SRI GURUDATTA COACHING CENTRE(SARMA INST.)

MATHEMATICS

1. In the subtraction question,

$$
\begin{array}{r}
4\ \heartsuit\ 7 \\
-\ 1\ 8\ 9 \\
\hline
2\ 6\ \square \\
\hline
\end{array}
$$

   What digits are represented by $\heartsuit$ and $\square$?

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

2. When 62 is divided by a certain number 'a' the quotient is 7. The sum of the divisor 'a' and the remainder 'r' is

   (1) 13   (2) 12   (3) 11   (4) None of these

3. Two numbers whose difference is 24 are in the ratio 7:3. The larger number is

   (1) 34   (2) 42   (3) 18   (4) 96

4. The current age of father is 3 times that of his son. Ten years from now, the father's age will be twice that of his son. The father's age will be 50 after _____ years.

   (1) 20   (2) 30   (3) 10   (4) 25

5. If the area of a square is 484 sq.cm. Its perimeter is

   (1) 88cm   (2) 22 cm   (3) 100 cm   (4) 44 cm

6. The value of $9^{31} \div 27^{17}$ is

   1) 3^{11} (2) 3^0 (3) 9^5 (4) 27

7. The graph shows the heights of 4 girls. The names are missing in the graph. Alekya is the tallest. Banu is shortest. Cindy is taller than Dolly. How tall is Dolly.
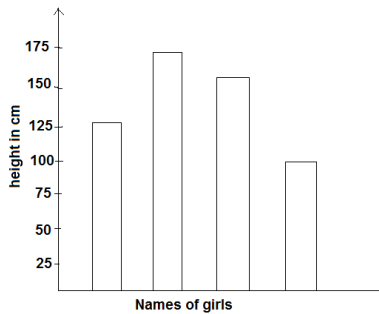

   (1) 50cm   (2) 75cm   (3) 100cm   (4) 125cm

8. In a school if $\frac{4}{9}$ of the students are boys and 450 are girls then the total number of students in the school is

   (1) 360   (2) 800   (3) 810   (4) 900

9. In how many years will a sum of rupees 3000 yields a simple interest of rupees 720 at the rate of 12% per annum.

   (1) 1 year   (2) 2 years   (3) 1 year 6 months   (4) 3 years

10. In the given figure $AB \parallel CD$, and $\angle BOD = X^0$. value of 'x' is _____.
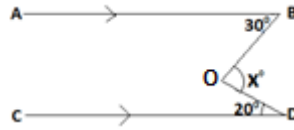

    (1) 30   (2) 20   (3) 10   (4) 50

11. The length of a rectangle is three times its width. If the perimeter of the rectangle is $96 metres$, then the area of the rectangle is _____.

    (1) $144 m^2$ (2) $430 m^2$ (3) $432 m^2$ (4) $440 m^2$

12. If the lengths of two sides of a triangle are 20cm and 17cm then the length of the third side of the triangle can be

    (1) 1cm   (2) 2cm   (3) 3cm   (4) 4cm

13. Given $\angle AOB = 87^0$, The value of 'x' is_____ ,
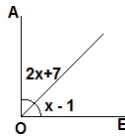
    (1) 27^0 (2) 28^0 (3) 29^0 (4) 30^0

14. A, B, C are three toys. A is 50% costlier than C and B is 25% costlier than C, then A is _____ % costlier than B

    (1) 25   (2) 20   (3) 30   (4) 15

15. Simplified form of $1 + \dfrac{1}{3+\frac{1}{2}}$ is

    (1) $\dfrac{9}{7}$ (2) $\dfrac{6}{7}$ (3) $\dfrac{9}{2}$ (4) $\dfrac{7}{6}$

16. 'a' is the biggest 4-digit number having all the four digits different, and 'b' is the smallest 4-digit number having all the four digits different. Then a - b= _____

