Time: 2 ½ Hours **N-25[SGCC]**

→ This paper is for the student going to class **9** in the yr 2025-26 (i.e. for the student presently in class **8**)

Maximum Marks: 75

READ THE FOLLOWING INSTRUCTIONS BEFORE YOU START ANSWERING

1. In addition to the question paper, you are given **OMR** Sheet.
2. Fill up all the entries on the **OMR** Sheet carefully in the space provided in BLOCK Letters only. Incomplete/ incorrect/ carelessly filled in information may disqualify your candidature.
3. Do not fold/ damage/mutilate/spoil the OMR Sheet with unnecessary markings. Do not write anything on page -2 of **OMR** Sheet as it is evaluated by computer.
4. Use **black ink** or **blue ink** ball point pen and darken the appropriate circles in the answer sheet.
5. Ensure that the question paper consists of **75** questions. If the question paper found defective or otherwise, exchange with the correct question paper.
6. The question paper consists of **75** multiple choice questions with only one correct answer and each carries **One** mark. Blacken the appropriate circle completely corresponding to the correct answer (1/2/3/4) in **OMR** sheet.
7. There is **NO** negative marking.
8. The use of rulers, set squares and compasses is allowed, but calculators, protractors and electronic gadgets are forbidden.
9. No candidate is allowed to leave the hall till the completion of the examination.

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Hall ticket number :_____

Name of the candidate :_____

1. A and B together can do a piece of work in 12 days, while B alone can finish it in 30 days. Number of days A alone can finish the work in _____ days.
   (1) 20 (2) 15 (3) 18 (4) 24

2. What fraction is $2\frac{5}{14}$ of $9\frac{3}{7}$?
   (1) $\frac{1}{3}$ (2) $\frac{1}{4}$ (3) $\frac{1}{5}$ (4) $\frac{1}{6}$

3. In ΔABC, $\angle A = (x+18)°$, $\angle B = 2(x-12)°$ and $\angle C = \left(\frac{3x}{2} - 3\right)°$,
   then it is a _____ triangle
   (1) Scalene (2) Isosceles (3) Equilateral (4) Right angled

4. Factors of $\frac{1}{4}(x+y)^2 - \frac{9}{16}(x-y)^2$ are
   (1) $\left(\frac{5x}{4} + \frac{y}{4}\right)\left(\frac{5y}{4} - \frac{x}{4}\right)$ (2) $\left(\frac{3x}{4} + \frac{y}{4}\right)\left(\frac{3y}{4} - \frac{x}{4}\right)$
   (3) $\left(\frac{3x}{4} - \frac{y}{4}\right)\left(\frac{3y}{4} - \frac{x}{4}\right)$ (4) $\left(\frac{5x}{4} - \frac{y}{4}\right)\left(\frac{5y}{4} - \frac{x}{4}\right)$

5. In a parallelogram ABCD, $\angle A = (2x + 35°)$ and $\angle C = (3x - 5)°$ then $\angle B =$ _____
   (1) 75° (2) 65° (3) 55° (4) None of these

6. Which one among the following statements is true ?
   (1) Every Parallelogram is a Rhombus (2) Every Rhombus is a Square
   (3) The diagonals in a Parallelogram are equal
   (4) Every square is rectangle

7. The mean of $7, 9, x+3, 12, 2x-1$ and 3 is 9, then x = _____
   (1) 7 (2) 8 (3) 6 (4) 5

8. The sides of a triangle are 28 cm, 21 cm and 35 cm. The length of the altitude corresponding to the largest side of the triangle is _____ cm
   (1) 15.8 (2) 16.8 (3) 17.8 (4) 18.8

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9. A square lawn is surrounded by a path 2.5m wide. If the area of the path is 165 m^2, then the area of the lawn is _____ m^2.

