

# KH

Exam for  
Young Scientists..!



# J-2025



## SAMPLE QUESTIONS PAPER

CLASS  
**6**

## SCIENCE APTITUDE TEST

### IIT Ashram

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# SCIENCE APTITUDE TEST

TIME : 2 HOURS

MAX MARK : 300

## INSTRUCTIONS

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

**Caution :** Class, as given on paper above MUST be correctly marked on the answer OMR sheet before attempting the paper. Wrong Class will give wrong results.

1. This booklet consists of 75 questions. Question paper consists of 4 sections. Marking scheme is given in table below:

Section	Subject	Questions No.	Marking Scheme for each questions	
			Correct Answer	Wrong Answer
PART - I	Mental Ability	15	4	-1
PART - II	Mathematics	30	4	-1
PART - III	Physics & Chemistry	20	4	-1
PART - IV	Biology	10	4	-1

3. Answers have to be marked on the OMR sheet. The Question Paper contains blank spaces for your rough work. No additional sheets will be provided for rough work.
4. Blank papers, cellular phones, smart watches, log tables, slide rule, calculator and electronic devices, in any form, are not allowed.

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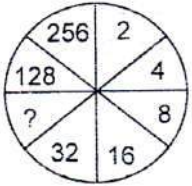
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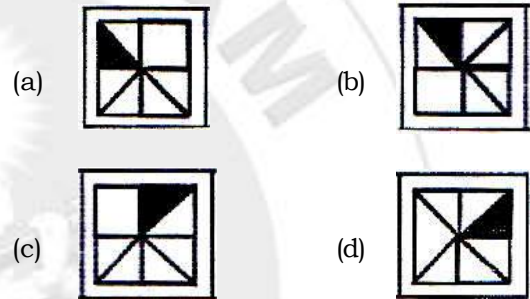
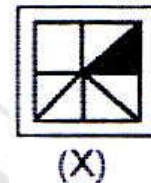
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**PART - I : MENTAL ABILITY**

- A and B start walking from the same point. A goes North and covers 3 km; then turns right and covers 4 km. B goes West and covers 5 km, then turns right and covers 3 km. How far apart are they from each other ?  
 (a) 10 km (b) 9 km  
 (c) 8 km (d) 5 km
- If **TRIANGLE** is coded as **SSHBMHKF**, then **SQUARE** would be  
 (a) RRIASF (b) RPBVSF  
 (c) RRTBQF (d) RPBVSD
- Find the missing term of the sequence 11, 15, 21, 29, ?  
 (a) 36 (b) 37  
 (c) 39 (d) 38
- Find the missing number in the figure.  
  
 (a) 64 (b) 36  
 (c) 34 (d) 60
- What is the missing letter in the series A, C, F, ?, O  
 (a) G (b) H  
 (c) I (d) J
- Find the missing term.  
 \_ha\_hach\_c\_ \_  
 (a) ccaha (b) achac  
 (c) chaaa (d) aaach

- A meaningful word starting with A is made from the first, the second, the fourth, the fifth and the sixth letters of the word CONTRACT, which of the following is the middle letter of the word ?  
 (a) C (b) T  
 (c) O (d) R
- In the question given below, choose the correct mirror image from alternatives (a), (b), (c) and (d) of the figure (X).



- What is the value of  $23 \times 522 \div 87 - 14 \times 2 = ?$   
 (a) 90 (b) 120  
 (c) 110 (d) None of these

