



SCIENCE APTITUDE TEST CLASS - 6 SOLUTIONS

EXAM DATE : 04.10.26

www.iitashram.com
Email : iitashram.2011@gmail.com

WhatsApp Channel



Result will be Declared on 15th Oct. 2026

Join IIT ASHRAM on WhatsApp!

Scan the QR code below for instant updates, exam alerts & important announcements.



IIT Ashram

IIT JEE | NEET | GUJCET | FOUNDATION (6 to10)

Alkapuri Office : UG-1&2 Concorde Complex, Above PNB Bank, R. C. Dutt Road, Alkapuri, Vadodara - 390 007. (Guj) India
Ph. : 90330 63029 / 98980 35772

Vasna Branch : AKSHAR PAVILION, 3rd Floor, Tower A, Vasna Bhayli Road, Gotri, Opp. Bhayli TP-1, Vadodara-21.
Ph.: 63588 91896 / 90330 34152

Manjalpur Branch : SF-1 TO 12, Kabir Plaza, Beside Kabir Complex, Above IDBI Bank, Infront of Army Camp Manjalpur, Bhavan's Makarpura Road, Manjalpur, Vadodara - 10. Ph. : 90330 63027 / 90330 63028

Anand Branch : 2nd Floor, HR Stone Building, Beside Croma Showroom, A.V. Road, Nr. Town Hall. Anand. Ph. : 92277 77098 / 84600 09041

PART - I : MENTAL ABILITY

1.

Sol: (b) 14

Each number repeats twice, and the value decreases by 13 each pair. So the next number is 14.

2.

Sol: (c) VIJ

1st letters: S,T,U,V,W (consecutive). 2nd letters: C,E,G,I,K (skip one letter each time). 3rd letters: D,F,H,J,L (skip one letter each time). So the missing group is VIJ.

3

Sol: (c) Pool

A river has flowing water; a pool has stagnant (still) water.

4

Sol: (b) acba

The series follows the repeating pattern 'aabbcc' three times: aabbcc aabbcc aabbcc. Filling the blanks with a, c, b, a completes this pattern.

5.

Sol: (c) 2, 5, 1, 3, 4

Natural growth order: Seed → Plant → Tree → Flowers → Fruit.

6.

Sol: (c) Gold

Oxygen, Hydrogen and Nitrogen are all gases; Gold is a solid metal.

7.

Sol: (d) Father

The only son of Suresh's mother is Suresh himself. So the boy in the photo is the son of Suresh, making Suresh the boy's father.

8.

Sol: (d) Dictionary

Algebra, Geometry and Calculus are all branches of Mathematics; a Dictionary is a language reference book, unrelated to Maths.

9

Sol: (a) acab

The series follows the repeating pattern 'bcaa' four times: bcaa bcaa bcaa bcaa. Filling the blanks with a, c, a, b completes this pattern.

10.

Sol: (b) 15

This is a two-pattern series where 21 alternates with an increasing odd-number sequence: 9, 11, 13, 15, ... The next term after 21 is 15.

11.

Sol: (d) Cannot be determined

A, B and C are siblings, and C is D's father, so A is D's uncle/aunt. However, since D's gender is not given, whether D is a nephew or niece to A cannot be determined.

12.

Sol: (b) 2, 3, 1, 5, 4

Logical order of events: Rain falls → Sun comes out → Rainbow forms → Child sees it → Child becomes Happy.

13.

Sol: (c) East

North → turn right → East → turn left → North → turn right → East. He ends up facing East.

