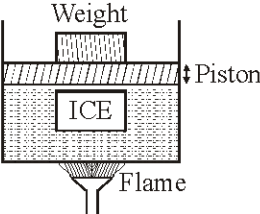1. Convert 615 mg to grams.
   (1) 0.00615 g
   (2) 0.615 g
   (3) 6.15 g
   (4) 61.5 g

2. Which does not represent technology?
   (1) Calculator
   (2) Computer program
   (3) Granite rock
   (4) Compact discs

3. Gold has a density of 19.3 g/cm Silver has a density of 10.5 g/cm Which is a true statement?
   (1) A 2 cm block of gold has less mass than a 2 cm block of silver.
   (2) 50 g of gold has a lower volume than 50 g of silver.
   (3) The weight of a 10.5 g block of gold equals the weight of a 19.3 g block of silver.
   (4) The vol of a 15 g block of gold is greater than the volume of a 35 a block of silver.

4. Nearly all the clock make use of
   (1) Straight line motion
   (2) Periodic motion
   (3) Random motion
   (4) Circular motion

5. Which of the following is not an example of regular motion ?
   (1) A child on swing
   (2) An object moving in a circle
   (3) A mosquito flying about in a room
   (4) A swinging pendulum

6. Electric charge can flow freely through
   (1) Insulator
   (2) Conductor
   (3) Both conductor and insulator
   (4) Neither conductor nor insulator

7. An electric fuse is a
   (1) Safety device
   (2) An electrical appliance
   (3) Based on magnetic effects of current
   (4) None of these

8. Heat from sun reaches to earth by
   (1) Radiation
   (2) Conduction
   (3) Convection
   (4) All of the above

9. A mixture of ice and water is contained in a piston cylinder arrangement as shown in figure. Flame is applied to the base of cylinder and the piston is allowed to move as the ice melts. Then piston will move

   (1) upward
   (2) downward
   (3) will not move
   (4) can't say

10. A convex lens
    (1) is thicker at the edge than at the middle
    (2) has uniform thickness all through
    (3) is thicker at the middle than at the edges
    (4) is called a diverging lens

11. What is an object that reflects some light and transmits some light called?
    (1) Coloured
    (2) Opaque
    (3) Diffuse
    (4) Translucent

12. Following are the precautions one must take in the case a storm is accompanied by lightning. Which one of the following statements is not correct ?
    (1) Do not take shelter under a tall tree
    (2) Do not take shelter inside a closed car
    (3) Do not take shelter under an umbrella
    (4) Do not take shelter under an open garage

13. During the formation of rain, when water vapours change back to liquid in the form of rain drops, ____
    (1) Heat is absorbed
    (2) Heat is released
    (3) Heat is first absorbed, and then released
    (4) There is no exchange of heat

14. The process of removing hair from the body of a sheep is called
    (1) Scouring   (2) Sorting
    (3) Shearing   (4) Combing

15. After scouring the next process is
    (1) Shearing   (2) Sorting
    (3) Spinning   (4) Combing

16. The fleece of sheep is combed to remove the
    (1) Dust (2) Dirt
    (3) Burrs (4) Grease

17. Which of the following is not an animal fibre?
    (1) Polyester (2) Wool
    (3) Silk (4) Pashmina

18. Bases are generally _____ on touching
    (1) Hot (2) Cold
    (3) Soapy (4) Rough

19. Acids turn red litmus to
    (1) Green (2) Yellow
    (3) Blue (4) No change

20. If the given solution does not change the colour of litmus paper, it is a/an
    (1) Acid (2) Base
    (3) Neutral (4) None of these

21. Sun rises in the east and sets in the west, this repeated change is called -
    (1) irreversible change (2) periodic change
    (3) physical change (4) chemical change

22. When food eaten by us is digested it undergoes _____ change.
    (1) periodic (2) reversible
    (3) irreversible (4) physical

23. Melting of wax is a _____ change, while burning of candle is _____change.
    (1) irreversible, reversible
    (2) reversible, irreversible
    (3) physical, reversible
    (4) chemical, irreversible

24. Non-renewable resources
    (1) can never be replaced once they get used up
    (2) can be replaced but the time of replacement varies from a few hundred to millions of years
    (3) can be replaced in 50 -100 years.
    (4) can be replaced in 100-200 years.