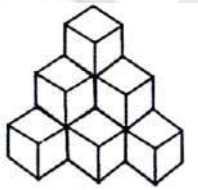
*Space for Rough Work*

**Direction: (Question: 10 to 12)**

**Observe the following sequence:**

**1 A 2 E 3 U 4 5 8 7 D P 9 Q 6 J I 7 K O**

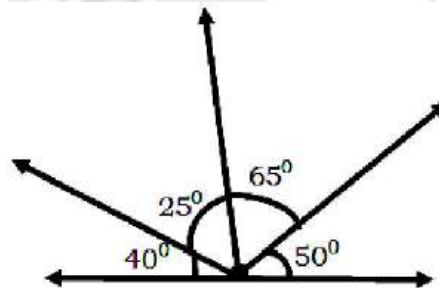
10. How many digits are followed by vowels?  
 (a) 2 (b) 1 (c) 3 (d) 4
11. How many letters are followed by digits?  
 (a) 7 (b) 6 (c) 3 (d) 5
12. How many times is an even number followed by a consonant?  
 (a) 2 (b) 0 (c) 1 (d) 3
13. Boat is related to **Oar** in the same way as **Bicycle** is related to  
 (a) Road (b) Wheel  
 (c) Seat (d) Paddle
14. How many cubes are there in the following figure ?



- (a) 6 (b) 10  
 (c) 12 (d) 8
15. Rohan ranks seventh from the top and twenty-sixth from the bottom in a class. How many students are there in the class ?  
 (a) 31 (b) 32  
 (c) 33 (d) 34

## PART - II : MATHEMATICS

1. The predecessor of which 2-digit number has a single digit.  
 (a) 9 (b) 10  
 (c) 0 (d) 11
2. A prime number is a number which\_\_\_\_  
 (a) is divisible by 2  
 (b) is not divisible by 2  
 (c) has no factors  
 (d) has exactly two factors
3. What is the HCF of 408 and 1032?  
 (a) 36 (b) 24  
 (c) 72 (d) 48
4. Roman numeral for the smallest 4-digit number is\_\_\_\_  
 (a) X (b) C  
 (c) M (d) D
5. The number of right angles in Fig. is



- (a) 2 (b) 3  
 (c) 0 (d) 5
6. Which of the following is true?  
 (a)  $170 \div 0 = 0$  (b)  $170 \div 1 = 70$   
 (c)  $0 \times 170 = 0$  (d)  $170 \times 1 = 171$
7. Name the quadrilateral which has equal diagonals that are perpendicular to each other.  
 (a) Rhombus (b) Square  
 (c) Rectangle (d) Trapezium

*Space for Rough Work*



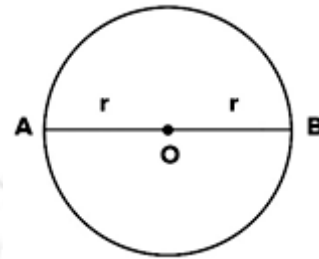
8. The number 7.35 is read as\_\_\_\_  
 (a) Seven three five  
 (b) Seven hundred thirty five  
 (c) Seven point thirty five  
 (d) Seven point three five
9. Write the phrase 'quotient of x by 4 is added to y' using literals and signs of basic operations:  
 (a)  $4x + y$  (b)  $y - \frac{x}{4}$   
 (c)  $\frac{x}{4} + y$  (d)  $\frac{4}{x} + y$
10. Which of the following are like terms?  
 $-2x, 0.4y, -0.4z, 3y, 6y$   
 (a)  $0.4y, 3y, 6y$  (b)  $0.4y, -0.4y$   
 (c)  $-2x, 3y, 6y$  (d)  $-0.4z, -2z$
11. First, second and the third terms of a proportion are 5, 120 and 40. Then the fourth term is :  
 (a) 89 (b) 480  
 (c) 960 (d) 98
12. Ratio of 250 ml to 2 L is :  
 (a) 25 : 200 (b) 8 : 1  
 (c) 1 : 8 (d) 2 : 1
13. The predecessor of  $-99$  is  
 (a)  $-98$  (b)  $-100$   
 (c) 98 (d) 100
14. If the perimeter of a square and a rectangular are the same, then the areas A and B enclosed by them respectively would satisfy the condition:  
 (a)  $A < B$  (b)  $A \leq B$   
 (c)  $A > B$  (d)  $A \geq B$
15. The cost of flooring a room at Rs. 90 per square metre is Rs. 16200 and its length is 15 m then its breadth is\_\_\_\_.  
 (a) 9 m (b) 12 m  
 (c) 15 m (d) 22.5 m
16. How many centimetres make one kilometre?  
 (a) 10 (b) 100  
 (c) 1000 (d) 100000
17.  $1\frac{2}{5} + 3\frac{5}{6} - \frac{1}{5}$  equals\_\_\_\_  
 (a)  $5\frac{5}{19}$  (b)  $5\frac{1}{30}$   
 (c)  $6\frac{1}{30}$  (d)  $5\frac{3}{19}$
18. Bobby's date of birth is 19th September, Express the date in Roman system.  
 (a) XXI (b) XIX  
 (c) IIX (d) XIX
19. 48 is not a multiple of  
 (a) 4 (b) 12  
 (c) 18 (d) 16
20. Find the perimeter of a square whose side is 5 cm  
 (a) 25 cm (b) 10 cm  
 (c) 15 cm (d) 20 cm
21. Which of the following is a pair of co-prime numbers?  
 (a) 20, 25 (b) 18, 35  
 (c) 15, 63 (d) 27, 81
22. 5 and 7 are the factors of x. What is possible value of x?  
 (a) 35 (b) 50  
 (c) 49 (d) 60
23. If  $\frac{11}{4} = \frac{77}{x}$ , then x =  
 (a) 28 (b)  $\frac{77}{28}$   
 (c) 44 (d) 308