14

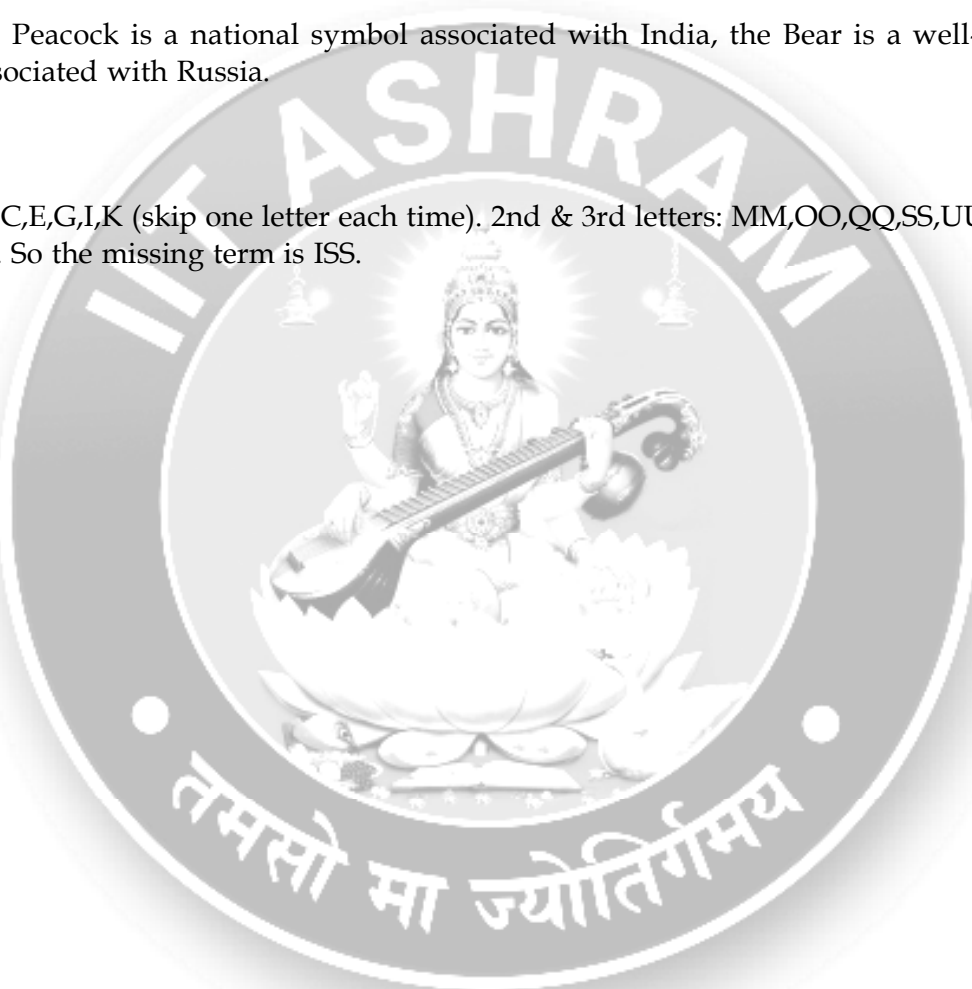
Sol: (c) Russia

Just as the Peacock is a national symbol associated with India, the Bear is a well-known national symbol associated with Russia.

15.

Sol: (c) ISS

1st letters: C, E, G, I, K (skip one letter each time). 2nd & 3rd letters: MM, OO, QQ, SS, UU (skip one letter each time). So the missing term is ISS.



PART - II : MATHEMATICS

1.

Sol: (b) 100

1 Lakh = 1,00,000 and 1 Crore = 1,00,00,000. Dividing 1 crore by 1 lakh gives 100.

2.

Sol: (b) 180°

Sum of all angles in a triangle is always 180° .

3.

Sol: (b) 25 sq cm

Area of square = side $\times$ side = $5 \times 5 = 25$ sq cm

4.

Sol: (c) 24

Number of girls = $\frac{3}{5} \times 40 = 24$

5.

Sol: (c) 6

A regular hexagon has 6 lines of symmetry.

6.

Sol: (c) Prime

Prime numbers are those numbers which has exactly two factors (1 and number itself)

7.

Sol: (d) 38784

HCF $\times$ LCM = product of two numbers

$4 \times 9696 =$ product of two numbers

$\therefore$ product of two numbers = 38784

8.

