UDAAN

A QUEST FOR SCIENCE ASPIRANTS

SCIENCE APTITUDE TEST

CLASS - 6

SOLUTIONS

TEST CODE - 28

IIT Ashram
JEE MAIN I JEE ADVANCED I GUJCET I FOUNDATION

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Drs' Ashram
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PART - 1 : MENTAL ABILITY

1.

Sol. (b) 10

The numbers increase by 2 each time: 2, 4, 6, 8, 10.

2.

Sol. (c) 3

5 - 2 = 3 pencils left.

3.

Sol. (b) 8

The numbers double each time: 1, 2, 4, 8, 16.

4.

Sol. (d) 6 hours

Going to the park takes 3 hours; coming back also takes 3 hours.

3 + 3 = 6 hours.

5.

Sol. (c) Tree

Cat, dog, and elephant are animals. A tree is a plant.

6.

Sol. (a) A clock

A clock has a face and two hands but no body.

7.

Sol. (c) 8

10 - 2 = 8 chocolates left.

8.

Sol. (a) Blue

These are colours of the rainbow: red, orange, yellow, green, blue.

9.

Sol. (c) 8

12 - 4 = 8 eggs left.

10.

Sol. (a) A coin

A coin has a head and a tail but no body.

11.

Sol. (b) 2

There are 3 doors. If one is opened, 2 remain closed.

12.

Sol. (a) Envelope

An envelope starts and ends with "E" and contains one letter.

13.

Sol. (c) 10

5 fingers on each hand → 5 + 5 = 10 fingers.

14.

Sol. (c) 25

The numbers increase by 5: 5, 10, 15, 20, 25.

15.

Sol. (c) East

When facing north, turning right means facing east.

PART - II : MATHEMATICS

1.

Sol. (b) 700

In 8765, the digit 7 is in the hundreds place → 700.

2.

Sol. (a) 10000

The successor of a number is the next number. 9999 + 1 = 10000.

3.

Sol. (c) 25

First solve brackets: (3 + 2) = 5

→ 5 × 5 = 25.

4.

Sol. (d) 16 cm

Perimeter = 2 × (length + width)

= 2 × (5 + 3) = 2 × 8 = 16 cm.

5.

Sol. (b) 3

2x + 5 = 11

2x = 6 → x = 3.

6.

Sol. (b) 16 sq cm

Area of square = side × side

= 4 × 4 = 16 sq cm.

7.

Sol. (a) 4

Follow BODMAS:

3 × 2 = 6 → 10 - 6 = 4.

8.

Sol. (c) 12

A cube has 12 edges.

9.

Sol. (b) $\dfrac{3}{4}$

10.

Sol. (b) One crore

7-digit largest number = 9,999,999

Next number = 10,000,000 (8 digits)

This is called One crore

11.

Sol. (c) 10

x - 3 = 7

⇒ x = 10.

12.

Sol. (c) 5

A triangular prism has 5 faces.

13.

Sol. (b) 45

5 × 9 = 45.

14.

Sol. (a) 999999

The predecessor of a number is one less than the number.

1,000,000 - 1 = 999,999

15.

Sol. (b)

16.

Sol. (b)

17.

Sol. (c) 5

3x = 15

⇒ x = 5.

18.

Sol. (a) 69930

19.

Sol. (a) $\dfrac{1}{2}$

$$\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}.$$

20.

Sol. (d) 64 cu cm

Volume of cube = side³ = 4³ = 64 cu cm.

21.

Sol. (c) 7

x + 2 = 9

⇒ x = 7

22.

Sol. (c) 9

A triangular prism has 9 edges ?

23.

Sol. (a)

24.

Sol. (a) 10 sq cm

$\Rightarrow$ Area of triangle = $\frac{1}{2}$ × base × height

= $\frac{1}{2}$ × 5 × 4 = 10 sq cm.

25.

Sol. (c) 4

2x - 3 = 5 $\Rightarrow$ 2x = 8 $\Rightarrow$ x = 4

26.

Sol. (c) 6

A cube has 6 faces.

27.

Sol. (a) 1

$\frac{3}{4} + \frac{1}{4} = 1$

28.

Sol. (d) 12 cm

Perimeter = 3 + 4 + 5 = 12 cm.

29.

Sol. (c) 12

$\Rightarrow x \div 2 = 6$

$\Rightarrow x = 12.$

30.

