

IIT ASHRAM BRINGS...



CLASS 6

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.	Making 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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PART - I : MENTAL ABILITY

1. Find the wrong term(s) -

1, 3, 8, 19, 42, 88, 184

- (a) 19 (b) 3
(c) 88 (d) 184

2. Find the missing term :

LO, IL, FI, CF, ?

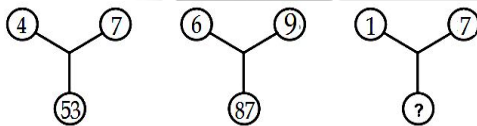
- (a) ZB (b) AB
(c) ZC (d) ZO

3. Which sequence of letters when placed at the blanks one after the other will complete the given letter series ?

m_l_ml_m_llm

- (a) lmmm (b) lmlm
(c) lmmll (d) mllm

4. Find the missing term in the given figures



- (a) 49 (b) 50
(c) 48 (d) 55

5. If RUM stands for TWO, what are the symbols for ONE ?

- (a) NMF (b) POF
(c) MLC (d) QPG

6. From point P, Akshay starts walking towards East. After walking 30 metres, he turns to his right and walks 10 metres. He then turns to his right and walks for 30 metres. He again turns

to his right and walks 30 metres. How far is he from Point P and in which direction?

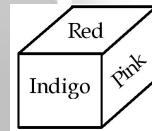
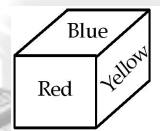
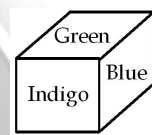
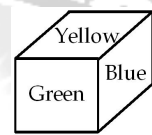
- (a) Point P itself (b) 10 metre North
(c) 20 metre West (d) 20 metre North

7. In the following questions, choose the words that show the same relationship as given in the each questions.

Heart is related to Blood in the same way as lung is related to

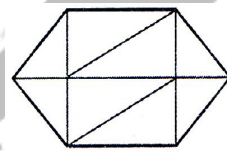
- (a) Oxygen (b) Chest
(c) Purification (d) Air

8. On the basis of the four positions of a dice given below find the colour of the face opposite 'Yellow'.



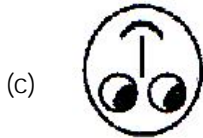
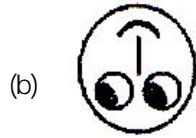
- (a) Indigo (b) Red
(c) Pink (d) Blue

9. How many triangles are there in the following figures ?



- (a) 11 or more (b) 10
(c) 9 (d) 8 or less

Space for Rough Work



11. Find the missing numbers :
1, 3, 7, 13, ?

(a) 19

(b) 23

(c) 21

(d) 25

12. A goods train has 25 wagons attached to the engine. A wagon loaded with perishable items is 13th from the engine. What is its position from the guard's cabin?

(a) 20th

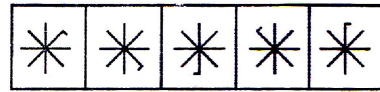
(b) 13th

(c) 14th

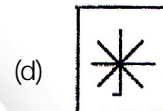
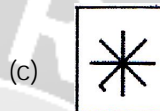
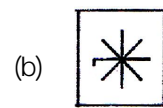
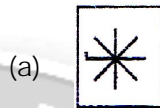
(d) 16th

13. Given question consists of five problem figure. These problem figures form a series. Find out the one figure from the answer figures that will continue the series.

Problem Figures



Answer Figure



14. In the given below question, four words are given, out of which three are same in one way and the fourth one is different from others. Select the odd one.