Sol: (d) 35

Fifth pentagonal numbers i.e $n = 5$

$$\text{Formula} = \frac{n(3n-1)}{2} = \frac{5 \times (3 \times 5 - 1)}{2} = \frac{5 \times 14}{2} = 35$$

9.

Sol: (b) 30

Total number of student = $15 + 10 + 5 = 30$ students.

10.

Sol: (b) 20

$$\text{Number of boxes} = \frac{480}{24} = 20 \text{ boxes}$$

11.

Sol: (a) 10000Sum of first n odd numbers $= n^2$.Here $1+3+5+\dots+199$ has 100 termsSum of 100 terms $= 100^2 = 10000$

12.

Sol: (c) 3

A triangle can have at most 3 acute angles

13.

Sol: (b) Frequency

Frequency is defined as the number of same observation repeated.

14.

Sol: (c) 14Digit sum of 68 $= 6 + 8 = 14$

15.

Sol: (b) CubesAdding hexagonal numbers (1, 7, 19, 37...) gives cube numbers. $1=1^3$, $1+7=8=2^3$, $1+7+19=27=3^3$, etc.

16.

Sol: (b) 210° $2\frac{1}{3}$ right angles $= 2$ right angles $+ \frac{1}{3}$ right angle.

$$= 2 \times 90^\circ + \frac{1}{3} \times 90^\circ$$

$$= 180^\circ + 30^\circ = 210^\circ$$

17.

Sol: (b) y-axis

The vertical line on graph is known as y-axis.

18.

Sol: (b) 12

HCF of 24 and 36

$$24 = 2^3 \times 3$$

$$36 = 2^2 \times 3^2$$

$$\text{HCF}(24, 36) = 2^2 \times 3 = 12$$

19.

Sol: (b) Area

Painting a surface involves covering the area of that surface.

20.

Sol: (a) 6,3,10,5,16,8,4,2,1

Collatz: If even divide by 2, if odd multiply by 3 and add 1.

$$\Rightarrow 6 \rightarrow 3 \rightarrow 10 \rightarrow 5 \rightarrow 16 \rightarrow 8 \rightarrow 4 \rightarrow 2 \rightarrow 1$$

21.

Sol: (c) 4

Marks data: 12,15,18,10,15,12,15,18,10,15 → 15 appears 4 times.

22.

Sol: (b) Perimeter of the square

The total length of the wire becomes the outer boundary (perimeter) of the square.

23.

Sol: (c) 5 and 7

5 and 7 are consecutive prime numbers and their sum is 12.

24.

Sol: (c) 15°

There are 24 spokes in ASHOK CHAKRA

$$\text{Angle} = \frac{360^\circ}{24} = 15^\circ$$

25.

Sol: (c) $a \times b$

LCM of two co-prime number is always the product of those numbers.

26.

Sol: (c) 192

Koch snowflake pattern: multiply by 4 each time.

$$3 \times 4 = 12$$

$$12 \times 4 = 48$$

$$48 \times 4 = 192$$

27.

Sol: (a) $2 \times 3 \times 7$

$$42 = 2 \times 3 \times 7$$

28.

Sol: (a) Two equal angles

An angle bisector divides an angle into two equal angles.

29.

Sol: (b) 30 cm

$$\text{Perimeter of regular pentagon} = 5 \times \text{side} = 5 \times 6 = 30 \text{ cm}$$

30.

Sol: (a) 121

Reverse-and-add:

$$47 + 74 = 121$$

PART - III : PHYSICS & CHEMISTRY

1.

Sol: (b) Friction between her palms produces heat

Rubbing hands creates friction, which produces heat and makes the hands warm.

2.

Sol: (a) Clear glass, frosted glass, wooden door

Clear glass lets most light pass, frosted glass lets some light pass, and a wooden door blocks light completely.

3.

Sol: (c) Oxygen inside the jar was used up, stopping combustion

The candle goes out because the oxygen inside the sealed jar gets used up, so combustion stops.

4.

