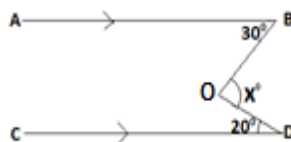


**SRI GURUDATTA COACHING CENTRE (SARMA INST.)**

- The value of  $0.014 \times 0.4$  is  
 (1) 0.00056      (2) 5.6      (3) 0.056      (4) 0.0056
- Assume that 5 miles is 8km. Then a speed of 120km per hour expressed in miles per hour is  
 (1) 60      (2) 75      (3) 105      (4) 90
- If  $\frac{-9}{5} = \frac{a}{20} = \frac{27}{b} = \frac{-45}{c}$  then values of  $a, b$  and  $c$  are \_\_\_\_\_.  
 (1) -15, 25, -36      (2) -36, -15, 25      (3) 25, -36, -15      (4) -15, -36, 25
- The value of  $(1 - \frac{1}{3})(1 - \frac{1}{4})(1 - \frac{1}{5})(1 - \frac{1}{6}) \dots (1 - \frac{1}{n})$  is \_\_\_\_\_.  
 (1)  $\frac{1}{n}$       (2)  $\frac{2}{n}$       (3)  $\frac{n-1}{2}$       (4)  $\frac{2}{n(n-1)}$
- There are 4 more girls than boys in a class of 28 students. What is the ratio of number of girls to the number of boys in the same class?  
 (1) 3:4      (2) 4:3      (3) 3:2      (4) 7:4
- The value of the expression  $n^3 + 20n^2 - 15$  when  $n = -2$   
 (1) -57      (2) 73      (3) 57      (4) none of these
- The sum of '4' consecutive integers is 70. Then the greatest among them is \_\_\_\_\_.  
 (1) 19      (2) 23      (3) 17      (4) 16
- A person travelled  $\frac{5}{8}$ th of the distance by train,  $\frac{1}{4}$ th by bus and the remaining 15km by boat. The total distance travelled by him was \_\_\_\_\_.  
 (1) 90km      (2) 120km      (3) 150km      (4) 180km
- If  $49 \times 7^x = 7^{10}$  then the value of 'x' is  
 (1) 9      (2) 8      (3) 7      (4) 0
- If two supplementary angles differ by  $44^\circ$ , then one of the angles is \_\_\_\_\_.  
 (1)  $102^\circ$       (2)  $65^\circ$       (3)  $112^\circ$       (4)  $72^\circ$
- The length of a rectangle is three times its width. If the perimeter of the rectangle is 96metres, then the area of the rectangle is \_\_\_\_\_.  
 (1)  $144m^2$       (2)  $430m^2$       (3)  $432m^2$       (4)  $440m^2$
- The ages of 'A' and 'B' are in the ratio 5:3. After 6years, their ages will be in the ratio 7:5. The sum of their present ages is \_\_\_\_\_.  
 (1) 9years      (2) 10years      (3) 15years      (4) 24years
- How many times a wheel of radius 28cm must rotate to go 528m( take  $\pi = \frac{22}{7}$ )  
 (1) 170 times      (2) 300 times      (3) 200 times      (4) 100 times
- The total cost of three prizes is Rs. 2550. If the value of second prize is  $\frac{3}{4}$ th of the first and the value of 3<sup>rd</sup> prize is  $\frac{1}{2}$  of the second prize, then the value of first prize is \_\_\_\_\_.  
 (1) Rs. 1200      (2) Rs. 450      (3) Rs. 1500      (4) Rs. 900
- In the given figure, value of 'x' is \_\_\_\_\_, where  $AB \parallel CD$  and  $\angle BOD = X^\circ$ .



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

16. The value of  $1 + \frac{1}{3+\frac{1}{2}}$  is

(1)  $\frac{9}{7}$

(2)  $\frac{6}{7}$

(3)  $\frac{9}{2}$

(4)  $\frac{7}{6}$

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Space for rough work

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17. A, B together can do a piece of work in 10 days and B alone can do it in 15 days. In how many days can A alone do it

(1) 30 days

(2) 20 days

(3) 25 days

(4) 31 days

18. Chalk contains calcium, carbon and oxygen in the ratio 10:3:12. The percentage of carbon in chalk is

- (1) 10%                      (2) 12%                      (3) 3%                      (4) 25%

19. In an army camp 380 soldiers had provisions for 17 days. If 40 of them are transferred to the other camp, how long the provisions last?