(a) Rickshaw

(b) Taxi

(c) Tonga

(d) Cart

15. The value of is : $8 \times 2 \times 96 \div (12 \times 4)$

(a) 32

(b) 23

(c) 12

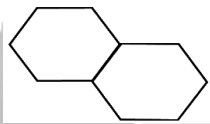
(d) 21

Space for Rough Work

PART - II : MATHEMATICS

1. What is the place value of 0 in 25,03,74,187?
 - (a) Ten lakhs
 - (b) Lakhs
 - (c) Zero
 - (d) 5 crores
2. Roman numeral for the greatest 3-digit number is__
 - (a) CMIIC
 - (b) CMXCIX
 - (c) CMIXIX
 - (d) IXIXIX
3. In a sum, the divisor is 173, the quotient is 2,544 and the remainder is 60. What is the dividend?
 - (a) 12924
 - (b) 440172
 - (c) 152813
 - (d) 172544
4. 48 is not a multiple of
 - (a) 4
 - (b) 12
 - (c) 18
 - (d) 16
5. The greatest common factor of 120 and 192 is
 - (a) 12
 - (b) 2
 - (c) 3
 - (d) 24
6. $\frac{7}{100}$ is equal to
 - (a) 7.1
 - (b) 7.01
 - (c) 0.7
 - (d) 0.07
7. A brick is an example of a
 - (a) Cube
 - (b) Cuboid
 - (c) Prism
 - (d) Cylinder
8. In which sets of figure 'all angles are right angle'?
 - (a) Rhombus, Square
 - (b) Rhombus, Rectangle
 - (c) Parallelogram, Rhombus
 - (d) Rectangle, Square.
9. The additive identity element in the set of integers is
 - (a) 1
 - (b) 1
 - (c) 0
 - (d) None of these
10. Which of the following is incorrect?
 - (a) $5 > 0$
 - (b) $6 < -8$
 - (c) $7 > -13$
 - (d) $5 < 9$
11. If $\frac{11}{4} = \frac{77}{x}$, then x =
 - (a) 28
 - (b) $\frac{77}{28}$
 - (c) 44
 - (d) 308
12. The value of $\frac{37}{10000}$ is
 - (a) 0.0370
 - (b) 0.0037
 - (c) 0.00037
 - (d) 0.000037
13. Which of the following is the largest decimal?
 - (a) 0.0017
 - (b) 0.007
 - (c) 0.017
 - (d) 0.0071
14. In algebra, $a \times b$ means ab, but in arithmetic 3×5 is
 - (a) 35
 - (b) 53
 - (c) 15
 - (d) 8
15. $x + y = y + x$ is
 - (a) Commutative property
 - (b) Associative property
 - (c) Closure property
 - (d) Distributive property
16. $5a$ equals
 - (a) $5 + a$
 - (b) $a \times a \times a \times a \times a$
 - (c) $5 \times a$
 - (d) None of these

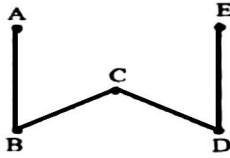
Space for Rough Work

17. The ratio of 96 m and 72 m is :
 (a) 3 : 4 (b) 4 : 3
 (c) 2 : 1 (d) 4 : 1
18. Cost of 12 apples is Rs.96. The cost of 15 apples will be:
 (a) Rs. 12 (b) Rs. 102
 (c) Rs. 120 (d) Rs. 140
19. The perimeter of the closed rectilinear figure is
 (a) Sum of all sides.
 (b) Sum of any two sides.
 (c) Sum of three sides.
 (d) None of them.
20. Two regular Hexagons of perimeter 30cm each are joined as shown in Fig. The perimeter of the new figure is