    (1) 8888   (2) 8876   (3) 8853   (4) None of these

17. In triangle ABC, $AB = AC$ and $\angle A = 50^0$. The value of $\angle B$ is

    (1) 50^0 (2) 60^0 (3) 180^0 (4) 65^0

18. product of three different integers is equal to 2016. Then

    (1) exactly one of them is negative   (2) exactly two of them are positive

    (3) atleast one of them is positive   (4) there are no such numbers

19. If $a > b$, $p = a\%$ of b and $q = b\%$ of a then $p^2 - pq =$

    (1) p   (2) q   (3) $\dfrac{p}{q}$ (4) 0

20. The fraction equivalent to $\dfrac{15}{90}$ is

    (1) $\dfrac{6}{42}$ (2) $\dfrac{7}{42}$ (3) $\dfrac{8}{42}$ (4) $\dfrac{5}{42}$

21. If 2.25 m of cloth costs RS. 326.25 then the cost of 9m is

    (1) Rs 1300   (2) Rs. 1305   (3) RS.1200   (4) RS. 1310

22. The average of 5 numbers is 270 and that of 4 of these numbers is 225, then the fifth number is

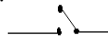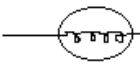   (1) 450   (2) 400   (3) 425   (4) 475

23.	42% of a number is 504 then the number is
	(1) 1000	(2) 1200	(3) 1100	(4) 1300

24.	A shop keeper marks his goods 50% above the cost price and allows a discount of 30% on it. His loss or gain percent is
	(1) loss 5 %	(2) gain 10%	(3) gain 5%	(4) loss 10%

25.	In what time will a sum of money double itself at 12.5 % p.a. simple interest
	(1) 5 years	(2) 6 years	(3) 8 years	(4) 7 years

26.	$20^0 + 17^0 =$
	(1) 0	(2) 1	(3) 2	(4) 37

27.	Four- fifths of a number is greater than three – fourths of the same number by 4 ,then the number is
	(1) 80	(2) 60	(3) 85	(4) 90

28.	In the pie diagram pass percentage of students of a class has been given. The central angle of first division is

Student's pass percentage
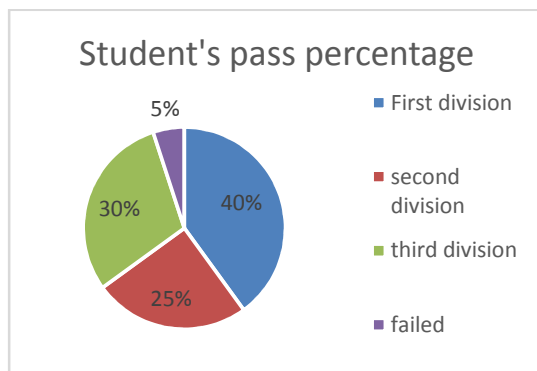
	(1) 140 °	(2) 144°	(3) 108 °	(4) 90 °

29.	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

30.	The value of $1 - 2 + 3 - 4 + \ldots + 29 - 30 + 31 - 32 + 33 - 34 =$
	(1) 0	(2) 16	(3) -17	(4) 17

PHYSICS:

31.	In increasing magnitude of length, which of the following is correct?
	(1) m, cm, km, mm	(2) mm, cm, m, km	(3) cm, mm, m, km	(4) mm, m, cm, km

32.	All of the following is a unit of time except
	(1) seconds	(2) months	(3) light years	(4) years

33.	A man runs 5km in 30minutes. What is his speed?
	(1) 5Kmph	(2) 10Kmph	(3) 15Kmph	(4) 20Kmph

34.	Which of the following relations is correct.
	(1) Distance $= \frac{speed}{time}$	(2) $Distance = speed \times time$
	(3) $Distance = \frac{time}{speed}$	(4) $Distance = \frac{1}{speed \times time}$

35. A jet is moving with a speed of 180Kmph. What is its speed in m/s?
    (1) $100m/s$ (2) $50m/s$ (3) $200m/s$ (4) $500m/s$

36. Which of the following expands the most on heating?
    (1) solids   (2) liquids   (3) sand   (4) gases

37. The lower fixed point on the Celsius scale is
    (1) Melting point of mercury   (2) Melting point of ice
    (3) Melting point of iron   (4) Melting point of wax

38. The range of a clinical thermometer is
    (1) $0^0C - 100^0C$ (2) $94^0F - 108^0F$ (3) $0K - 273K$ (4) $94^0C - 108^0C$