Space for Rough Work

24. The number of faces of a triangular pyramid is  
 (a) 3 (b) 4  
 (c) 6 (d) 8
25. The angle which is twice its supplement is\_\_\_\_.  
 (a)  $120^\circ$  (b)  $90^\circ$   
 (c)  $70^\circ$  (d)  $30^\circ$
26. The cost of one metre of cloth is Rs. 24.75. The cost of 2.8 m cloth is\_\_\_\_  
 (a) Rs. 69.30 (b) Rs. 59.30  
 (c) Rs. 68.30 (d) Rs. 49.50
27. In an improper fraction, the numerator is always\_\_\_\_ the denominator.  
 (a) less than (b) greater than  
 (c) equal to (d) none
28.  $10\frac{2}{7} \times \left(\frac{3}{4} + \frac{5}{8}\right)$  equals....  
 (a)  $16\frac{1}{7}$  (b)  $12\frac{1}{7}$   
 (c)  $14\frac{1}{7}$  (d)  $10\frac{1}{7}$
29. 1 m is equal to  
 (a) 0.1 km (b) 0.01 km  
 (c) 0.001 km (d) 0.0001 km
30. What is the length of side of square whose area is  $64 \text{ m}^2$   
 (a) 16 m (b) 32 m  
 (c) 8 m (d) 64 m

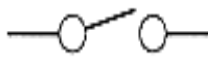
**PART - III : PHYSICS & CHEMISTRY**

1. An object moves along a circular path having radius  $r$ , starting from point A and reaches the same point A. Then the displacement of object will be \_\_\_\_\_ m?



- (a) 0 (b)  $r$   
 (c)  $2r$  (d) None of these
2. A motion which repeats itself after a fixed interval of time is called \_\_\_\_\_ motion.  
 (a) Periodic (b) Non periodic  
 (c) Circular motion (d) Linear motion
3. Solar eclipse occurs on \_\_\_\_\_.  
 (a) Full moon day (b) New moon day  
 (c) Both the above (d) None of the above
4. A group of stars which seem to form a pattern is called?  
 (a) Galaxy (b) Asteroid  
 (c) Constellation (d) Both (a) and (c)
5. A bar is confirmed to be a magnet when it\_\_\_\_\_.  
 (a) Attracts all metal  
 (b) Attracts another magnet  
 (c) Repels an unmagnetized piece of iron  
 (d) Repels a magnet