25. Which of these methods does not result in conservation of water?
    (1) Using drip irrigation.
    (2) Recycling of water.
    (3) Cutting vegetation so that less water is lost by transpiration,
    (4) Planting more trees.

26. The water table goes down due to
    (1) increase in population
    (2) increase in agriculture
    (3) increase in industrialization
    (4) All of the above

27. Root hairs are most important to a plant because they _____.
    (1) Anchor a plant to the soil
    (2) Provide a habitat for N_2 fixing bacteria
    (3) Increase the surface area for absorption
    (4) Contain xylem tissue.

28. Which of the following is classified correctly?
    (1) Banana : Fibrous root : Reticulate venation
    (2) Banyan: Tap root: Parallel venation
    (3) Rose : Tap root : Reticulate venation
    (4) Maize: Fibrous root: Reticulate venation

29. Teeth involved in cutting of food material
    (1) Incisor (2) Canine
    (3) Molar (4) Premolar

30. Chewing is an example of
    (1) Chemical Digestion
    (2) Mechanical Digestion
    (3) Involuntary Action
    (4) Hydrolysis

31. Which one of the following is not a part of a pistil?
    (1) Filament (2) Ovary
    (3) Style (4) Stigma

32. Pollination is the movement of pollen grains from
    (1) anther to ovary (2) anther to egg
    (3) anther to stigma (4) none of these

33. In plants, gas exchange takes place through
    (1) wood (2) stomata
    (3) root (4) fruit

34. Root hairs are most important to a plant because they ___.
    (1) Anchor a plant to the soil
    (2) Provide a habitat for N_2 fixing bacteria
    (3) Increase the surface area for absorption
    (4) Contain xylem tissue.

35. Ecosystem comprises both abiotic and biotic components. Biotic component of an ecosystem consists of
    (1) Producers (2) Consumers
    (3) Decomposers (4) All the above

36. Soil profile and soil structure both are affected by
    (1) temperature (2) light
    (3) humidity (4) all

37. Feather of birds protect their body from
    (1) heat (2) air
    (3) cold (4) predators

38. Discharge of wastewater generated from manufacturing plants/industries is -
    (1) sewage (2) mining
    (3) industrial effluent (4) None of these

39. The teeth of the first set that grew during infancy are called
    (1) permanent teeth
    (2) milk teeth
    (3) starting teeth
    (4) all of these

40. The teeth of the second set that replace the milk teeth are known as
    (1) permanent teeth
    (2) temporary teeth
    (3) milk teeth
    (4) hard teeth

41. $30 \times (-23) + 30 \times 14 = ?$
    (1) -270
    (2) 270
    (3) 1110
    (4) -1110

42. By how much does -3 exceed -5 ?
    (1) -2 (2) 2
    (3) 8 (4) -8

43. For integers :
    (1) Addition is associative
    (2) Addition is commutative
    (3) Integer "0" is the identity under addition
    (4) All of the above

44. Arrange the following fractions in ascending order $\frac{3}{7}, \frac{4}{5}, \frac{7}{9}, \frac{1}{2}$.
    (1) $\frac{4}{5}, \frac{7}{9}, \frac{3}{7}, \frac{1}{2}$ (2) $\frac{3}{7}, \frac{1}{2}, \frac{7}{9}, \frac{4}{5}$
    (3) $\frac{4}{5}, \frac{7}{9}, \frac{1}{2}, \frac{3}{7}$ (4) $\frac{1}{2}, \frac{3}{7}, \frac{7}{9}, \frac{4}{5}$

