



UDAAN

A QUEST FOR SCIENCE ASPIRANTS

SCIENCE APTITUDE TEST

CLASS 6

ANSWER KEY WITH SOLUTIONS

DATE : 19.01.25

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



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PART - I : MENTAL ABILITY

1.

Sol: (c)

2.

Sol: (a)

3.

Sol: (d)

4.

Sol: (d)

For washing clothes we use soap and soap is called ink.

5.

Sol: (c)

Ear is called Nose.

6.

Sol: (c)

July → 31 days

May → 31 days

June → 30 days

March → 31 days

7.

Sol: (b)

G D F E

4 1 3 2

T Q S R

4 1 3 2

C Z B A

4 1 3 2

QMPO does not follow

8.

Sol: (a)

$1 + 9 = 10$

$10 + 7 = 17$

$17 + 5 = 22$

$22 + 3 = 25$

$25 + 1 = 26$

9.

Sol: (c)

$1_{+2} 3_{+4} 7_{+6} 13_{+8}$

$13 + 8 = 21$

10.

Sol: (b)

mllm/mllm/mllm

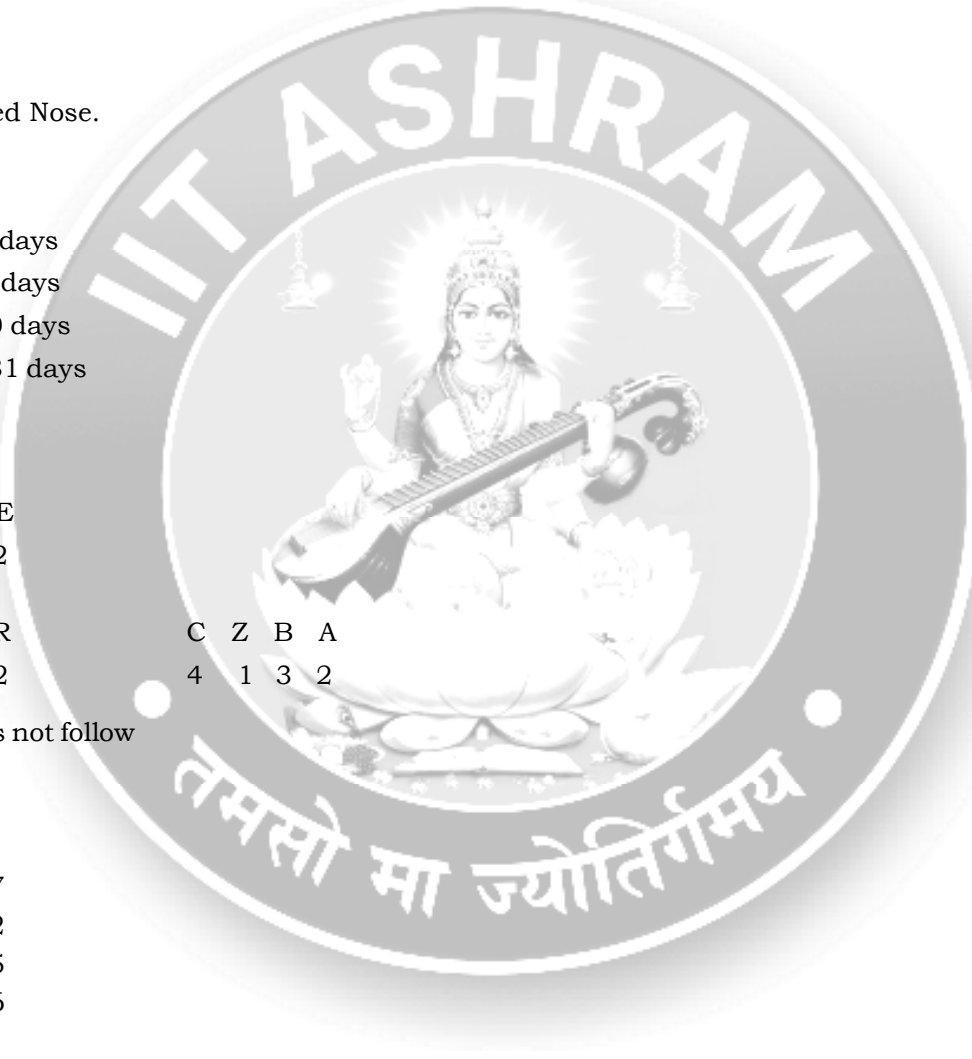
Ans: lmlm

11.

Sol: (c)

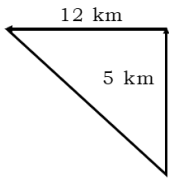
aeioaeiou

aoai



12.

Sol: (b)

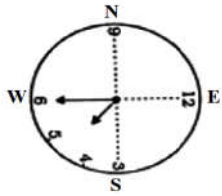


$$\text{Distance} = \sqrt{(12)^2 + (5)^2}$$

$$= \sqrt{144 + 25} = \sqrt{169} = 13 \text{ km}$$

13.

