



ISMART SAMPLE PAPER
FOR CLASS 7th
MOVING TO CLASS 8th (INSIGHT)

Test ID : 00000000

Time : 90 min.

M. Marks: 240

The Test Consists (TOTAL 60 QUESTIONS)

SUBJECTS	Qs.	SYLLABUS
Section A : Reasoning		
REASONING	10	General Reasoning
Section B : Scholastic Aptitude		
PHYSICS	12	Motion, Light, Heat
CHEMISTRY	11	Physical and Chemical Changes, Metals and Non Metals, Acids, Bases and Salts
BIOLOGY	12	Life Processes in Plants, Life Processes in Animals
MATHEMATICS	15	Number System, Algebraic Expressions, Lines and Angles, Exponents

INSTRUCTIONS TO CANDIDATE

- Each subject in this paper consists of multiple choice questions with only one correct answer. **+4 marks** will be awarded for correct answer and there is no negative marking.
- Please read the instructions given for each question carefully and fill the correct answer against the question numbers on the answer sheet in the respective subject.
- **Use ball point pen to darken the appropriate circle & mark should completely fill the circle.**
- The Question paper contains blank spaces for your rough work. No additional sheet will be provided for rough work.
- Blank papers, Clipboards, Log Tables, Slide rule, Calculators, Cellular phones, Pagers and Electronic gadgets in any form are not allowed.
- Write your Name, Student ID in the block at the top of the Answer Sheet. Also write your Name & Student ID in the space provided on this cover page of question paper.

Name:_____ **Student ID**_____

REASONING

Last vacation, my cousin came over to stay at my home. We made the most of her stay at my place... and I even earned a few chocolates.

Everyday, we would play a game of chess. Whoever lost the game owed a chocolate to the other. After the last game we played (that was the day she was to leave), we counted the number of games each of us had won and lost. Wow! I had won more than her. So, she handed me 5 chocolates... though she herself was the winner in 13 games.

1. How many days did my cousin spend at my place?
(A) 13 (B) 31
(C) 18 (D) 8
2. There is a number that is 8 times the sum of its digits. What is this number?
(A) 27 (B) 28
(C) 72 (D) 82
3. A number of children are standing in a circle. They are evenly spaced and the 8th child is directly opposite the 17th child. How many children are there altogether?
(A) 13 (B) 18
(C) 50 (D) 25
4. Each child in a family has at least 4 brothers and 4 sisters. What is the smallest number of children the family might have?

(A) 13 (B) 10
(C) 11 (D) 12

5. If you arrange these scrambled letters (related to cricket game) to make simple English words – uadtism, vore, amte, crose- pick the FIRST letters from the above words, then which word will be formed after unscrambling those first letters?
(A) most (B) dear
(C) sort (D) toss

6. It was Helen's first day at school. The teacher suggested that it would be a good idea for each child to meet every other child in the class. The teacher said, "When you meet, please shake hands and introduce yourself by name."

If there were 10 children in the class, how many total handshakes were there?

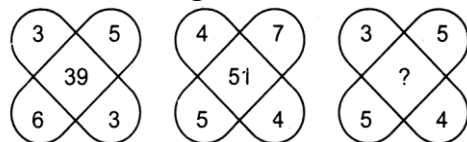
(A) 45 (B) 50
(C) 65 (D) 70

Directions : (Q. 7-8) : Read the following information carefully and then answer the questions that follow.

Six girls A, B, K, D, E and P are standing in a row. B is between D and P. A does not stand next to either P or D. K does not stand next to D. E stands between A and K.

7. P stands between
(A) B and K (B) E and A
(C) D and B (D) A and K

8. Who occupy the extreme ends of the row?
 (A) D and E (B) D and A
 (C) A and P (D) B and E
9. Which letter will be 10th to the left of the 15th letter from the left end of the following sequence?
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 (A) E (B) F
 (C) G (D) H
10. Find the missing number



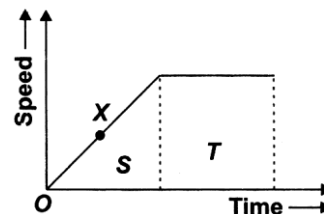
- (A) 35 (B) 37
 (C) 45 (D) 47

Physics

11. A body travels at a speed of 10 m s^{-1} for a time interval 't' and next at a speed of 40 m s^{-1} for next time interval 't'. Find average speed for the total journey.
 (A) 40 ms^{-1} (B) 20 ms^{-1}
 (C) 5 ms^{-1} (D) 25 ms^{-1}
12. A person travels along a straight road for half the distance with velocity v_1 and the remaining half distance with velocity v_2 . The average velocity is given by
 (A) $v_1 v_2$ (B) $\frac{v_2^2}{v_1^2}$

(C) $\frac{v_1 + v_2}{2}$ (D) $\frac{2v_1 v_2}{v_1 + v_2}$

13. A stone is thrown with an initial speed of 4.9 m s^{-1} from a bridge in vertically upward direction. It falls down in water after 2 s. The height of the bridge is :
 (A) 24.7m (B) 19.8m
 (C) 9.8m (D) 4.9m
14. The given graph illustrates the motion of an object.



