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ISMART SAMPLE PAPER
FOR CLASS 8th
MOVING TO CLASS 9th (EXPLORE)

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	Magnetic & Heating Effects, Electricity, Force, Pressure
CHEMISTRY	11	Elements Compounds & Mixture, Solute, Solvents and Solutions, Classification of Matter
BIOLOGY	12	Health & Diseases, Micro Organisms
MATHEMATICS	15	Number System, Ratio and Proportion, Square and Cube Roots, Identities, 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 ***–1 mark*** for wrong answer.
- 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

1. A rich merchant had collected many gold coins. He did not want anybody to know about them. One day, his wife asked, "How many gold coins do we have?"
   After pausing a moment, he replied, "Well! If I divide the coins into two unequal numbers, then 45 times the difference between the two numbers equals the difference between the squares of the two numbers."
   The wife looked puzzled. Can you help the merchant's wife by finding out how many gold coins they have?
   (A) 45 (B) 25
   (C) 55 (D) 85

2. Robert:
   "When I add 2 times my age 2 years from now to 3 times my age 3 years from now, I get 6 times my current age. How old will I be 4 years from now?"
   (A) 14 (B) 16
   (C) 17 (D) 20

3. When the words COAT, CARD, BAKE, and TREE are written one below the other, the word that is formed diagonally from left to right is –
   (A) cars (B) care
   (C) cart (D) Cake

4. There is a pole in a lake. One-half of the pole is in the ground, another one-third of it is covered by water, and 9 ft is out of the water. What is the total length of the pole in ft?
   (A) 54 (B) 27
   (C) 35 (D) 42

5. Find the logically consistent pair of sentences on the basis of the given information.
   Porridge is not sweet when served without love
   A.Porridge is sweet
   B. Porridge is not sweet
   C. Porridge is served with love
   D. Porridge is served without love
   (A) BC (B) DA
   (C) DB (D) BD

6. In a code language, if BEAT is coded as 5642 and SWEET is coded as 66912, how would you code TEASE?
   (A) 96162 (B) 56264
   (C) 96625 (D) 55296

7. In a class, the names of boys are arranged alphabetically. Gaurav and Saurabh have 14 boys between them. If Gaurav is 37th from the bottom, Saurabh would be at what position from the top?
   (A) 25th (B) 28th
   (C) 27th (D) Can't be determined

8. ***Directions : Following questions are based on the information given below:***

1. 'P×Q' means 'P is the father of Q'
2. 'P–Q' means 'P is the sister of Q'
3. 'P+Q' means 'P is the mother of Q'
4. 'P÷Q' means 'P is the brother of Q'

Which of the following represents 'J is the son of F'?

(A) J ÷ R – T × F (B) J + R – T × F
(C) J ÷ M – N × F (D) None of these

9. ***Directions : The question below consist of a question followed by two statements labelled as I and II. You have to decide if these statements are sufficient to conclusively answer the question. Give your answer as:***

(A) If statement I alone is sufficient to answer the question;
(B) If statement II alone is sufficient to answer the question;
(C) If statement I and II together are needed to answer the question;
(D) If statement I or II alone are sufficient to answer the question;

Who is older – Ritu or Situ?

I. Situ was born in the year 1980 and is 5 years younger than Ritu's brother.
II. Ritu is twice as older as her brother.

(A) A (B) B
(C) C (D) D

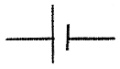
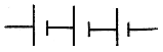
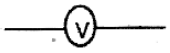
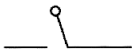
10. ***Directions : Each of the following questions has a matrix with a question mark in one block. Replace the question mark by chossing the correct response from amongst the alternatives given.***

6	8	?
9	3	13
10	14	1

(A) 11 (B) 9
(C) 7 (D) 5

Physics

11. Which of the following is the symbol of a battery?

(A)  (B) 
(C)  (D) 

12. How many hours must a 200 W bulb glow to consume 1 unit of electrical energy?

(A) 1 (B) 2
(C) 5 (D) 10

13. The net force acting on a body of mass 1 kg moving with a uniform velocity of 5 ms^{-1} is :

(A) 5 N (B) 0.2 N
(C) 0 N (D) None of these

14. A driver accelerates his car first at the rate of 1.8 m/s^2 and then at the rate of 1.2 m/s^2. The ratio of the forces exerted by the engines will be respectively equal to

(A) 2 : 3 (B) 1 : 2
(C) 2 : 1 (D) 3 : 2

15. Frictional force exists in which of the following cases _____
(A) exists only for moving bodies
(B) exists only for bodies which are at rest
(C) exists for both moving and non-moving bodies
(D) none of these

16. Which of the following class of forces is different from others?
(A) pulling of a cart
(B) stretching of a coiled spring
(C) kicking of a football
(D) electrical force