- (1) 17 days                      (2) 18 days                      (3) 19 days                      (4) 20 days

20. The value of  $(-8) - (-14)$  is

- (1) 22                      (2) 6                      (3) 7                      (4) -6

21. In a  $\Delta ABC$ , if  $AB + BC = 10\text{cm}$ ,  $BC + CA = 12\text{cm}$ ,  $CA + AB = 16\text{cm}$  then the perimeter of the triangle is

- (1) 19cm                      (2) 38cm                      (3) 28cm                      (4) 18cm

22. If the mean of 4, 6,  $x$ , 9, 10, 5 is '7'. Then the value of ' $x$ ' is

- (1) 8                      (2) 7                      (3) 6                      (4) 10

23. A boy is 1500 days old. The completed years by his next birthday

- (1) 5 years                      (2) 6 years                      (3) 7 years                      (4) none of these

24. A cycle costs Rs. 8500. Its cost is reduced to Rs. 7990. The percentage decrease in cost price is

- (1) 10%                      (2) 5%                      (3) 6%                      (4) 8%

25.  $2015000 \div 100$  gives the same result as  $201500 \div$  \_\_\_\_\_.

- (1) 0.1                      (2) 1                      (3) 10                      (4) 100

26.  $2^3 + 2^3 + 2^3 + 2^3$  is equal to \_\_\_\_\_.

- (1)  $2^5$                       (2)  $2^{12}$                       (3)  $2^9$                       (4)  $2^{16}$

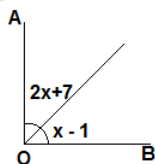
27. The value of  $\left(\frac{23}{25}\right)^0 \cdot \left(-\frac{1}{2}\right)^5 \cdot 2^3 \cdot \left(\frac{3}{4}\right)^2$  is \_\_\_\_\_.

- (1)  $-\frac{9}{64}$                       (2)  $\frac{9}{64}$                       (3)  $\frac{64}{9}$                       (4)  $-\frac{64}{9}$

28. If  $\left(\frac{3}{5}\right)^3 \cdot \left(\frac{3}{5}\right)^{-6} = \left(\frac{5}{3}\right)^{1-2x}$  then  $x =$  \_\_\_\_\_.

- (1) 0                      (2) 1                      (3) -1                      (4) 2

29. The value of ' $x$ ' is \_\_\_\_\_, given  $\angle AOB = 90^\circ$



- (1)  $28^\circ$                       (2)  $30^\circ$                       (3)  $34^\circ$                       (4)  $38^\circ$

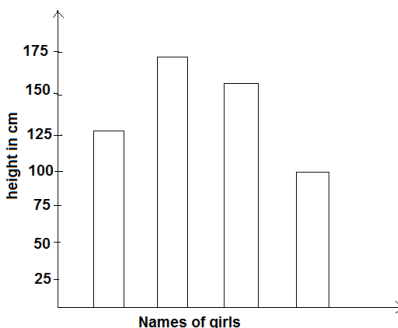
30. The value of  $1 - 2 + 3 - 4 + \dots + 29 - 30 =$

- (1) 0                      (2) 15                      (3) -30                      (4) -15

31. Supplementary angle of an angle is three times the angle then the angle is \_\_\_\_\_

- (1)  $60^\circ$                       (2)  $45^\circ$                       (3)  $40^\circ$                       (4)  $90^\circ$

32. The graph shows the heights of 4 girls. The names are missing from the graph. Priya is the tallest. Sudha is shortest. Roopa is taller than Rachana. How tall is Rachana.