 (a) 65cm (b) 60 cm
 (c) 55cm (d) 50 cm
21. Out of the following which is a 3-D figure?
 (a) Square (b) Sphere
 (c) Triangle (d) Circle
22. The perimeter of an equilateral triangle is
 (a) Side + side + side (b) Side x side x side
 (c) 3 + side (d) Side + side
23. A rhombus is symmetrical about
 (a) Each of its diagonals
 (b) The line joining the mid-points of its opposite sides
 (c) Perpendicular bisectors of each of its sides
 (d) None of these
24. An angle which can be constructed using a pair of compass and ruler is
 (a) 60° (b) 35°
 (c) 85° (d) 110°
25. One-fourth part of a circle is known as a
 (a) Semi-circle (b) Major segment
 (c) Sector (d) Quadrant
26. How many centimetres make one kilometre?
 (a) 10 (b) 100
 (c) 1000 (d) 100000
27. The value of $0 \div 17$ is____
 (a) 0 (b) 1
 (c) 17 (d) not defined
28. The predecessor of which 2-digit number has a single digit.
 (a) 9 (b) 10
 (c) 0 (d) 11
29. $\frac{3}{4} + \frac{5}{6} + \frac{1}{3}$ equals____
 (a) $1\frac{11}{12}$ (b) $1\frac{7}{12}$
 (c) $1\frac{5}{12}$ (d) $1\frac{9}{12}$
30. $0.35 - 0.035$ equal to
 (a) 0.3 (b) 0.349
 (c) 0.315 (d) 0.353

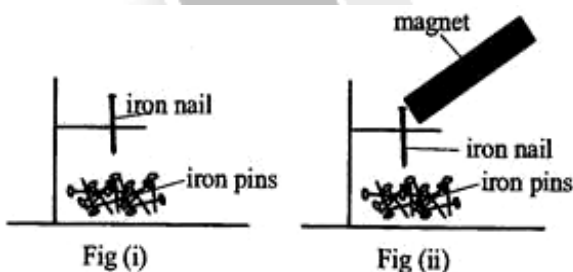
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PART - III : PHYSICS & CHEMISTRY

1. A boy going for a walk follows the path as shown in the figure. The total trip consists of four straight line path AB, BC, CD and DE. At the end of the walk what is the person's displacement from the starting point?



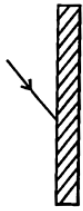
- (a) $AB + BC + CD + DE$
 (b) $\frac{AB + BC + CD + DE}{2}$
 (c) $BC + CD$
 (d) AE
2. The motion of a coin moving over a carom board can be classified as _____
 (a) Rectilinear motion (b) Circular motion
 (c) Periodic motion (d) Rotatory motion
3. Look at the figure showing iron pins being attracted towards nail in (i) and tell which of the following is demonstrated by it?



- (a) Pins get converted into artificial magnet in fig. (ii)
 (b) Pins gets demagnetised in fig. (i)
 (c) The iron nail becomes an artificial magnet in fig. (ii)
 (d) None of the above occurs
4. North pole of a magnet is _____.
 (a) That pole of the magnet which points in north direction when the magnet is freely suspended
 (b) That pole of the magnet which is known as north seeking end when magnet is freely suspended
 (c) That pole of the magnet which is attracted towards the south pole of earth's magnet
 (d) All the above are correct
5. Read the following three statements carefully and choose the correct option.
 Statement-1: There is very less current flows when an electric circuit is open.
 Statement-2: When the switch of an electric circuit is in off mode, the circuit is said to be open.
 Statement-3: One can get a shock in open circuit.
 (a) Statement (1) and (3) are incorrect while statement (2) is correct.
 (b) Statement (1) and (2) are incorrect while (3) is correct.
 (c) All the statements are correct.
 (d) All the statements are incorrect.

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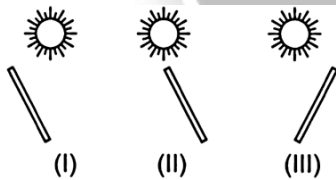
6. The figure shows a light ray moving towards a smooth surface.



Which of the following figure shows the correct reflected ray of light?



7. Which of the following statements is/are correct.
- I. Shadow is always black.
 II. A shadow only shows the outline of an object.
 III. Image has the colour of the object.
 IV. Image gives only the outline of the object.
- (a) I and III Only (b) II and III Only
 (c) I, II and III Only (d) II, III and IV Only
8. Three sticks are placed in an open field as shown in figure. Which of the following sticks will form the shadow of equal length?



