

Sol. (a) D4

The sequence follows the pattern of consecutive letters and numbers.

15.

Sol. (a) 42

The pattern is increasing by consecutive even numbers (4, 6, 8, 10, 12).

PART - II : MATHEMATICS

1.

Sol. (b) Formula:
Number of buckets = Capacity of drum ÷ 5 Capacity of bucket = 25 ÷ 5 = 5

2.

Sol. (a) (100 + 40 + 3) × 5
$\Rightarrow$100 × 5 + 40 × 5 + 3 × 5 $\Rightarrow$500 + 200 + 15 = 715

3.

Sol. (b) Definition: A ray has one endpoint and extends infinitely in one direction.

4.

Sol. (c) 2 - 7 = -5

5.

Sol. (c) $\frac{3}{4} = \frac{(3\times4)}{(3\times4)} = \frac{12}{16}$

6.

Sol. (b) 4.25 + 1.90 = 6.15

7.

Sol. (b) Formula: Area = Length × Breadth
7 × 4 = 28 cm²

8.

Sol. (c) 1 kg = 1000 g
4 kg = 4 × 1000 = 4000 g

9.

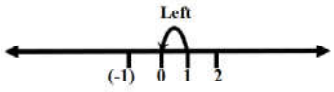
Sol. (a) 405 ÷ 9 = 45

10.

Sol. (b) Definition: The radius joins centre to boundary.

11.

Sol. (c) Numbers less than 1 are to its left; 0 is left of 1.



12.

Sol. (a) $\frac{8-5}{9} = \frac{3}{9} = \frac{1}{3}$

13.

Sol. (b) $\frac{3}{100} = 0.03$

14.

Sol. (a) Formula: Perimeter = 4 × side = 4 × 9 = 36 cm

15.

Sol. (b) 2 hours = 3 × 60 = 180 minutes + 30 minutes = 210 minutes

16.

Sol. (c) 156 ÷ 13 = 12

17.

Sol. (b) Answer: 5-sided polygon = Pentagon

18.

Sol. (b) –3 + 8 = 5°C

19.

Sol. (b) Convert to decimals :

$\frac{2}{5} = 0.4$, $\frac{1}{2} = 0.5$, $\frac{3}{8} = 0.375$, $\frac{4}{10} = 0.4$

Largest is $0.5 \rightarrow \frac{1}{2}$

20.

Sol. (a) 7.85 - 3.60 = 4.25

21.

Sol. (c) Formula: Area = side² = 12² = 144 m²

22.

Sol. (c) 4 L = 4000 ml; 4000 ÷ 500 = 8 packets

23.

Sol. (c) 43 × 1000 = 43000

24.

Sol. (b) Quadrilateral has 4 sides & 4 angles

25.

Sol. (c) Positive integer = greater than 0, whole number $\rightarrow$ +25

26.

Sol. (c) $\frac{3}{5}\times 25 = 3\times 5 = 15$

27.

Sol. (a) Nine and five-tenths $= 9 + \frac{5}{10} = 9.5$

28.

Sol. (a) Formula: Breadth = Area ÷ Length

$= 54 \div 9 = 6$ cm

29.

Sol. (c) Check: $8 \times 6 = 48 \rightarrow 48$ is multiple of 8

30.

Sol. (b) LCM of denominators 3 and 6 = 6.

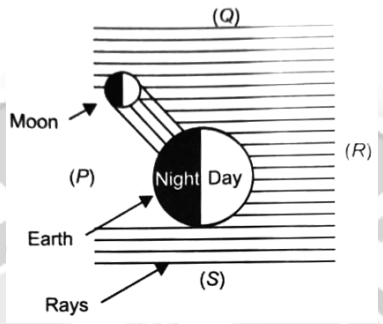
$$\frac{22}{3} = \frac{22\times 2}{3\times 2} = \frac{44}{6}$$

Now $\frac{44}{6}+\frac{11}{6} = \frac{55}{6}$.

PART - III : PHYSICS & CHEMISTRY

1.

Sol. (c) The Sun is the source of light, so its position should be on the side of the Earth experiencing daylight.



The diagram indicates the direction of "Rays" coming from one of the positions towards the Earth and Moon.
Since the "Rays" are coming from "R" and illuminating the Earth, "R" must be the position of the Sun.

2.

Sol. (c) The distance between the image and the mirror is equal to the distance between the object and the mirror because the image formed by a plane mirror is virtual and is as far behind the mirror as the object is in front of it. Therefore, if the object is 15 cm in front of the mirror, the image will be 15 cm behind the mirror, making the distance between the image and the mirror 15 cm.