(1) 50cm

(2) 75cm

(3) 100cm

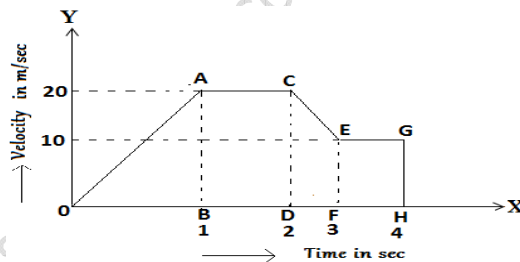
(4) 125cm

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SBCC SBCC SBCC SBCC SBCC

- 
33. The C.P. of 15 pens is equal to the S.P. of 12 pens. Then the gain percentage is \_\_\_\_\_  
(1) 25%                      (2) 20%                      (3)  $33\frac{1}{3}\%$                       (4) none
34. The difference between the supplementary angle and the complementary angle of a given acute angle is \_\_\_\_\_  
(1)  $0^\circ$                       (2)  $90^\circ$                       (3)  $45^\circ$                       (4) none
35. The value of 'x' if  $x - (40\% \text{ of } x) = 12$  is  
(1) 30                      (2) 25                      (3) 20                      (4) 18
36. If the lengths of two sides of a triangle are 6cm and 9cm then the length of the third side of the triangle can be  
(1) 3cm                      (2) 2cm                      (3) 14cm                      (4) 15cm
37. If  $3^p + 3^4 = 90$ ,  $2^r + 44 = 76$ , and  $5^3 + 6^s = 1421$ , what is the product of  $p, r$  and  $s$ ?

- (1) 27                      (2) 40                      (3) 50                      (4) 70
38.  $0.125 + \frac{3}{4} =$   
 (1) 0.1                      (2) 0.875                      (3) 1                      (4)  $\frac{5}{8}$
39. If  $5^{-6} \times 5^{2x} = 5^{10}$  then value of 'x' is \_\_\_\_\_  
 (1) 2                      (2) -2                      (3) -8                      (4) 8
40. If the ratio of diameter of two circles is 3:4 then the ratio of their circumferences is \_\_\_\_\_  
 (1) 3:4                      (2) 9:16                      (3) 16:9                      (4) none
41. An aluminum piece has dimensions 4cm x 3cm x 4cm whose mass is 96g. Calculate the density of the body in SI units.  
 (1)  $4 \times 10^4 \text{ Kg/m}^3$                       (2)  $2 \times 10^3 \text{ Kg/m}^3$                       (3)  $3 \times 10^3 \text{ Kg/m}^3$                       (4)  $5 \times 10^3 \text{ Kg/m}^3$
42. A bus travels at a speed of 90 Km/hr. How far will it travel in 4 hr.  
 (1) 720Km                      (2) 160Km                      (3) 320 Km                      (4) 80 Km
43. A piece of iron is cut into two halves. If  $\rho$  is the density before cutting, what will be the density after cutting?  
 (1)  $\rho/2$                       (2)  $\rho/4$                       (3)  $\rho$                       (4)  $\rho/8$
44. A body moves from point P to point Q with a speed of 10m/sec and comes back to P with a speed of 20 m/sec. What is the average speed?  
 (1) 0                      (2) 30 m/s                      (3) 13.4 m/s                      (4) 16.7 m/s
45. A bomb is dropped from an aeroplane moving horizontally at constant speed. When the effect of the air is not considered, the bomb  
 (1) Falls to earth exactly below the aeroplane                      (2) Falls to earth behind the aeroplane  
 (3) Falls to earth ahead of aeroplane                      (4) Flies along with the aeroplane.
46. The v-t graph of a particle is as shown in the figure. The distance travelled by the particle in 4 seconds is



- (1) 50m                      (2) 55m                      (3) 65m                      (4) 60m
47. A body is starting from point A and reaches point B as shown in the table below.
- |             |   |    |    |    |    |    |    |    |    |
|-------------|---|----|----|----|----|----|----|----|----|
| Time( sec)  | 0 | 4  | 8  | 12 | 16 | 20 | 24 | 28 | 32 |
| Distance(m) | 0 | 18 | 25 | 31 | 40 | 52 | 60 | 69 | 72 |

The body is said to possess

- (1) Uniform acceleration                      (2) Non-Uniform acceleration  
 (3) uniform-speed                      (4) Non-uniform -speed
48. Which of the following is a scalar quantity?  
 (1) Displacement                      (2) Velocity                      (3) Force                      (4) Speed
49. Which of the following is a bad conductor of heat?  
 (1) Iron                      (2) Water                      (3) Cotton                      (4) Mercury

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50. At what temperature both Fahrenheit scale and Celsius scale readings are Same.