39. Which of the following is not a scale of temperature?
    (1) Kelvin scale   (2) Celsius scale   (3) Richter scale   (4) Fahrenheit scale

40. Which of the following letters will be seen without any change in a plane mirror?
    (1) S   (2) T   (3) L   (4) P

41. Which of the following is translucent?
    (1) Wood   (2) Glass   (3) Ground glass   (4) Vacuum

42. Transparent objects:
    (1) do not let light to pass through them
    (2) allow light to pass through them
    (3) absorb some amount of light and allow the remaining
    (4) reflect all the amount of light incident

43. Plane mirrors are arranged parallel to each other to get:
    (1) a single image   (2) two images
    (3) a large number of reflected images   (4) three images

44. Plane mirrors are arranged at an angle to get number of coloured images in
    (1) Periscope   (2) Kaleidoscope   (3) Telescope   (4) Thermo scope

45. Which of the following is the symbol for a bulb?
    (1)   ⊣⊢   (2)   (switch symbol)   (3)   ⟋⟍⟋⟍ (resistor symbol)   (4)   (bulb symbol)

46. The main function of switch is to:
    (1) save energy   (2) make (or) break circuit
    (3) make the bulb glow easily   (4) prevent electric shocks

47. Observe the given figure.
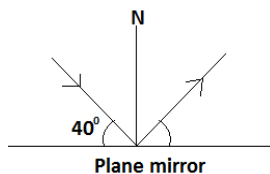
Find the angle between the incident ray and reflected ray?
    (1) 40^0 (2) 100^0 (3) 140^0 (4) 50^0

48. Akhil brought a magnet near a metal bar. He observed that, it moved away from the magnet. What can be concluded about metal bar?
    (1) It is a magnetic material   (2) It is a non-magnetic material
    (3) It is a magnet   (4) It is made up of aluminium

49. Which of the following is responsible for creating craters on the surface of earth, after collision?
    (1) Comets   (2) meteor   (3) Meteorites   (4) Satellites

50. If a body covers unequal distance in equal intervals of time, it is said to be
    (1) at rest   (2) Uniform motion   (3) Zig-Zag motion   (4) Non uniform motion

51. If all parts of a body move in the direction of motion, the motion is said to be
    (1) Rotatory motion   (2) Oscillatory motion
    (3) Translatory motion   (4) Circular motion

52. A car attains a velocity of $10m/s$ in $5 seconds$ from rest. It's acceleration is
    (1) $1m/s^2$ (2) $2m/s^2$ (3) $4m/s^2$ (4) $10m/s^2$

53. A car covers first $30Km$ at a uniform speed of $60Kmph$ and the next $30Km$ at a uniform speed of $40Kmph$. Find the total time taken to finish this 60km track.
    (1) $75min$ (2) $175min$ (3) $50min$ (4) $100min$

54. A train travels at a speed of $90Kmph$. The distance travelled by the train in $3\frac{1}{2} hours$ is
    (1) $513Km$ (2) $315Km$ (3) $215Km$ (4) none

55. The density of a metal cube is $7.5g/cm^3$ and its mass is $1.5Kg$. The volume of the metal cube is
    (1) $100cm^3$ (2) $200cm^3$ (3) $50cm^3$ (4) $150cm^3$

56. Heat is transmitted from a hot body to a cold body by the process of
    (1) Conduction   (2) Convection   (3) Radiation   (4) All

57. Zero Kelvin =
    (1) 273^0C (2) 173^0C (3) -273^0C (4) 0^0C

58. The mirror used by automobiles for rear view is
    (1) plane   (2) convex   (3) concave   (4) none

59. The materials which do not allow electric current to pass through them are called
    (1) Super conductors   (2) Conductors   (3) Insulators   (4) Semi-conductors

60. Which of the following is a conductor.
    (1) Plastic   (2) Wood   (3) Leather   (4) Copper

CHEMISTRY:

61. Which of the following substances contains Oxalic acid?
    (1) Citrus fruits   (2) Tamarind   (3) Spinach   (4) Vinegar

62. What is the chemical name of baking soda?
    (1) Sodium carbonate   (2) Potassium nitrate
    (3) Potassium bicarbonate   (4) Sodium hydrogen carbonate