Which feature of the graph represent the distance travelled by the object moving at a constant speed?

- (A) Area S (B) Area S + area T
 (C) Area T (D) The gradient at point X
15. Which of the following travels in a straight line?
 (A) Sound (B) Light
 (C) Air (D) Water
16. The bouncing back of light from a surface is called:
 (A) Refraction (B) Absorption
 (C) Reflection (D) Dispersion

17. The image formed by a plane mirror is:
 (A) Real and inverted (B) Real and erect
 (C) Virtual and erect (D) Virtual and inverted
18. Which of the following is a luminous object?
 (A) Moon (B) Mirror
 (C) Sun (D) Earth
19. Two thermometers are used to record the temperature of a room. If the bulb of one is wrapped in wet hanky:
 (A) the temperature recorded by both will be same
 (B) the temperature recorded by the wet-bulb thermometer will be greater than that recorded by the other.
 (C) the temperature recorded by dry-bulb-thermometer will be greater than that recorded by the other
 (D) None of the above
20. When a metal rod is heated it expands because :
 (A) the size of its atoms increases
 (B) the distance among it's atoms increases
 (C) atmospheric air rushes into it
 (D) the actual cause is still unknown
21. 120°C equivalent to :
 (A) 390 K (B) 248°F
 (C) 153 K (D) 184°F
22. It is hotter at the same distance over the top of a fire than it is on the side of it mainly because :
 (A) heat is radiated upwards
 (B) air conducts heat upwards
 (C) convection takes more heat upwards
 (D) conduction, convection and radiation all contribute significantly in transferring heat upwards
- Chemistry**
23. Which of the following is not a physical change?
 (A) Dissolution of oxygen in water
 (B) Dissolution of carbondioxide in water
 (C) Dissolution of alcohol in water
 (D) Dissolution of salt in water
24. Which gas is rapidly evolved when a active metal reacts with dilute Hydrochloric Acid (HCl)?:
 (A) Oxygen gas
 (B) Hydrogen gas
 (C) Carbon dioxide gas
 (D) Nitrogen gas
25. Which metal is soft enough to be easily cut using a standard butter knife?

- (A) Iron
(B) Sodium
(C) Copper
(D) Aluminum
26. A metal X reacts with dilute hydrochloric acid to produce a gas Y, which burns with a pop sound. What can be inferred from this?
(A) Metal X is non-reactive
(B) Gas Y is oxygen
(C) Metal X reacts with acids to produce hydrogen
(D) Metal X is a non-metal
27. Which action would best help a student confirm that heating copper produces a new substance?
(A) Measure the color of copper before and after heating
(B) Weigh the copper before and after heating
(C) Try dissolving the black substance in water
(D) Observe if the heated substance can return to original copper on cooling
28. Which of the following is a base as well as alkali?
(A) NaOH
(B) KOH
(C) Ca(OH)₂
(D) All of these
29. An unknown solution turns blue litmus red and reacts with baking soda to release a gas. What could be the solution?
(A) Salt solution
(B) Soap solution
(C) Lemon juice
(D) Sugar solution
30. Which of the following is an organic acid?
(A) Acetic acid
(B) Nitric acid
(C) Sulphuric acid
(D) Carbonic acid
31. Which of the following is an example of a chemical change?
(A) Tearing a sheet of paper into small pieces
(B) Boiling water into steam
(C) Digestion of food inside the human body
(D) Crushing a glass bottle
32. On a hot summer day ice-cream melts faster than in winters. This process of melting is
(A) chemical change
(B) physical change
(C) periodic change
(D) Irreversible
33. What is the formula for baking soda?
(A) Na₂SO₄
(B) Na₂HCO₃
(C) NaHCO₃
(D) Na₂CO₃

Biology

34. Which of the following is not required for photosynthesis?
(A) Carbon dioxide
(B) Chlorophyll
(C) Oxygen
(D) Sunlight
35. A plant lacking chlorophyll obtains food from another organism. It is called:
(A) Autotroph
(B) Saprotroph
(C) Parasite
(D) Producer
36. In the human digestive system, digestion of proteins begins in the:
(A) Mouth
(B) Stomach
(C) Small intestine
(D) Large intestine