   (1) 190 (2) 192 (3) 194 (4) 196

10. The diameter of a cycle wheel is 1.4m. The distance covered by the cycle in making 300 revolutions by its wheels is _____ m (Take $\pi = \frac{22}{7}$)

    (1) 1300 (2) 1310 (3) 1320 (4) 1330

11. The value of $(98.5)^2 - (1.5)^2$ = _____

    (1) 9070 (2) 9007 (3) 7090 (4) 9700

12. $\frac{x^{2n+3}.x^{(2n+1)(n+2)}}{\left(x^3\right)^{2n+1}.x^{n(2n+1)}} =$ _____

(1) 1 (2) x^2 (3) x (4) x^3

13. In which of the following quadrilaterals diagonals do not bisect each other ?

(1) Square (2) Rectangle (3) Kite (4) Parallelogram

14. $\left[\left\{\left(\frac{2}{5}\right)^2\right\}^4\right]^{x+2} = \left[\left\{\left(\frac{2}{5}\right)^{-2}\right\}^{(x-1)}\right]^{-3}$ then x = _____

(1) –11 (2) –10 (3) –9 (4) –12

15. The measure of an angle, if seven times its complement is 10° less than three times its supplement is _____ degrees.

(1) 35 (2) 45 (3) 25 (4) 15

16. If the mean of a set of observations $x_1, x_2, x_3, ..., x_{10}$ is 20, then the mean of $x_1 + 4, x_2 + 8, x_3 + 12, ...x_{10} + 40$ is _____

(1) 24 (2) 36 (3) 42 (4) 32

17. A wooden cuboid is 24cm × 30cm × 36cm. Cubes of equal edges are cut off from all its corners. The volume of the remaining block is 20,088 cm^3. The length of the edge of each cube cutoff from the cuboid is

(1) 6cm (2) 9cm (3) 1cm (4) 7cm

18. The price of a fan increases from Rs.3250 to Rs.3640. The increase percent in its price is _____

(1) 10 (2) 11 (3) 15 (4) 12

19. The median of the first seven natural numbers each divisible by 2, 3 and 4 is _____

(1) 48 (2) 44 (3) 42 (4) 40

20. If $\frac{x+4}{2} - \frac{2x+1}{3} = \frac{3x+1}{4} - \frac{4x+5}{6}$ then 'x' = _____

(1) 9 (2) –9 (3) 1 (4) –1

21. If $2A = 3B = 4C$ then $A : B : C =$ _____

(1) 6 : 4 : 3 (2) 3 : 4 : 6 (3) 4 : 3 : 6 (4) 6 : 3 : 4

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22. The length of the diagonal of a square is 4 cm; the side of this square serves as the diagonal of another square. The perimeter of second square is

(1) 4 (2) 8 (3) 16 (4) 6

23. If $a+b-c=11$ and $a^2+b^2+c^2=89$ then $ab-bc-ca=$ _____

(1) 14 (2) 16 (3) 12 (4) 18

24. $\sqrt{21+\sqrt{13+\sqrt{7+\sqrt{3+\sqrt{1}}}}}$ = _____

(1) 5 (2) 6 (3) 7 (4) 8

25. The lengths of the perpendicular sides of a right triangle are $(x+1)$ and $\left(\sqrt{8}x+\sqrt{8}\right)$. The length of the hypotenuse is _____

(1) $3x+1$ (2) $3x+2$ (3) $3(x+2)$ (4) $3(x+1)$

26. A block of glass is 25 cm long, 20 cm wide and has a thickness of 15 cm. If mass of the block is 7.5 kg then its density is

(1) 0.01 g/cm^3 (2) 0.1 g/cm^3 (3) 10 g/cm^3 (4) None of these

27. A normal force of 200 N can produce a pressure of 50000 pascal. The area in cm^2 on which the force shall act to exert the pressure is

(1) 40 cm^2 (2) 0.4 cm^2 (3) 4 cm^2 (4) None of these

28. A body travels at a speed of 25 m/s in the first half of the total distance and at a speed of 100 m/s in the next half of the total distance. The average speed of the body is