17. With the depth of a liquid, exerted pressure.....
(A) decreases
(B) ceases
(C) increases
(D) no change

18. Which among the following will exert maximum pressure when pushed with the same amount of force?
(A) An eraser of area 2 cm^2
(B) A sharpened pencil tip
(C) The blunt end of a pencil
(D) The rear portion of a closed safety pin

19. The commercial unit of electrical energy is _____:
(A) W h
(B) kW h
(C) Joule
(D) None of these

20. In which of the following the principle of "chemical effects of electricty" is not used?:
(A) Telephone
(B) Purification of metals
(C) Electroplating
(D) Electro typing

21. Splitting a compound using electricity is called:
(A) electrolysis
(B) electrolyte
(C) electrokinesis
(D) none of the above

22. At sea-level, atmospheric pressure is
(A) 76 cm of Hg column
(B) 0.76 cm of Hg column
(C) 76 m of Hg column
(D) 76 cm of water column

Chemistry

23. Which one will be most suitable method to separate a mixture of sodium chloride and ammonium chloride?
(A) Fraction distillation
(B) Sublimation
(C) Sedimentation
(D) Chromatography

24. Separation of a mixture of the solids by fractional crystallisation depends on the difference in their
(A) Densities
(B) Solubilities
(C) Shape of crystals
(D) Size of crystals

25. A solution in which no more solute can be dissolved at a given temperature is called a:
(A) Unsaturated solution
(B) Saturated solution
(C) Dilute solution
(D) Super-dilute solution

26. When a flashlight beam is shone through a glass of milk diluted with water, the light

beam becomes visibly scattered. This phenomenon is known as the:
(A) Raman Effect
(B) Tyndall Effect
(C) Doppler Effect
(D) Photoelectric Effect

27. Brass is a uniform solid mixture made of Copper and Zinc. Brass is best classified as a:
(A) Heterogeneous mixture
(B) Solid-in-solid homogeneous mixture (Alloy)
(C) Chemical compound
(D) Polymeric element

28. Which physical state of matter possesses high kinetic energy, high compressibility, and exerts uniform pressure in all directions on its container walls?
(A) Solid
(B) Gas
(C) Liquid
(D) Amorphous solid

29. When salt is dissolved in water to make sea water, water acts as the:
(A) Solute
(B) Solvent
(C) Suspension
(D) Precipitate

30. Which of the following is a pure substance made up of only ONE single type of atom?
(A) Water
(B) Oxygen gas (O_2)
(C) Carbon dioxide
(D) Air

31. What process describes the direct transformation of a solid into a gas without passing through the liquid state?
(A) Evaporation
(B) Condensation
(C) Sublimation
(D) Melting

32. A lemonade drink made by mixing lemon juice, sugar, and water is classified as a:
(A) Pure element
(B) Chemical compound
(C) Homogeneous mixture
(D) Heterogeneous compound

33. Which state of matter has neither a definite shape nor a fixed volume, expanding to fill any container completely?
(A) Solid
(B) Liquid
(C) Gas
(D) Crystalline solid

Biology

34. A person suffering from a disease caused by a microorganism develops fever and weakness. Which statement best explains why microorganisms can cause diseases?
(A) All microorganisms are harmful
(B) Some microorganisms enter the body and multiply, interfering with normal body functions

(C) Microorganisms always destroy body cells immediately
(D) Microorganisms are found only in diseased persons

35. Which of the following diseases is caused by a virus?
(A) Tuberculosis
(B) Typhoid
(C) Polio
(D) Cholera

36. A student drinks water from an uncovered container and later develops diarrhoea. Which disease-causing microorganism is most likely to have been transmitted through contaminated water?
(A) Plasmodium
(B) Vibrio cholerae
(C) Lactobacillus
(D) Rhizobium

37. Why does vaccination generally protect a person against a particular disease?
(A) It directly kills all microorganisms in the body
(B) It increases body temperature permanently
(C) It prepares the immune system to recognise and fight the specific pathogen
(D) It prevents all types of infections

38. Which of the following pairs is incorrectly matched?
(A) Malaria – Plasmodium
(B) Tuberculosis – Bacteria
(C) AIDS – Virus
(D) Typhoid – Protozoan

39. A patient is prescribed antibiotics for a bacterial infection. Why would the same antibiotics generally not be effective against a viral disease?
(A) Viruses are larger than bacteria
(B) Viruses lack the cellular structures and processes targeted by many antibiotics
(C) Viruses cannot enter the human body
(D) Antibiotics increase viral reproduction

40. Which condition is most likely to promote the spread of communicable diseases?
(A) Proper sanitation
(B) Clean drinking water
(C) Overcrowding and poor hygiene
(D) Balanced diet