Sol: (c)



14.

Sol: (c)

0, 2, 3, 6, 6, 20, 9, 54, 12

0, 3, 6, 9, 12 are multiple of three.

For 2, 6, 20, 54

$$2 \times 3 = 6$$

$$6 \times 3 = 18$$

$$18 \times 3 = 54$$

wrong term is 20.

15.

Sol: (b)

A person writes with pencil and pencil is called paper.

PART - II : MATHEMATICS

1.

Sol: (d)

$$\Rightarrow 1-10 = 2 \text{ times}$$

$$\Rightarrow 11 - 20 = 10 \text{ times}$$

$$\Rightarrow 21-30=1 \text{ time}$$

$$\Rightarrow 31 - 40 = 1 \text{ time}$$

$$\Rightarrow 41 - 50 = 1 \text{ time}$$

$$\Rightarrow 51 - 60 = 1 \text{ time}$$

$$\Rightarrow 61-70 = 1 \text{ time}$$

$$\Rightarrow 71 - 80 = 1 \text{ time}$$

$$\Rightarrow 81-90 = 1 \text{ time}$$

$$\Rightarrow 91-100 = 2 \text{ times}$$

$$\Rightarrow \text{Total} = 2 + 10 + 1 + 1 + 1 + 1 + 1 + 1 + 2 = 21$$

\therefore The digit 1 appear in number from 1 to 100 is 21.

2.

Sol: (a)

Place value of a digit increases by '10' times as it moves place by placed from right to left.

3.

Sol: (b)

$$\text{Largest 7 digit no} = 99,99,999$$

$$\text{Smallest 7 digit no} = 10,00,000$$

$$\text{Total no. of 7 digit no}$$

$$= 99,99,999 - 10,00,000 + 1$$

$$= 89,99,999 + 1 = 90,00,000$$

4.

Sol: (c)

$$\text{Total no. of 2 digit numbers are } 90$$

$$\text{largest two digit no} = 99$$

$$\text{smallest two digit no} = 10$$

$$\text{Total no. of 2 digit no} = 99 - 10 + 1 = 90$$

5.

Sol: (a)

Commutative property : The subtraction of whole numbers is not commutative that is if a and b are two whole numbers then in general $a - b \neq b - a$.

$$\text{If } a = b$$

$$a - b = b - a = 0$$

6.

Sol: (d)

$$\frac{\text{Number}}{0} = \text{Not defined}$$

7.

Sol: (a)

Number no = 1, 2, 3, 4

Whole no = 0, 1, 2, 3

So, natural numbers are whole number

8.

Sol: (c)

Twin primes are two prime numbers that have a difference of 2 between them. Twin primes are also known as prime pairs or prime twins.

9.

Sol: (b)

If the difference of the sum of alternative digits of a number is divisible by 11, then that number is divisible by 11 completely.

Calculation:

Sum of digits at even places = $y + 0 + 1 = 1 + y$ Sum of digits at odd places = $9 + 8 + 7 = 24$ And their difference = $24 - 1 - y = 23 - y$ Now, either $23 - y = 0 / 11 / 22 / 33$.If we take $y = 1$ then, it is divisible by 11From our options, only option 1 (b) can make this happen. $23 - 1 = 22$ which is divisible by 11.

10.

Sol: (c)

H. C. F. \rightarrow $4 \rightarrow 2 \times 2$ $8 \rightarrow 2 \times 2 \times 2$ $12 \rightarrow 2 \times 2 \times 3$ H. C. F. $\rightarrow 2 \times 2 = 4$

11.

Sol: (b)

a number is divisible by 4 if the last two digits of the number are divisible by 4

12

Sol: (b)

(a) $\frac{40 \div 10}{50 \div 10} = \frac{4}{5}$

(d) $\frac{9 \div 3}{15 \div 3} = \frac{3}{5}$

(c) $\frac{12 \div 4}{15 \div 4} = \frac{4}{5}$

(b) $\frac{32 \div 8}{40 \div 8} = \frac{4}{5}$

13.

Sol: (d)

14.

Sol: (d)

0.0006

15.

Sol: (b)

Equation is a mathematical statement that shows that two mathematical expressions are equal

16.

Sol: (c) $x + 7 = 10$ LHS $x = 3$

$x + 7 = 3 + 7$

$= 10 = \text{RHS}$

17.

Sol: (c) x^2y Breadth of the rectangle = x andLength of the rectangle $y \times x = xy$ The area of the rectangle = Length \times Breadth

$$xy \times x = x^2y$$

18.

Sol: (d)

$$3(x) + y^2$$

$$3x + y^2$$

19.

Sol: (a) ab

$$a + a + a \text{ ----- (b times) = } ab$$

20.

Sol: (d) A complete angle.

21.

Sol: (a)

A triangle whose all sides are equal is called equilateral triangle.

22.