45. Find the value. $4\frac{5}{6} - 2\frac{3}{8} + 3\frac{7}{12}$
    (1) $\frac{145}{24}$ (2) $\frac{145}{12}$
    (3) $\frac{92}{21}$ (4) $\frac{145}{4}$

46. Convert 0.45 & 0.0075 decimal numbers into the form p/q. They are respectively :
    (1) $\frac{9}{20}, \frac{3}{400}$ (2) $\frac{3}{400}, \frac{3}{20}$
    (3) $\frac{3}{20}, \frac{9}{20}$ (4) $\frac{9}{400}, \frac{3}{20}$

47. Find the mean and median respectively in this group of test results.
    $$60, 43, 47, 61, 35, 53, 49, 32, 59$$
    (1) 49,47
    (2) 46.87, 49
    (3) 48.69,43
    (4) 48.77,49

48. The mean of three numbers is 40. All the three numbers are different natural numbers. If lowest is 19. What could be highest possible number of remaining two numbers?
    (1) 81
    (2) 40
    (3) 100
    (4) 71

49. Which of the following statements is INCORRECT ?
    (1) Mean, Median and Mode may be same for some data.
    (2) The probability of getting an ace out of a deck of cards is less than 1.
    (3) Mean of the data is always from the given data.
    (4) Median of the data may or may not be from the given data.

50. If two supplementary angles differ by 44°, then one of the two angles is
    (1) 102°   (2) 65°
    (3) 112°   (4) 72°

51. A number has two digits whose sum is 9. If 27 is added to the number, its digit get interchanged. Find the number
    (1) 34
    (2) 26
    (3) 36
    (4) None of these

52. The numerator of a fraction is 4 less than the denominator. If 1 is added to both its numerator and denominator, it becomes $\frac{1}{2}$. Find the fraction.
    (1) $\frac{7}{3}$ (2) $\frac{2}{7}$
    (3) $\frac{7}{2}$ (4) $\frac{3}{7}$

53. An angle whose measure is more than 90° but less than 180° is called :
    (1) Acute angle
    (2) Obtuse angle
    (3) Reflex angle
    (4) Straight angle

54. The sum of all the angles at a point is always :
(1) 180°   (2) 360°
(3) 90°   (4) 270°

55. How many degrees are there in two right angles?
(1) 270°   (2) 30°
(3) 90°   (4) 180°

56. If in ∆ABC, CA = AB, then the given triangle is:
(1) Right-angled Triangle
(2) Isosceles Triangle
(3) Scalene Triangle
(4) Equailateral Triangle

57. If in ∆PQR, ∠P = 24° and ∠R = 66°, then ∆PQR is:
(1) A Right-angled Triangle
(2) An Equilateral Triangle
(3) An Acute-angled Triangle
(4) An Obtuse-angled Triangle

58. Which is the largest side of a right angled triangle?
(1) Median
(2) Hypotenuse
(3) Arm
(4) Altitude

59. If ∆ABC ≅ ∆PQR, then ∠B and PQ are respectively equal to
(1) ∠P and AC   (2) ∠R and BC
(3) ∠R and AC   (4) ∠Q and AB

60. If three sides of a triangle are equal to the three sides of another triangle, then the two triangles are congruent by which congruence criteria?
(1) SAS
(2) SSS
(3) RHS
(4) ASA

61. If the hypotenuse and a side of a right-angled triangle are equal to the hypotenuse and a side of another right-angled triangle, then by which congruency criteria the two triangles are congruent?
(1) ASA property
(2) SSS property
(3) SAS property
(4) RHS property

62. Mohit spends Rs. 7x – 4 for a shirt and Rs. 2x + 8 for a pair of trousers. If he gives the shopkeeper a 1000 rupee note, how much will he get back ?
(1) 1012 – 9x
(2) 996 – 9x
(3) 992 – 8x
(4) 996 – 7x