Sol: (c) Oscillatory motion

A pendulum moves to and fro about a fixed point, so it shows oscillatory motion.

5.

Sol: (d) 7 m

Distance = Total length of path = 4 m + 3 m = 7 m.

6.

Sol: (b) The Earth itself behaves like a giant magnet with magnetic poles

A compass points North-South because the Earth acts like a giant magnet.

7.

Sol: (a) The nail will become a temporary magnet

Repeated stroking with a magnet aligns the magnetic domains, making the iron nail a temporary magnet.

8.

Sol: (b) Heat is total thermal energy in a body; temperature measures how hot or cold it is

Heat is thermal energy, while temperature tells like degree of hotness or coldness of an object.

9.

Sol: (b) No – temperature depends mainly on distance from the Sun, not size

A planet's temperature mainly depends on its distance from the Sun and its atmosphere, not on its size.

10.

Sol: (b) All three pieces will each have a North and South pole and attract iron filings

When a bar magnet is broken, each piece becomes a smaller magnet with its own North and South poles.

11.

Sol: (c) Hydrogen

A substance that does not have a fixed volume and occupies the entire space of its container is a gas. Among the options, Hydrogen is a gas. Milk is a liquid, Wood is a solid, and Dry ice is a solid.

12.

Sol: (c) salt, orange juice, steam

Interparticular spaces are the gaps between particles. They are minimal in solids, moderate in liquids, and maximum in gases.

Salt = Solid (least space)

Orange juice = Liquid (moderate space)

Steam = Gas (maximum space)

So, ascending order is Solid < Liquid < Gas.

13.

Sol: (a) P and Q

Explanation: Gases are highly compressible due to large interparticular spaces.

P: Steam (Gas) - Compressible

Q: Oxygen (Gas) - Compressible

R: Chilli powder (Solid) - Negligible compressibility.

14.

Sol: (d) Copper

Copper is a metal. Metals are generally hard, have a shiny surface (lustrous), and do not allow light to pass through them (opaque). Wood, plastic, and cotton are not lustrous.

15.

Sol: (a) Filtration

Filtration is the process used to separate insoluble solids from a liquid. Sieving is for separating solid particles of different sizes. Evaporation is for separating a dissolved solid from a liquid. Crystallization is for purifying solids by separating soluble solids from a liquid.

16.

Sol: (c) carbon dioxide

A mixture contains two or more substances physically combined. Air, tap water, and milk are mixtures. Carbon dioxide is a pure compound made of carbon and oxygen chemically bonded in a fixed ratio.

17.

Sol: (d) rain water

Rainwater is the primary source that seeps through the soil to replenish the groundwater table. Snow-melt can also contribute, but rainwater is the main source. River water and sub-soil water are part of the water cycle but the ultimate source for groundwater recharge is precipitation (rain).

18.

Sol: (b) Sea

Saline water is water that contains a significant amount of dissolved salts. Sea (ocean) water is the primary source of saline water on Earth. Tap water, pond, and river are sources of fresh water.

19.

Sol: (a) Frosted glass is transparent material.

Frosted glass is actually translucent, not transparent. You cannot see clearly through it. Transparent materials allow light to pass through clearly (like clear glass). Wood is opaque, plastic balls float, and sand is insoluble in water—these statements are correct.