(1) 62.5 m/s (2) 40 m/s (3) 50 m/s (4) 75 m/s

29. The expression of power p is

(1) $p=mgh$ (2) $p=\frac{1}{2}mv^2$ (3) $p=F\times d$ (4) $p=F\times\frac{d}{t}$

30. A truck of mass 1000 kg, increases its speed from 36 KMPH to 72 KMPH. The increase in its kinetic energy is

(1) 36×10^3 joule (2) 10^4 joule (3) 15×10^4 joule (4) 2×10^5 joule

31. The splitting of white light into the constituent colours is called

(1) Dispersion (2) Refraction
(3) Reflection (4) None of these

32. Sound cannot travel in

(1) Solid (2) Vacuum (3) Liquid (4) Gas

33. The unit of Loudness of the sound is

(1) cm (2) second (3) hertz (4) decibel

34. The correct relation is

(1) density = mass × volume (2) mass = density × volume
(3) volume = density × mass (4) density = mass + volume

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35. The potential energy of a stone of mass 10 kg that is lifted to a height of 8m, if g = 10 N/kg is
(1) 800 joule (2) 400 joule (3) 500 joule (4) 200 joule

36. A body of mass 200g is moving with an acceleration of 20 m/s^2. The force on the body is
(1) 4000 N (2) 400 N (3) 4 N (4) 40 N

37. A body is moving along a circular path of radius 30m. If it completes one revolution in 30 sec then the total displacement of the body in 75 sec of motion is
(1) 30 m (2) 45 m (3) 60 m (4) 80 m

38. A bus travels 54 km in 90 minutes. The speed of the bus is
(1) 0.6 m/s (2) 10 m/s (3) 5.4 m/s (4) 3.6 m/s

39. Kumar walks to his school which is at a distance of 3 km from his home in 30 minutes. On reaching he finds that the school is closed and comes back by a bicycle with his friend and reaches home in 20 minutes. His average speed in km/h is
(1) 8.3 (2) 7.2 (3) 5 (4) 3.6

40. Friction depends on
(1) Smoothness of surface (2) Roughness of surface
(3) Inclination of surface (4) All of above

41. 1 kilogram weight is equal to
(1) 98 N (2) 9.8 N (3) 0.98 N (4) 0.098 N

42. A brick is kept in three different ways on a table as shown in given figure. The pressure exerted by the brick on the table will be

(1) maximum in position A (2) maximum in position C
(3) maximum in position B (4) equal in all cases

43. If the angle of incidence of light falling on a plane mirror is 30°, then the angle of reflection is _____
(1) 90° (2) 60° (3) 30° (4) 0°

44. From the following the one which does not belong to the family of solar system is
(1) Planet (2) Galaxy (3) Meteors (4) Comet

45. The hearing range of human ear is
(1) 20 Hz to 20,000 Hz (2) less than 20 Hz
(3) more than 20,000 Hz (4) 20 Hz to 25,000 Hz

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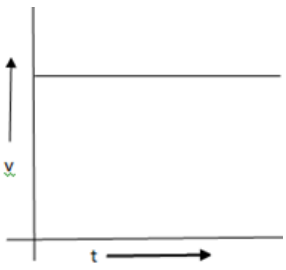
46. From the given v-t graph, it can be inferred that the object is



(1) At rest (2) In uniform motion
(3) Moving with uniform acceleration (4) In non-uniform motion

47. The acceleration that is produced by a 15N force on a mass of 8 kg will be equal to
(1) 1.5 ms^{-2} (2) 1.87 ms^{-2} (3) 2.35 ms^{-2} (4) 2 ms^{-2}

48. Choose one of the following which works on the concept of multiple reflections
(1) Telescope (2) Binoculars (3) Kaleidoscope (4) Sunglasses

49. In LED s, the longer lead (wire) is always connected to the _____ terminal
(1) negative (2) neutral (3) positive (4) Any terminal

50. A toy is placed at 10 cm in front of a plane mirror. The distance of image from the mirror is _____.
(1) 20 cm (2) 40 cm (3) 10 cm (4) 30 cm