63. By selling a watch for Rs. 1215, Javed lost 15%. At what price should he sell to make profit of 10% ?
(1) Rs. 1500
(2) Rs. 1482
(3) Rs. 1550
(4) Rs. 1650

64. A businessman borrowed some money at 1% per month. After some time, he settled the debt by paying Rs. 14,750. If the total interest was Rs. 2950. Find the time.
(1) 2 years 1 month
(2) 3 years
(3) $2\dfrac{1}{2}$ years
(4) 1 year 8 months

65. Which of the following sum is in the simplest form ?
(1) $\dfrac{4}{9}+\dfrac{-5}{9}$ (2) $\dfrac{-5}{12}+\dfrac{11}{-12}$
(3) $\dfrac{-2}{5}+\dfrac{13}{20}$ (4) $\dfrac{-7}{8}+\dfrac{1}{12}+\dfrac{2}{3}$

66. A car is moving at an average speed of $3\dfrac{1}{9}$ km/hr. How much distance will it cover in $5\dfrac{1}{7}$ hours ?
(1) 15 km
(2) 16 km
(3) 17 km
(4) 18 km

67. It takes $12\dfrac{1}{3}$ m of cloth to make a pattern. How many pattern can Latika make from a piece of cloth $49\dfrac{1}{3}$ m long?
(1) 4
(2) 5
(3) 3
(4) 6

68. In ∆ABC, if ∠A = 65° and ∠C = 85° then ∠B = ?
(1) 25°
(2) 30°
(3) 35°
(4) 40°

69. The sum of all angles of a triangle is –
(1) 90°
(2) 100°
(3) 150°
(4) 180°

70. The sum of all angles of a quadrilateral is–
    (1) 180°
    (2) 270°
    (3) 360°
    (4) 480°

71. If the perimeter of a rectangle is 1024 m and its length is 250 m, then its breadth is :
    (1) 40.96 m
    (2) 262 m
    (3) 774 m
    (4) 256000 m

72. If the side of a square is 22.5 cm then its perimeter is?
    (1) 0.90 m
    (2) 5.625 m
    (3) 90 m
    (4) 506.25 m

73. If the side length of regular octagon is 14.5 m, then its perimeter is :
    (1) 1.8125 m
    (2) 22.5 m
    (3) 116 m
    (4) 130.5 m

74. In a school, $8a^2 + 4a + 9$ students were enrolled. $2a^2 - 9a + 2$ students were boys. How many girls were enrolled ?
    (1) $6a^2 - 13a + 7$
    (2) $4a^2 + 13a + 7$
    (3) $6a^2 + 13a + 7$
    (4) $4a^2 - 13a + 7$

75. Simplify, the expression by removing brackets.

    $a - 2b - [4a - 6b - \{3a - c + (5a - 2b - \overline{3a - c + 2b})\}]$

    (1) $5a + b$
    (2) $4a - c$
    (3) $3a + b + c$
    (4) $2a$

76. Find the value of $4xy(x - y) - 6x^2 (y - y^2) - 3y^2 (2x^2 - x) + 2xy (x - y)$ for $x = 5$ and $y = 13$.
    (1) -1955
    (2) 2535
    (3) -2535
    (4) 1955

77. By what number should we multiply 4^{-3} so that the product may be equal to 64 ?
    (1) 4^5
    (2) 2^{12}
    (3) 2^6
    (4) 2^6

78. If $3^x = 500$, then the vlaue of 3^{x-2} is
    (1) $\dfrac{100}{9}$ (2) $\dfrac{1000}{9}$
    (3) $\dfrac{500}{9}$ (4) $\dfrac{500}{3}$

79. Which of the following letters does not have any line symmerty ?
    (1) H   (2) V
    (3) Z   (4) I

80. The net of a solid consists of three rectangles and two triangles. This may be the net of a:
    (1) Cuboid
    (2) Pyramid
    (3) Triangular Prism
    (4) None of these

81. 'Rajasthan' is related to 'Japiur' in the same way as 'Maharashtra' is related to -
    (1) Goa
    (2) Delhi
    (3) Mumbai
    (4) Jodhpur