63. The reaction between Potassium hydroxide and Hydrochloric acid is an example of _____.
    (1) Neutralisation   (2) Chemical double displacement
    (3) both (1) & (2)   (4) Chemical combination

64. Methyl orange indicator gives _____ colour with acid solutions.
    (1) yellow   (2) pink   (3) red   (4) brown

65. The substance that turns blue litmus to red is _____ in nature.
    (1) basic   (2) acidic   (3) neutral   (4) amphoteric

66. Which of the following statements is false?
(1) Physical changes are temporary
(2) In chemical changes no new substances are produced.
(3) Cutting log of wood into pieces is a physical change.
(4) Chemical changes are permanent

67. What are the products of a neutralization reaction?
(1) Acid & base   (2) Acid & salt   (3) Salt & water   (4) Base & salt

68. Which of the following substances is obtained, when Magnesium ribbon burns in oxygen?
(1) Magnesium powder   (2) Magnesium nitride
(3) Magnesium oxide   (4) Magnesium chloride

69. What is the colour of $CuSO_4$ solution?
(1) Red   (2) Green   (3) Yellow   (4) Blue

70. What is the symbol of Iron element?
(1) F (2) I (3) Ir (4) Fe

71. Which of the following are physical changes?
(i) Evaporation of water   (ii) Boiling of an egg   (iii) Melting of wax
(1) only (i) & (ii)   (2) only (ii) & (iii)   (3) only (i) & (iii)   (4) all (i), (ii) & (iii)

72. What is the Latin name of the Sodium element?
(1) Kalium   (2) Natrium   (3) Plumbum   (4) Cuprum

73. The silk fibre from the cocoon of mulberry silk moth is _____
(1) elastic   (2) soft   (3) lustrous   (4) all of these

74. The process of thorough washing of sheared skin with hair is called _____
(1) Sorting   (2) Scouring   (3) Shearing   (4) Reeling

75. When Carbon dioxide gas is passed through lime water, it turns lime water into _____
(1) green   (2) yellow   (3) red   (4) milky white

76. In which of the following processes, water is changed from liquid to gaseous state?
(1) Melting   (2) Vaporisation   (3) Condensation   (4) Freezing

77. Which of the following substances does not contain hydrogen atoms?
(1) NH_3 (2) H_2SO_4 (3) H_2O (4) He

78. The temporary hardness of water is due to the presence of _____.
(1) Bicarbonates   (2) Carbonates   (3) Carbondioxide   (4) None of these

79. Acid rain is caused by
(i) Sulphuric acid   (ii) Nitric acid   (iii) Carbonic acid
(1) i , iii   (2) i , ii, iii   (3) i , iii   (4) ii, iii

80. Animal fibres are
(1) rayonfibres   (2) synthetic fibres   (3) natural fibres   (4) none of these

81. The chemical Formula of Common Salt is _____.
(1) $NaCl$ (2) Na_2Cl (3) Na_2SO_4 (4) Na_2CO_3

82. The symbol of Potassium is _____
(1) P (2) Po (3) K (4) none of these

83. Bronze is an alloy of _____.
    (1) $Cu \& Zn$ (2) $Zn \& Sn$ (3) $Cu \& Sb$ (4) $Cu \& Sn$

84. The property by which metals can be beaten into sheets is called _____
    (1) Ductility   (2) Tensile strength   (3) Lustre   (4) Malleability

85. _____ metals is used for Galvanizing iron sheets.
    (1) Sulphur   (2) Aluminium   (3) Magnesium   (4) Zinc

86. Among the following options , the one with smallest atomic number is _____
    (1) Sulphur   (2) Sodium   (3) Scandium   (4) Silicon

87. The substances which take part in a chemical reaction is known as _____.
    (1) chemical equation   (2) products   (3) chemical formula   (4) reactants

88. The total number of atoms present in H_2SO_4 is _____
    (1) 7   (2) 6   (3) 3   (4) 5

89. The ratio by weight of Sulphur to Oxygen in Sulphur dioxide is _____
    (1) $1:2$ (2) $2:1$ (3) $1:1$ (4) $1:3$

90. Metal loses three electrons to form an ion. The ion has formula_____.
    (1) M^{3-} (2) M^{3+} (3) M^{2-} (4) M^{5+}