3.

Sol. (a) Given that options (B), (C), and (D) all represent oscillatory motion, and option (A) represents circular or curved motion, option (A) is the one that stands out as different from the others.

4.

Sol. (b) Conversion:
1 kilometer (km) = 100,000 centimeters (cm)
So, 1 centimeter = 1/100,000 km = 0.00001 km.

5.

Sol. (d) The unit of force is indeed the newton (N).
- Force can be described as a push or pull on an object.
- Force applied to an object doesn't always cause it to move, especially if the force is balanced by another force.

Therefore, the correct answer is D, "All the above."

6.

Sol. (b) A ramp is an example of an inclined plane, which is a surface that slants or tilts, allowing objects to move from a lower level to a higher level with less force.

7.

Sol. (c) Potential energy is the energy stored in an object due to its position or height. For example, an object lifted off the ground has gravitational potential energy due to its elevated position.

8.

Sol. (b) The lengths of three different wires are:
J = 12 cm = 0.12 m
K = 2.8 m
L = 203 mm = 0.203 m
The arrangement of the given wires from the longest to the shortest are $K \rightarrow L \rightarrow J$

9.

Sol. (c) A meteorite is a piece of a meteoroid that survives its passage through the Earth's atmosphere and lands on the surface. It's the remains of a meteor that didn't burn up completely and made it to the ground.

10.

Sol. (a) sea waves,
The gravitational pull of the moon and sun on the Earth's oceans, which causes tides.
Tidal energy is a form of renewable energy that harnesses the power of ocean tides to generate electricity. While the sun and moon's gravitational pull causes the tides, the energy itself is derived from the movement of sea waves during tidal cycles.

11.

Sol. (a) In gases, particles are very far apart with maximum interparticular space, while in solids they are very close and in liquids moderately spaced.

12.

Sol. (b) Sand is insoluble in water. It can be separated by filtration since filter paper retains sand and water passes through.

13.

Sol. (c) Cotton has a lot of air trapped inside, reducing its density, so it floats initially. Gold, stone, and sand are denser than water and sink.

14.

Sol. (c) Oiled paper allows light to pass through partially but not clearly, making it translucent.

15.

Sol. (c) Plastic is waterproof and prevents water from soaking, so it is used for raincoats.

16.

Sol. (d) Rainwater contains dissolved gases from the atmosphere like CO_2, O_2, and N_2. It is almost free of salts, sewage, or fertilizers unless contaminated.

17.

Sol. (d) Floods cause crop failure (fields submerged), network problems (disrupted electricity/ communication), and road damage.

18.

Sol. (a) Mercury is a liquid at room temperature. Liquids have fixed volume but take the shape of the container (no fixed shape).

19.

Sol. (b) Aerated drinks like soda, cola contain dissolved carbon dioxide under pressure, which produces fizz when opened.

20.

Sol. (d)
* Nitrogen ~78%
* Oxygen ~21%
* Argon ~0.93%
* Carbon dioxide ~0.03–0.04% (least among the given options).

PART - IV : BIOLOGY

1.

Sol. (b) Malaria

Malaria is caused by the bite of the female Anopheles mosquito carrying Plasmodium parasites.

2.

Sol. (c) To plant in the next season

Farmers store good quality seeds to sow them again in the next growing season for better yield.

3.

Sol. (c) Tribals, animals, and plants

Forests provide shelter to tribal people, wild animals, and a variety of plants.

4.

Sol. (b) Nectar

Honeybees collect nectar from flowers and convert it into honey.

5.

Sol. (a) Apiculture

The scientific name of beekeeping is Apiculture (from Latin apis = bee).

6.

Sol. (c) Jowar

In the lesson/story of Basva's farm (EVS/Science context), Jowar crop was grown.

7.

Sol. (b) Stomach

The stomach secretes digestive juices and acids that help in breaking down food.

8

Sol. (c) A is true, but R is false.

Seeds dispersed by wind are light and have wings or hair-like structures (e.g., cotton, maple), not heavy.

9.

Sol. (a) Only 1 and 3

(1) True: Mosquitoes track humans using smell and carbon dioxide.
(2) False: Animals with good hearing usually sleep with ears alert.
(3) True: Ants leave a chemical trail to guide others to food.

10.

Sol.(c)

Tongue: helps taste and move food while chewing.
Stomach: secretes HCl and enzymes to digest food.
Small intestine: absorbs nutrients into the blood.
Teeth: break down food into smaller pieces (mechanical digestion).