82. 'Metal' is related to 'Conduction' in the same way as 'plastic' is related to -
    (1) Ground oil chemistry
    (2) Industry
    (3) Inflammability
    (4) Insulation

83. Wax is related to Grease in the same way as Milk is related to -
    (1) Drink
    (2) Ghee
    (3) Protein
    (4) Curd

84. In the following series, how many times the sum of two consecutive numbers results an even number -
    1 2 3 4 6 3 4 2 5 9 3 6 7 4 1 2 3 6 7 6 5 4 3
    (1) 3   (2) 4
    (3) 5   (4) None of these

85. In the following number series, how many 8's are there which are immediately preceded by a number which does not divide it but followed by a number which divides it -
    2 8 2 8 3 8 5 8 8 5 3 2 8 2 3 8 4 7 1 5 8 3 8 2 8 6
    (1) 1   (2) 2
    (3) 3   (4) 4

86. 'Smoke' is related to 'Pollution' in the same way as 'War' is related to -
    (1) Vicotry   (2) Treaty
    (3) Defeat   (4) Destruction

87. The following questions are based on the arrangement of alphabets in the form of a pyramid. In each question there is some relation-ship between the two sets of letters on the left of the (::) The same relationship exists between the two terms on the right of which one is missing. Find the missing one from the given alternatives.

```
            A
          B C D
        E F G H I
      J K L M N O P
    Q R S T U V W X Y
```

    (?): KRSL : : PYXO: OXWN
    (1) RSLK   (2) JQRK
    (3) JKRQ   (4) QRKJ

88. Cat is related Kitten in the same way as Woman is related to -
    (1) Puppy
    (2) Colt
    (3) Calf
    (4) Baby

89. Much is related to many in the same way as Measure is related to -
    (1) Count
    (2) Measures
    (3) Calculate
    (4) Weight

90. 'Ophthalmia' is related to 'Eye' in the same way as 'Rickets' is related to -
    (1) Kidney
    (2) Nose
    (3) Bone
    (4) Heart

    Direction (91 to 95) : Which one set is most like the given set

91. (8, 18, 37)
    (1) (4, 9, 20)
    (2) (16, 33, 67)
    (3) (13, 30, 67)
    (4) (5, 12, 25)

92. (4, 8, 4, 1)
    (1) $(6, 12, 6, \frac{3}{2})$
    (2) (5, 10, 5, 2)
    (3) $(2, 4, 2, \frac{1}{4})$
    (4) $(8, 12, 6, \frac{3}{2})$

93. (48, 72, 108)
    (1) 64, 96, 144
    (2) (24, 36, 72)
    (3) (84, 126, 188)
    (4) (36, 18, 9)

94. (414, 207, 69)
    (1) (522, 261, 87)
    (2) (72, 24, 12)
    (3) (728, 363, 51)
    (4) (48, 24, 12)

95. (5, 12, 26)
    (1) (32, 66, 132)
    (2) (13, 28, 56)
    (3) (11, 24, 50)
    (4) 33, 64, 130)

    Direction (96 : 100) : In each of the following questions, select the alternatives that will come in place of question-mark (?)

96. ACFJ : ZXUQ : : EGIN : ?
    (1) VUSQ
    (2) UTRP
    (3) VRPM
    (4) VTRM

97. BCFG : HILM : : NORQ : ?
    (1) TXWU   (2) TXUW
    (3) TUXW   (4) TVWX

98. AZBY : CXDW : : EVFU : ?
    (1) GTHS   (2) GHTS
    (3) GSTH   (4) TGSH

99. Computer : fqprxvht : : Language : ?
    (1) oxpixdig   (2) ocqicyig
    (3) ocquixcjg   (4) ocqixcig

100. Corden : zrogbq : : ? : Pxivro
    (1) mulmul   (2) sulsul
    (3) munmum   (4) srspql