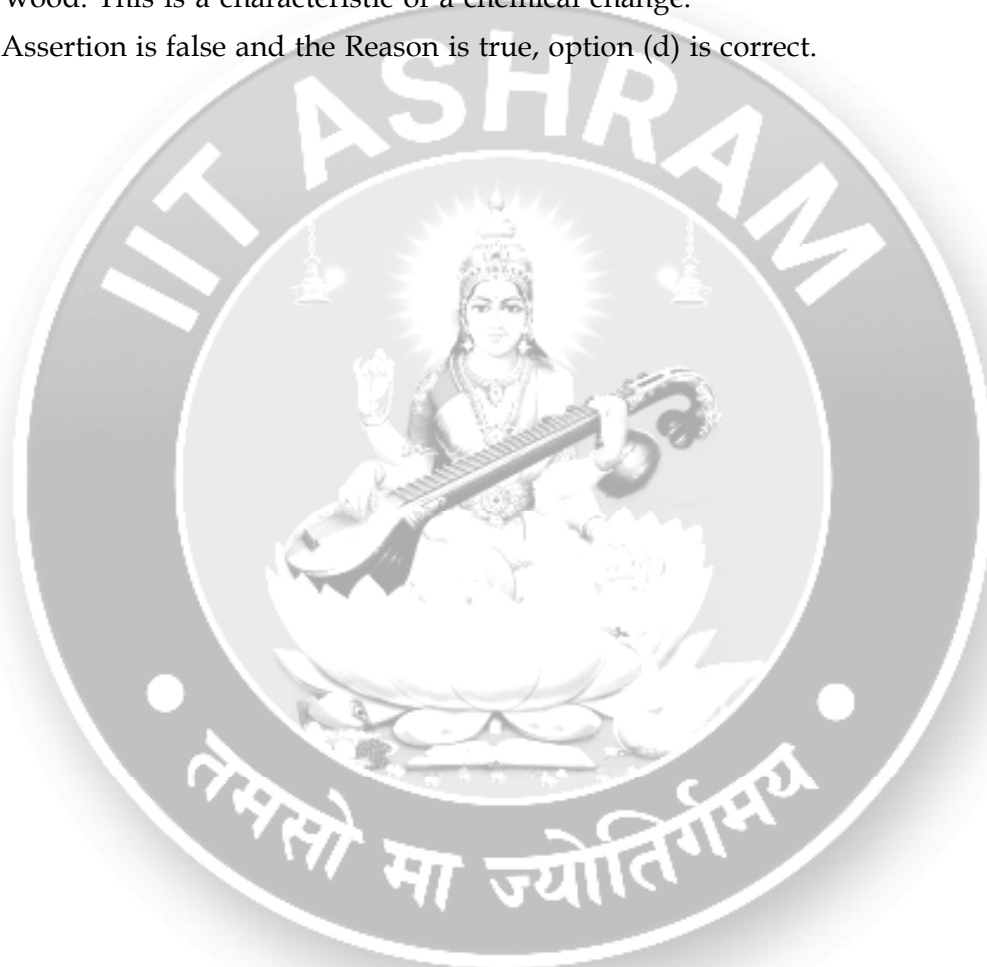
20.

Sol: (d) R is true and A is false.

The Assertion is false. Burning of wood is a chemical change because it produces new substances (ash, smoke, gases) and is irreversible.

The Reason is true. Ash and smoke are new products with different properties and cannot be turned back into wood. This is a characteristic of a chemical change.

Since the Assertion is false and the Reason is true, option (d) is correct.



PART - IV : BIOLOGY

1.

Sol: (d) Mint

Mint has a soft, green stem, classifying it as a herb.

2.

Sol: (b) Reticulate venation

Taproot systems are linked with reticulate (net-like) leaf venation.

3.

Sol: (b) These are adaptations to survive the specific environmental conditions of their regions

Hump number and leg length are adaptations to hot/cold desert habitats.

4.

Sol: (c) Fins

Fish use fins for movement in water.

5.

Sol: (a) Proteins

Proteins are body-building nutrients for growth and repair.

6.

Sol: (c) Using iodised salt in their meals

Neck swelling (goitre) is due to iodine deficiency; iodised salt provides iodine.

7.

Sol: (b) It helps cut down on pollution and supports local farmers

Reducing food miles lowers transport pollution and benefits local communities.

8.

Sol: (c) Protein

Swollen stomach and peeling skin are signs of Kwashiorkor (protein deficiency).

9

Sol: (b) Its eyes are located on the sides of its head to focus on two things

Side-positioned eyes allow birds to watch two different objects simultaneously.

10

Sol: (a) A piece of the ginger stem

Ginger grows from its underground stem (vegetative propagation), not seeds.