51. The balanced chemical equation is:
(1) $H_2 + O_2 \rightarrow H_2O$ (2) $2H_2 + O_2 \rightarrow 2H_2O$
(3) $H_2 + O_2 \rightarrow 2H_2O$ (4) $2H_2 + 2O_2 \rightarrow H_2O$

52. The number of atoms present in Calcium Phosphate molecule is___.
(1) 12 (2) 13 (3) 5 (4) 6

53. An example for chemical change is _____.
(i) Decomposition of mercuric oxide on heating
(ii) Boiling of water (iii) Shaping of glass by heat
(1) (i) (2) (i) & (ii) (3) (ii) & (iii) (4) (i), (ii) & (iii)

54. 'X' contains 17 protons, 18 electrons & 17 neutrons. It is:
(1) Neutral atom (2) Cation (3) Anion (4) None of these

55. The volume of two moles of oxygen at STP is ____
(1) 22.4 Lit (2) 11.2 Lit (3) 40 Lit (4) 44.8 Lit.

56. The ability of metals to be beaten into thin sheets is called:
(1) Ductility (2) Malleability (3) Conductivity (4) Brittleness

57. An electropositive ion is _____.
(1) Chlorate ion (2) Hydronium ion
(3) Ammonium ion (4) Hydrogen ion

58. The one with highest calorific value among the following is:
(1) Wood (2) Hydrogen (3) Petrol (4) Cow dung

59. A major cause of acid rain is:
(1) Excess oxygen (2) Sulphur dioxide and nitrogen oxides
(3) Water vapor (4) Methane

60. The molecular mass of Magnesium oxide is_____ amu.
(1) 40 (2) 20 (3) 80 (4) 60

61. Greenhouse gas among the following is:
(1) Oxygen (2) Carbon dioxide (3) Hydrogen (4) Helium

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62. The fuel considered as an eco-friendly alternative is:
(1) Petrol (2) Diesel (3) Hydrogen (4) Charcoal

63. Among items given below that which cannot be recycled is:
(1) Cooker handles (2) Carry bags
(3) Toys (4) Plastic chair

64. Among the following, the one that is not biodegradable article is:
(1) Paper (2) Plastic bags (3) Wood (4) Peels of vegetables

65. Among the following, more resistant to damage is :
(1) Rayon (2) Cotton (3) Nylon (4) Jute

66. Among the following, the one that is not a fuel is
(1) Diesel (2) Petrol (3) Natural gas (4) Plastics

67. The gas released on complete combustion of fuels is:
(1) NO_2 (2) CO (3) CO_2 (4) SO_2

68. One of the following is responsible for the long-term heating of earth's surface observed since the pre-industrial period is:
(1) Change in pressure of earth (2) No change in temperature
(3) Global warming (4) Decrease in temperature of the earth

69. The transition of a substance directly from solid to gas state is called :
(1) sublimation (2) distillation
(3) evaporation (4) diffusion

70. Gas with rotten egg smell among the following is:
(1) O_3 (2) HCl (3) N_2 (4) H_2S

71. Generally metallic oxides are by nature _____.
(1) Basic (2) Acidic (3) Neutral (4) Dual

72. Plastics which do not get deformed easily on heating and cannot be bent are known as_____.
(1) thermo plastics (2) thermo setting plastics
(3) Nutrients (4) vitamins

73. A cation ion has _____ .
(1) more electrons than positrons (2) more electrons than nucleons
(3) more electrons than protons (4) less number of electrons than protons

74. The mass of 6.02×10^{23} atoms of Helium gas is:
(1) 1 gram (2) 2 grams (3) 4 grams (4) 3 gram mass

75. If the valency of Al is 3 and the valency of Nitrogen in Nitride is 3 then the formula of the aluminum nitride is:
(1) Al_2N (2) Al_2N_3 (3) Al_3N_2 (4) AlN

Paper Ends

Dear Parent,

We deem it our privilege that you have chosen our **INSTITUTE** for your child's career. You are requested to note that the results of the successful candidates will be communicated to you on **7th** of this month.

(Y. SubrahmanyaSarma)

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