- (1)  $-37^{\circ}$       (2)  $-45^{\circ}$       (3)  $-30^{\circ}$       (4)  $-40^{\circ}$

51. A person wants to cool a hot body fastly. On which of the following he has to place it.

- (1) Paper      (2) Wood      (3) Plastic      (4) Metal

52. Which physical quantity determines loudness?

- (1) Frequency      (2) Velocity      (3) Wavelength      (4) Amplitude

53. A person took out a bottle containing some solid matter in it. The lid of it is tight and cannot be removed easily.

To remove the lid easily, the person has to

- (1) Shake the bottle      (2) Immerse the bottle in cold water  
(3) Immerse the bottle in hot water      (4) Break the bottle.

54. If 20 g of water at  $50^{\circ}\text{C}$  is mixed with 60 g of water at  $10^{\circ}\text{C}$ , the final temperature of the mixture is

- (1)  $20^{\circ}\text{C}$       (2)  $40^{\circ}\text{C}$       (3)  $60^{\circ}\text{C}$       (4)  $80^{\circ}\text{C}$

55. A medium which allows light partially to pass through it is called

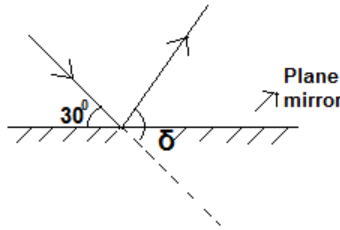
- (1) Transparent medium      (2) Opaque medium  
(3) Translucent medium      (4) Homogeneous medium.

56. The following are the characteristics of certain mirror. What type of the mirror it is.

- (i) Image is virtual      (ii) Size of image is same as size of the object      (iii) Image is laterally inverted.

- (1) Convex      (2) Concave      (3) Plane      (4) Plano-Convex.

57. Calculate the angle of deviation ( $\delta$ ) from the following figure.



- (1)  $40^{\circ}$       (2)  $60^{\circ}$       (3)  $30^{\circ}$       (4)  $50^{\circ}$

58. A person is walking towards a plane mirror with a speed of 5 m/s. What is the speed of the image observed by the person?

- (1) 2.5 m/s      (2) 15 m/s      (3) 25 m/s      (4) 10 m/s

59. Audible range of wavelength is from

- (1) 17m to 170 m      (2) 15 m to 150 m      (3) 0.017m to 17 m      (4) 0.18m to 18 m

60. Which of the following statements is false.

- (1) A concave mirror forms real and virtual images.      (2) A real image is always inverted.  
(3) A virtual image is always erect.      (4) Image formed by the plane mirror is Real

61. Which of the following represents a cell?

- (1)       (2)       (3)       (4) 

62. In a house, there are 3 bulbs each of 100W, 4 bulbs each of 60 W, and all are used for 3 hr a day. Calculate the number of units for 30 days.

- (1) 50 units      (2) 40 units      (3) 48.6 units      (4) 24.3 units

63. The negative terminal of a dry cell is made of

- (1) Aluminum      (2) Zinc      (3) Copper      (4) Graphite

64. The number of electrons present in one coulomb of charge is

- (1)  $2.25 \times 10^{14}$       (2)  $3.25 \times 10^{17}$       (3)  $6.25 \times 10^{18}$       (4)  $1.25 \times 10^{18}$

65. A person stands in between two high rise buildings and explodes a cracker. He hears first echo after 0.4 sec and the second echo after 2.6 sec. Calculate the distance between the buildings. (Given speed of sound = 332m/s)

- (1) 590m      (2) 498m      (3) 332m      (4) 540m

66. Which of the following formulae of compounds is not correct?

- (1)  $\text{FeS}$       (2)  $\text{HgO}$       (3)  $\text{CaCl}$       (4)  $\text{NaOH}$



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67. Which of the following molecules is composed of three atoms?