Sol: (a)

Let angle be x

$$\text{supplement} = 180 - x$$

$$\text{Angle} = 2 \times \text{Supplement}$$

$$x = 2(180 - x)$$

$$x = 360 - 2x$$

$$3x = 360$$

$$x = 120$$

23.

Sol: (d)



Quadrilateral in which one pair of opposite side is parallel, it is called Trapezium.

24.

Sol: (b) $\frac{3}{4}$

25.

Sol: (d)

26.

Sol: (b) 0.555

$$0.5 + 0.005 + 0.05 = 0.555$$

27.

Sol: (d)

Perimeter of square =

$$4 \times \text{sides} = 4 \times 5 = 20 \text{ cm}$$

28.

Sol: (c)



Cone

29.

Sol: (d) 500 m^2

Area of one rectangular boxes =

$$10 \times 50 \text{ cm}^2 = 500 \text{ m}^2$$

30.

Sol: (d)

$$7xy = 7 \times x \times y = 1 \text{ term}$$



PART - III : PHYSICS & CHEMISTRY

1.

Sol: (a)

The end of the magnet that points towards north is called its north Pole or north seeking.

However, in actual, the South Pole of the magnet is actually pointing towards the magnetic North Pole of the earth due to attraction between opposite poles.

2.

Sol: (a)

Electric current flows only in those circuits which are in a closed loop. When the switch is in open position, the circuit becomes incomplete and hence, current will not flow in the circuit.

3.

Sol: (a)

The coins on the carrom board move in a linear fashion i.e. they follow a straight path, so the motion is rectilinear.

4.

Sol: (b)

The SI unit of luminous intensity is candela. Luminous intensity is fundamental quantity in SI system of units.

5.

Sol: (b)

A shadow is formed by the complete blocking of light by an opaque object. The shadow will be dark due to the absence of light. So only the outline is visible due to the darkness inside the shadow.

An image is formed when light reflects off a mirror or other shiny object, and it can contain the object's color, size, and other details. For example, a plane mirror reflects light at the same angle it hits, so the image it creates is

6.

Sol: (c)

$$0.1\text{cm}=1\text{mm}$$

7.

Sol: (b) Metals are good conductors of electricity because they possess free electrons. These free electrons help in the flow of current through the conductor.

8.

Sol: (a)

Solar eclipses happen when the Moon comes between the Sun and Earth. This blocks out the Sun's rays to reach to the Earth.

Hence, the correct order is the Sun, the Moon and the Earth during a solar eclipse.

9.

Sol: (b)

No, the inertia of an object depends on its mass, not its size

Yes when the mass of an object increases, the weight of the object also increases, as long as the gravitational field strength remains constant

Inertia is a quantitative measure of an object's mass. The more massive an object is, the more inertia it has. For example, a rock and a pile of paper with the same mass will require the same amount of force to move, even though they have different volumes and densities

10.

Sol: (a)

The SI unit of temperature is kelvin (K).

11.

Sol: (b)

Oxygen and nitrogen are gases so they are compressible.

12.

Sol: (a)

Wood is poor conductor of heat, so it is best material for making the handle of the tea kettle.

13.

Sol: (c)

All of these A material from we able to partially is called translucent material. Example Butter paper.

14.

Sol: (a)

Ice occupies space and has mass, so it is a matter.

15.

Sol: (c) Hydrogen is made up only one kind of atoms, so it is an element.

16.

Sol: (a)

Handpicking is effective for solid impurities.

17.

Sol: (a)

Softening of iron on heating is reversible and physical change.

18.

Sol: (b)

Weaving is a process of interlacing two sets of yarns or threads together to make fabric. It is done on a special machine called a loom.

19.

Sol: (b)

Air dissolved in water can be removed from it by boiling. Air is a mixture of gases that surrounds the Earth and makes it hospitable for living organisms.

20.

Sol: (b)

Copper sulphate is also called as copper sulphate.

PART - IV : BIOLOGY

1.

Sol: (d)

They have big leaves. Cacti have spines instead of leaves to reduce water loss.

2.

Sol: (c) Skull joint

The joints in the skull (sutures) are immovable, unlike the shoulder, knee, and hip joints, which are movable.

3.

Sol: (a)

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

Bones need muscles to generate movement, as muscles pull on the bones to create motion.

4.

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

Herbs have soft, non-woody stems, shrubs have woody stems that are not as tall as trees, and trees have strong, thick stems.

5.

Sol: (b) Frog

Frogs are amphibians, meaning they can live both on land and in water.

6.

Sol: (c) Saprotrophs

Saprotrophs are organisms that feed on dead and decaying organic matter, such as fungi and bacteria.

7.

Sol: (a) Both statements I and II are true and statement II is the correct explanation of statement I.

8.

Sol: (d) Iron - Goitre

Goitre is caused by a deficiency in iodine, not iron. The correct match for iron deficiency is Anemia.

9.

Sol: (b)

b, c and d

10.

Sol: (d) Pelvic girdle

The skull, sternum, and vertebral column are part of the axial skeleton, while the pelvic girdle is part of the appendicular skeleton, which supports limbs.