- (a) Only sticks (I) and (II)
 (b) Only sticks (II) and (III)
 (c) Only sticks (I) and (III)
 (d) All sticks (I), (II) and (III).

9. Which of the following statement is wrong about inertia?
- (a) Inertia is the property of a body to be at rest.
 (b) Inertia is the property of a body to be in motion.
 (c) Inertia is the property of a body to be moving in one direction.
 (d) None of the above
10. The S.I. Unit of Luminous intensity is ____.
- (a) Mole (b) Candela
 (c) Ampere (d) Kilogram
11. Which of the following is generally incorrect about physical changes
- (a) No new substance is formed
 (b) Are reversible changes.
 (c) Are irreversible changes
 (d) Changes in size is a physical changes
12. Which among the following is an element
- (a) H_2O (b) Sugar
 (c) Sodium (d) CO_2
13. Which of the following is a fibre crop
- (a) Cotton (b) Flax
 (c) Jute (d) All the above
14. The process of separating fibres of cotton from its Seeds is called?
- (a) Knitting (b) Ginning
 (c) Spinning (d) Weaving
15. Which of the following is not a matter?
- (a) Water (b) Heat
 (c) Air (d) Plant
16. Which of the following is nonmetal?
- (a) Iron (b) Copper
 (c) Oxygen (d) Silver

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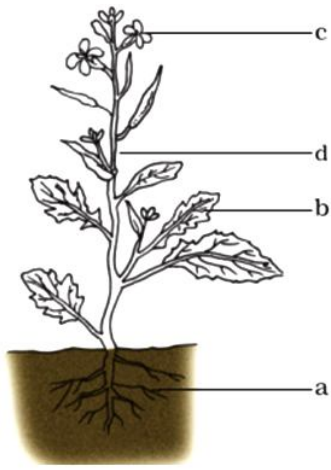
17. Which of the following is a Conductor of electricity
- (a) Rubber (b) Wood
(c) Copper (d) Plastic
18. What is the chemical formula of methane
- (a) CO_2 (b) C_2H_6
(c) CH_4 (d) H_2O
19. Which of the following is a natural source of salt
- (a) Sugar (b) Seawater
(c) Milk (d) Oil
20. Which element is essential for fire to burn
- (a) Nitrogen (b) Oxygen
(c) Carbon (d) Hydrogen

PART - IV : BIOLOGY

1. Fishes move around in the water with the help of their
- (a) Mouths and gills (b) Legs and scale
(c) Wings and tails (d) Fins and tails
2. Which one of these animals can live on land as well as in water?
- (a) Deer (b) Giraffe
(c) Frog (d) Fox
3. Fast food like pizza, burgers, etc. are very good in taste and they contain huge amounts of
- (a) Carbohydrates (b) Protein
(c) Fat (d) Vitamin
4. Rickets is caused by the deficiency of
- (a) Vitamin-A (b) Vitamin-B
(c) Vitamin C (d) Vitamin D
5. The reproductive part of the plant is
- (a) Flower (b) Root
(c) Node (d) Internode
6. Which is natural fibre
- (a) Silk (b) Nylon
(c) Rayon (d) All of these
7. Which can be used for making manures?
- (a) Earthworm (b) Houseflies
(c) Eagle (d) Crow
8. How many bones are there in the human skeleton?
- (a) 300 (b) 200
(c) 206 (d) 306

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9. Out of these, which one is a non-biodegradable waste?
- (a) Paper (b) Faecal matter
(c) Aluminium foil (d) Cotton
10. The picture below shows a leaf. Label its parts a, b, c, and d correctly.



- (a) a: roots, b: leaf, c: flower, d: stem
(b) a: leaf, b: roots, c: flower, d: stem
(c) a: flower, b: roots, c: leaf, d: stem
(d) a: stem, b: leaf, c: flower, d: roots

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