- |                         |                      |
|-------------------------|----------------------|
| (1) Sodium chloride     | (2) Sodium hydroxide |
| (3) Potassium carbonate | (4) Sodium sulphate  |

68. Which of the following is a chemical change?

- |                         |                         |
|-------------------------|-------------------------|
| (1) Cloths being ironed | (2) Candle wax melting  |
| (3) Burning of petrol   | (4) Wet hair drying out |

69. Which of the following represents a correct chemical reaction?

- |   |  |
|---|--|
| (1) Carbon + Oxygen $\rightarrow$ Carbon dioxide    | (2) Potassium + Chlorine $\rightarrow$ Phosphorus penta chloride |
| (3) Sodium + Chlorine $\rightarrow$ Sodium chloride | (4) none of these  |

70. Which of the following sets of elements is present in carbohydrates?

- |                               |                                 |
|-------------------------------|---------------------------------|
| (1) Carbon & Hydrogen         | (2) Carbon & Oxygen             |
| (3) Carbon, Oxygen & Hydrogen | (4) Carbon, Hydrogen & Nitrogen |

71. Which of the following acids is present in tea?

- (1) Citric acid      (2) Acetic acid      (3) Lactic acid      (4) Tannic acid

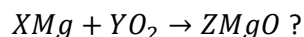
72. Match the entries in column – I with that in column – II correctly.

**Column – I (substance)**

**Column – II (use)**

- |                |                              |
|----------------|------------------------------|
| (i) Sulphur    | (p) in vulcanization         |
| (ii) Carbon    | (q) as lubricant             |
| (iii) Graphite | (r) to purify drinking water |
| (iv) Chlorine  | (s) to make torch cells      |
- (1) i - p , ii - s , iii - q , iv - r      (2) i - q , ii - s , iii - p , iv - r  
(3) i - q , ii - p , iii - s , iv - r      (4) i - p , ii - r , iii - q , iv - s

73. Which of the following sets of numbers represents the correct values for the numbers  $X, Y$  and  $Z$  in the equation



- (1)  $X = 1, Y = 2, Z = 2$       (2)  $X = 2, Y = 2, Z = 1$   
(3)  $X = 2, Y = 3, Z = 2$       (4)  $X = 2, Y = 1, Z = 2$

74. Which of the following statements is true?

- (1) Glucose is an inorganic compound      (2) Pure gold is used to make jewellery  
(3) when ' $CO_2$ ' dissolves in water, it forms Carbonic acid  
(4) Pure oxygen is given to patients to help them breathe more easily

75. The process of the separating a soluble solid from the solution by heating or evaporating is called \_\_\_\_\_

- (1) melting      (2) crystallization      (3) evaporation      (4) vaporization

76. The chemical formula of magnesium hydroxide is \_\_\_\_\_

- (1)  $MgO$       (2)  $Mg(OH)_3$       (3)  $Mg(OH)_2$       (4)  $MgH_2$

77. The symbol of iron element is \_\_\_\_\_

- (1) I      (2) F      (3) Fe      (4) Ir

78. Water has maximum density at \_\_\_\_\_

- (1)  $14^\circ C$       (2)  $10^\circ C$       (3)  $4^\circ C$       (4)  $40^\circ C$

79. Which of the following processes is involved in treatment of waste water at treatment plants?

- (1) physical process      (2) chemical process      (3) biological process      (4) all

80. Separation of silk fibre from cocoon is called \_\_\_\_\_

- (1) shearing      (2) reeling      (3) scouring      (4) spinning

81. Copper sulphate + Iron  $\rightarrow$  \_\_\_\_\_ + \_\_\_\_\_

- (1) Iron sulphate ; Copper      (2) Copper sulphate ; Iron sulphate  
(3) Copper sulphite ; Iron sulphite      (4) none of these

82. Ramu prepared a salt solution by dissolving it in water. Then it represents \_\_\_\_\_

- (1) physical change      (2) chemical change      (3) both 1 & 2      (4) none

83. The number ratio of hydrogen and oxygen atoms in water molecule is \_\_\_\_\_

- (1) 1: 2      (2) 2: 1      (3) 2: 3      (4) 3: 1

84. Which of the following is not a mineral acid?

- (1) Hydrochloric acid      (2) Nitric acid      (3) Citric acid      (4) Sulphuric acid