37. The finger-like projections present in the small intestine that increase the surface area for absorption are called:
 (A) Alveoli (B) Villi
 (C) Nephrons (D) Cilia
38. Which of the following organisms respire through moist skin?
 (A) Cockroach (B) Earthworm
 (C) Fish (D) Sparrow
39. During exhalation in humans, the ribs move:
 (A) Upward and outward (B) Downward and inward
 (C) Upward and inward (D) Remain stationary
40. The exchange of gases in the lungs takes place in the:
 (A) Trachea (B) Bronchi
 (C) Alveoli (D) Diaphragm
41. Which blood vessel carries oxygenated blood from the lungs to the heart?
 (A) Pulmonary artery (B) Pulmonary vein
 (C) Aorta (D) Vena cava
42. The liquid part of blood in which blood cells are suspended is called:
 (A) Lymph (B) Plasma
 (C) Platelets (D) Serum
43. Water and minerals absorbed by roots are transported mainly through:
 (A) Phloem (B) Xylem
 (C) Stomata (D) Epidermis
44. Which of the following would most directly affect the upward transport of water in a plant?
 (A) Damage to xylem vessels (B) Damage to phloem vessels
 (C) Removal of petals (D) Increase in chlorophyll content
45. A person breathes rapidly after running because:
 (A) More oxygen is required and more carbon dioxide must be removed
 (B) The lungs stop functioning temporarily
 (C) Digestion becomes faster (D) Blood circulation stops

Mathematics

46. Find x in $\frac{-3}{5} = \frac{x}{-15}$
 (A) 9 (B) -9
 (C) -3 (D) 3
47. $\frac{2}{3} \div \left(\frac{-2}{3}\right) = \underline{\hspace{2cm}}$
 (A) -1 (B) 1
 (C) $\frac{4}{3}$ (D) $-\frac{4}{3}$
48. Express $\frac{42}{-63}$ as a rational number with denominator 3.

- (A) $-\frac{1}{3}$ (B) $-\frac{4}{3}$
 (C) $-\frac{2}{3}$ (D) $-\frac{8}{3}$
49. The HCF and LCM of two numbers is 16 and 192 respectively. If one of the numbers is 64, the other one is
 (A) 48 (B) 24
 (C) 72 (D) None of these
50. The additive inverse of -6 is
 (A) $\frac{1}{6}$ (B) $-\frac{1}{6}$
 (C) 6 (D) 5
51. If $p = (-1)^{205}$ and $q = (-1)^{202}$, then $p + q$ is
 (A) $(-1)^{407}$ (B) $(-1)^4$
 (C) 0 (D) None of these
52. The simplification of $7\frac{1}{2} - \left[2\frac{1}{4} \div \left\{ 1\frac{1}{4} - \frac{1}{2} \left(1\frac{1}{2} - \frac{1}{3} - \frac{1}{6} \right) \right\} \right]$ yields -
 (A) $\frac{2}{9}$ (B) $4\frac{1}{2}$
 (C) $9\frac{1}{2}$ (D) $1\frac{77}{228}$
53. What should be added to $x^2 + xy + y^2$ to obtain $2x^2 + 3xy$?
 (A) $-x^2 - 2xy + y^2$ (B) $x^2 - 2xy - y^2$
 (C) $x^2 + 2xy - y^2$ (D) $x^2 + 2xy + y^2$
54. The difference of the degrees of the polynomials $3x^2y^3 + 5xy^7 - x^6$ and $3x^5 - 4x^3 + 2$ is
 (A) 2 (B) 3
 (C) 1 (D) None of these
55. The degree of $3x^2y^4z^6$ is
 (A) 2 (B) 12
 (C) 4 (D) 6
56. $\left(a - \frac{b}{2} + 2c \right)^2 = a^2 + \frac{b^2}{4} + 4c^2$ _____
 (A) $-2ab - 2bc + 4ac$ (B) $-ab - bc + 2ac$
 (C) $-ab - 2bc + 2ac$ (D) $-ab - 2bc + 4ac$
57. $x^4 + y^4 + 2x^2y^2 =$ _____.
 (A) $(x + y)^4$ (B) $(x^2 - y^2)^2$
 (C) $(x^2 + y^2)(x^2 - y^2)$ (D) $(x^2 + y^2)^2$
58. If $2^3 \times 2^4 = 2^?$ then ? =
 (A) 3 (B) 4
 (C) 1 (D) 7
59. If a is any non zero integer then $a^0 =$
 (A) a (B) 0
 (C) 1 (D) None of these
60. The value of $\sqrt{117^2 - 108^2}$ is
 (A) 55 (B) 45
 (C) 35 (D) 65
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Answer Key

1. B
2. C
3. B
4. B
5. D
6. A
7. A
8. B
9. A
10. B
11. D
12. D
13. C
14. C
15. B
16. C
17. C
18. C
19. C
20. A
21. B
22. C
23. B
24. B
25. B
26. C
27. D
28. D
29. C
30. A
31. C
32. B
33. C
34. C
35. C

36. B
 37. B
 38. B
 39. B
 40. C
 41. B
 42. B
 43. B
 44. A
 45. A
 46. A
 47. A
 48. C
 49. A
 50. C
 51. C
 52. B
 53. C
 54. B
 55. B
 56. D
 57. D
 58. D
 59. C
 60. B
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