*Space for Rough Work*

6. Which of the following would not change the strength of an electromagnet?
- (a) Increasing the amount of current
  - (b) Changing the current's direction
  - (c) Increasing the iron core inside the coil
  - (d) Increasing the number of loops
7.  What is the function of the component shown above?
- (a) It is used to connect the bulb to the other components in the circuit
  - (b) It provides the energy for the bulb to glow
  - (c) It can break or make a circuit
  - (d) It measures the current in a circuit
8. Pure or distilled water is a / an \_\_\_\_.
- (a) Conductor
  - (b) Insulator
  - (c) Partial conductor
  - (d) None of these
9. The letter that does not show lateral inversion is \_\_\_\_.
- (a) Z
  - (b) L
  - (c) P
  - (d) W
10. What is force?
- (a) Pull
  - (b) Push
  - (c) Push and pull both
  - (d) None of these
11. Which type of materials can be separated using the method of winnowing?
- (a) Solids and liquids
  - (b) Solids of different sizes
  - (c) Liquids of different densities
  - (d) Solids and gases
12. Which gas is responsible for the rusting of iron?
- (a) Oxygen
  - (b) Carbon dioxide
  - (c) Nitrogen
  - (d) Hydrogen
13. What is the main component of biogas?
- (a) Oxygen
  - (b) Carbon dioxide
  - (c) Methane
  - (d) Nitrogen
14. Which of the following is a mixture?
- (a) Salt
  - (b) Sugar
  - (c) Air
  - (d) Water
15. Which of the following is a chemical change?
- (a) Melting ice
  - (b) Cutting paper
  - (c) Burning wood
  - (d) Mixing salt and water
16. What is the process of a gas turning directly into a solid called?
- (a) Condensation
  - (b) Sublimation
  - (c) Evaporation
  - (d) Freezing
17. Which layer of the Earth's atmosphere contains the ozone layer?
- (a) Troposphere
  - (b) Stratosphere
  - (c) Mesosphere
  - (d) Exosphere
18. What is the process of separating a mixture of two immiscible liquids using a separating funnel called?
- (a) Filtration
  - (b) Decantation
  - (c) Centrifugation
  - (d) Chromatography
19. Which of the following is a physical change?
- (a) Baking a cake
  - (b) Rusting of iron
  - (c) Boiling water
  - (d) Digesting food
20. Which gas is released during photosynthesis?
- (a) Carbon dioxide
  - (b) Oxygen
  - (c) Nitrogen
  - (d) Hydrogen

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**PART - IV : BIOLOGY**

1. The green, flat, and expanded part of the leaf is called
  - (a) Petiole
  - (b) Lamina
  - (c) Tendril
  - (d) None
2. What did early Indians and Egyptians wear?
  - (a) Light fabric out of cotton
  - (b) Woollen cloths
  - (c) Both a and b
  - (d) None of these
3. The outermost or the first whorl of the flower is
  - (a) Calyx
  - (b) Corolla
  - (c) Both (a) and (b)
  - (d) None
4. Plants that live in the hot and dry climates of desert are known as
  - (a) Xerophytes
  - (b) Epiphytes
  - (c) (a) and (b) both
  - (d) Hydrophytes
5. To which bones are thigh bones attached?
  - (a) Pelvic bone
  - (b) Hinge joint
  - (c) Shoulder bone
  - (d) Backbone
6. How many shoulder bones are there?
  - (a) One
  - (b) Three
  - (c) six
  - (d) Four
7. ....are cords joining bones to muscles
  - (a) Tendons
  - (b) Ligaments
  - (c) Skeletal
  - (d) Cartilage
8. Head movement is possible due to the presence of
  - (a) Hinge joint
  - (b) Ball and socket joint
  - (c) Pivot joint
  - (d) Gliding joints
9. The bending of a stem toward sunlight is called
  - (a) Geotropism
  - (b) Phototropism
  - (c) Hydrotropism
  - (d) nasticism
10. Match the following items given in Column A with that in Column B
 

Column A	Column B
A. Whale	I) Desert plant
B. Cactus	II) Aquatic plant
C. Snow bear	III) Aquatic adaptation
D. Hydrilla	IV) Found in mountains

  - (a) A-III, B-I, C-IV, D-II
  - (b) A-I, B-II, C-III, D-IV
  - (c) A-II, B-I, C-III, D-IV
  - (d) A-I, B-IV, C-II, D-III

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