41. The bacterium Rhizobium is important in agriculture because it:
(A) Converts atmospheric nitrogen into a usable form in association with leguminous plants
(B) Causes nitrogen deficiency in plants
(C) Produces oxygen during photosynthesis
(D) Decomposes only animal remains

42. Which microorganism is commonly used in the production of bread and alcohol?

(A) Yeast (B) Amoeba
(C) Lactobacillus (D) Rhizobium

43. A packet of cooked food is left at room temperature for several days and develops an unpleasant smell and fungal growth. Which statement best explains this observation?
(A) Microorganisms reproduce rapidly under favourable conditions and may spoil food (B) Food naturally converts into fungi
(C) Fungi are produced only by sunlight (D) Microorganisms cannot grow on cooked food

44. Which method of food preservation works mainly by removing moisture required for the growth of microorganisms?
(A) Refrigeration (B) Drying
(C) Pasteurisation (D) Salting

45. A farmer grows a leguminous crop before planting wheat in the same field. The main advantage of this practice is that:
(A) Leguminous plants increase soil nitrogen through their association with Rhizobium (B) Wheat absorbs nitrogen directly from Rhizobium
(C) Leguminous plants eliminate all soil microorganisms (D) Rhizobium converts nitrogen into oxygen

Mathematics

46. The value of $\left(0.\bar{6}+0.\bar{7}+0.\bar{8}\right)$ is
(A) $\frac{21}{10}$ (B) $\frac{19}{9}$
(C) $\frac{7}{3}$ (D) None of these

47. HCF of $\frac{4}{9},\frac{2}{5},\frac{6}{8},\frac{8}{5}$ is
(A) $\frac{1}{142}$ (B) $\frac{2}{350}$
(C) $\frac{1}{180}$ (D) $\frac{2}{480}$

48. $0.1\overline{27}$ is equal to
(A) $\frac{7}{55}$ (B) $\frac{7}{11}$
(C) $\frac{2}{55}$ (D) None of these

49. The value of $\frac{(67.542)^2-(32.458)^2}{67.542-32.458}$ is
(A) 1 (B) 10
(C) 100 (D) None of these

50. The rational form of $2.74\overline{35}$ is
(A) $\frac{27161}{9999}$ (B) $\frac{27}{99}$
(C) $\frac{27161}{9900}$ (D) $\frac{27161}{9000}$

51. Which of the following can be a perfect square?

(A) A number ending in 3 or 7
(B) A number ending with odd number of zeros
(C) A number ending with even number of zeros
(D) A number ending in 2

52. $\sqrt{7744} + \sqrt{484} - \sqrt{8100} = ?$
(A) 10 (B) 20
(C) 30 (D) 40

53. If $a - \frac{1}{a} = 2$, then $a^2 + \frac{1}{a^2}$ will be equal to :
(A) 6 (B) 0
(C) 4 (D) None of these

54. The value of $16.1^2 - 8.9^2$ is
(A) 160 (B) 180
(C) 170 (D) None of these

55. If $7^n = 2401$, then $7^{n-5} =$
(A) 1 (B) $\frac{1}{7}$
(C) 7 (D) 49

56. $\left\{\left(\frac{5}{3}\right)^{15}\right\}^0$ is equal to :-
(A) $\frac{5}{3}$ (B) $\frac{3}{5}$
(C) 1 (D) None

57. If $(4)^3 \times (6)^4 \times (10)^5 = 2^x \times 3^y \times 5^z$, then the value of $x + y + z$ is :
(A) 12 (B) 15
(C) 20 (D) 24

58. The sum of five consecutive odd natural numbers is 65. Find the sum of the extreme numbers.
(A) 26 (B) 30
(C) 24 (D) 32

59. $(27)^{-4/3} = ?$
(A) 81 (B) 9
(C) 1/81 (D) 1/9

60. If $A : B = 2 : 3$ and $B : C = 4 : 5$, then $C : A$ is equal to :
(A) 15 : 8 (B) 12 : 10
(C) 8 : 5 (D) 8 : 15

Answer Key

1.	A	2.	C	3.	D	4.	A	5.	C
6.	C	7.	D	8.	D	9.	C	10.	A
11.	B	12.	C	13.	C	14.	D	15.	C
16.	D	17.	C	18.	B	19.	B	20.	A
21.	A	22.	A	23.	B	24.	B	25.	B
26.	B	27.	B	28.	B	29.	B	30.	B
31.	C	32.	C	33.	C	34.	B	35.	C
36.	B	37.	C	38.	D	39.	B	40.	C
41.	A	42.	A	43.	A	44.	B	45.	A
46.	C	47.	C	48.	A	49.	C	50.	C
51.	C	52.	B	53.	A	54.	B	55.	B
56.	C	57.	D	58.	A,	59.	C	60.	A