Sol. (d) 72 cu cm

Volume = l × b × h

= 6 × 4 × 3 = 72 cu cm.

PART - III : PHYSICS & CHEMISTRY

1.

Sol. (c) Metre

The SI (standard international) system uses metre to measure length.

Centimetre, kilometre and millimetre are also units of length, but metre is the SI unit for length.

2.

Sol. (d) Straight line

Light always moves in a straight path, not zig-zag or curved.

That is why shadows form.

3.

Sol. (c) Light falls on an opaque object

We get a shadow only when:

• Light is present

• The object blocks the light

• Screen is present opposite to the source of light.

Opaque objects do not allow light to pass, so they form shadows.

4.

Sol. (c) Electric cell

Inside a torch, electricity is supplied by an electric cell (battery).

The switch only controls ON/OFF, and the bulb glows using electricity from the cell.

5.
Sol. (d) Plastic

Plastic does not allow electricity to pass through it, so it is an insulator.

Copper, aluminum and iron do conduct electricity, so they are conductors.

6.
Sol. (b) Circular motion

The clock hands move around a fixed center in a circle, so it is circular motion.

7.
Sol. (a) Cell, Wire, Bulb, Switch

To make a bulb glow, we need:
• A cell (source of electricity)
• Wires (to carry electricity)
• Bulb (to use electricity)
• Switch to operate

Paper, wood, etc. cannot conduct electricity.

8.
Sol. (b) Both pieces will have their own north and south poles.

When a magnet is cut into two pieces, then each piece behaves like an independent magnet.

9.
Sol. (c) Mirror

A mirror has a shiny surface that bounces light back, causing regular reflection.

Stone, wall and paper do not reflect uniformly and in one particular direction.

10.
Sol. (c) Atmosphere

An atmosphere is a blanket of gases that surrounds Earth. It is held near the surface of the planet by Earth's gravitational attraction. Argon, oxygen and nitrogen from the three main constituents of the atmosphere.

11.
Sol. (b) Oxygen

'O' is the chemical symbol for oxygen.

12.
Sol. (c) Chemical change

Burning creates ash, smoke $\rightarrow$ new substances form, so it is a chemical and irreversible change.

13.
Sol. (b) Iron

Metals (iron) shine $\rightarrow$ lustrous.

14.
Sol. (b) Sedimentation

Sedimentation = settling down due to gravity.

15.
Sol. (b) Condensation

Water vapour in air cools $\rightarrow$ changes to tiny droplets (condenses).

16.
Sol. (c) Nylon

Nylon, polyester = man-made fibres.

17.
Sol. (b) Fibres $\rightarrow$ yarn

Spinning twists fibres$\rightarrow$ forms yarn..

18.
Sol. (b) O_2 (Oxygen)

Oxygen supports combustion.

19.
Sol. (c) N_2 (Nitrogen)

Nitrogen = 78% of air.

20.
Sol. (d) Burning wood

Burning of wood is combustion reaction$\rightarrow$ irreversible

PART - IV : BIOLOGY

1.

Sol. (b) Iodine solution

Starch is tested using iodine solution. When iodine is added to a food item containing starch, it turns blue-black.

2.

Sol. (b) Helps in digestion

Roughage helps in digestion by adding bulk to food and making bowel movements easy. It prevents constipation.

3.

Sol. (b) Tap root

The main root of a plant is called the tap root. It grows downward and gives support to the plant.

4.

Sol. (b) Lamina

The flat and broad part of a leaf is called the lamina. It helps in photosynthesis.

5.

Sol. (c) Anther

The anther produces pollen grains, which are needed for reproduction in plants.

6.

Sol. (b) Ligaments

Ligaments join one bone to another bone and help in movement and flexibility.

7.

Sol. (a) Fish

A fish has a streamlined body, which helps it move easily through water.

8.

Sol. (b) Habitat

The place where an organism lives is called its habitat. It provides food, shelter, and protection.

9.

Sol. (a) Both A and R are true and R is the correct explanation of A

The backbone is also called the vertebral column. It is made up of many small bones called vertebrae, which protect the spinal cord.

10

Sol. (a) Both A and R are true and R is the correct explanation of A

All living things reproduce their own kind. Reproduction helps in the continuation of species, which is why both the assertion and reason are true.