



SCREENING TEST

Date:

Time: 2 Hours

CLASS: IX TO X CBSE

Max Marks: 400

IMPORTANT INSTRUCTIONS:

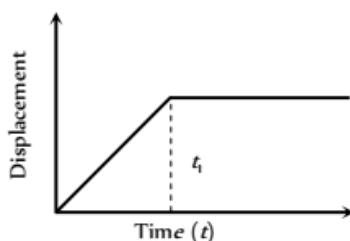
1. The test is of 2 hours duration.
2. The Test Booklet consists of 100 questions. The maximum marks are 400.
3. There are FIVE parts in the question paper : Physics, Chemistry, Mathematics, Biology and Mental Ability with 20 questions in each part, of equal weightage. Each question is allotted 4 (four) marks for correct response. No marks shall be deducted for incorrect response.
4. There is only one correct response for each question. Filling up more than one response in any question will be treated as wrong response.

PHYSICS

1. The area under acceleration - time graph gives

- a) Distance travelled b) Change in acceleration c) Force acting d) Change in velocity

2. The $x - t$ graph shown in figure represents



- a) Constant velocity b) Velocity of the body is continuously changing
c) Instantaneous velocity d) The body travels with constant speed upto time t_1 and then stops

3. A man pushes a wall and fails to displace it. He does

- a) Negative work b) Positive but not maximum work c) No work at all d) Maximum work

4. A body of mass m kg is lifted by a man to a height of one metre in 30 sec. Another man lifts the same mass to the same height in 60 sec. The work done by them are in the ratio

- a) 1 : 2 b) 1 : 1 c) 2 : 1 d) 4 : 1

5. Which of the following is a scalar quantity

- a) Displacement b) Electric field c) Acceleration d) Work

6. Two bodies of masses m_1 and m_2 have equal kinetic energies. If p_1 and p_2 are their respective momentum, then ratio $p_1 : p_2$ is equal to

- a) $m_1 : m_2$ b) $m_2 : m_1$ c) $\sqrt{m_1} : \sqrt{m_2}$ d) $m_1^2 : m_2^2$

7. A light and a heavy body have equal kinetic energy. Which one has a greater momentum?

- a) The light body b) The heavy body c) Both have equal momentum
d) It is not possible to say anything without additional information

8. The energy stored in wound watch spring is

- a) K.E b) P.E c) Heat energy d) Chemical energy

9. The kinetic energy of a body of mass 3 kg and momentum 2 Ns is

- a) 1 J b) $2/3$ J c) $3/2$ J d) 4 J

10. Which among the following, is a form of energy

- a) Light b) Pressure c) Momentum d) Power

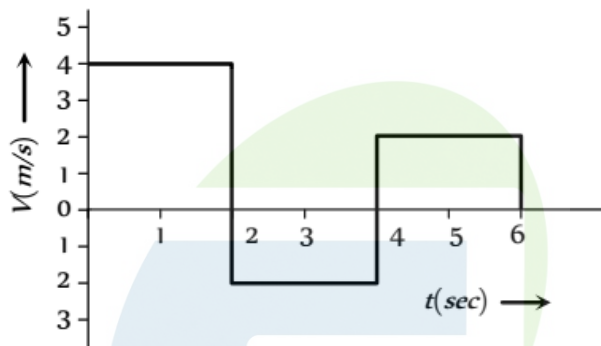
11. If a force F is applied on a body and it moves with a velocity v , the power will be

- a) $F \times v$ b) F/v c) F/v^2 d) $F \times v^2$

12. An electric motor exerts a force of 40 N on a cable and pulls it by a distance of 30 m in one minute. The power supplied by the motor (in watts) is

- a) 20 b) 200 c) 2 d) 10

13. A body moves 6 m north. 8 m east and 10 m vertically upwards, what is the resultant displacement from initial position
- a) $10\sqrt{2} \text{ m}$ b) 10 m c) $10/\sqrt{2} \text{ m}$ d) $10 \times 2 \text{ m}$
14. Which of the following is a one dimensional motion
- a) Landing of an aircraft b) Earth revolving a round the sun
c) Motion of wheels of a moving trains d) Train running on a straight track
15. The ratio of the numerical values of the average velocity and average speed of a body is always
- a) unity b) unity or less c) unity or more d) less than unity
16. The instantaneous velocity of a body can be measured
- a) Odometer b) Vectorially c) By speedometer d) None of these
17. The velocity-time graph of a body moving in a straight line is shown in the figure. The displacement and distance travelled by the body in 6 sec are respectively



- a) 8 m, 16 m b) 16 m, 8 m c) 16 m, 16 m d) 8 m, 8 m
18. If a body starts from rest and travels 120 cm in the 6 second, then what is the acceleration
- a) 0.20 m/s^2 b) 0.027 m/s^2 c) 0.218 m/s^2 d) 0.03 m/s^2
19. Acceleration of a particle changes when
- a) Direction of velocity changes b) Magnitude of velocity changes
c) Both of above d) Speed changes
20. The position of a particle moving along the x-axis at certain times is given below :

| | | | | |
|--------|----|---|---|----|
| $t(s)$ | 0 | 1 | 2 | 3 |
| $x(m)$ | -2 | 0 | 6 | 16 |

Which of the following describes the motion correctly

- a) Uniform, accelerated b) Uniform, decelerated
c) Non-uniform, accelerated d) There is not enough data for generalization

CHEMISTRY

21. 'Panch Tatva' of life.
- a) Air, god, water, mother, father b) Air, fire, earth, sky, water
c) Air, god, water, soil, crop d) Air, god, water, yield, money
22. When Potassium permagnet dissolve in water shows.....

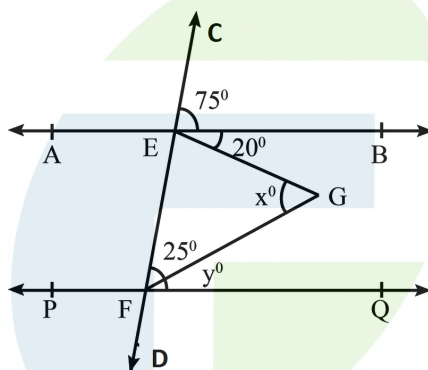
- a) Red in color b) Blue in color c) Violet in color d) Orange in color

23. With increasing kinetic energy
- a) Pressure increases
 - b) Temperature increases
 - c) Temperature decreases
 - d) Pressure decreases
24. It is state of matter
- a) Soil
 - b) Air
 - c) Water
 - d) Gas
25. Negligible compressibility.....
- a) Soil
 - b) Gas
 - c) Water
 - d) Solid
26. Liquids have no fixed shape but have
- a) Fixed velocity
 - b) Fixed value
 - c) Fixed temperature
 - d) Fixed volume
27. and gaseous are essential for the survival of aquatic animals and plants.
- a) Hydrogen, oxygen
 - b) Carbon dioxide, nitrogen
 - c) Oxygen, water
 - d) Carbon dioxide, oxygen
28. The rate of diffusion of liquids is higher than.....
- a) Soil
 - b) Liquid
 - c) Gas
 - d) Solids
29. Properties of CNG basis on volume.
- a) Large pressure of gas
 - b) Large amount of natural gas
 - c) Large amount of efficiency
 - d) Large amount of volumes of gas compressed
30. Solid carbon dioxide store under.....
- a) high temperature
 - b) high volume
 - c) high pressure
 - d) low temperature
31. Evaporation is phenomena.
- a) Adsorption
 - b) Absorption
 - c) Surface
 - d) Vapors
32. What is the name of the non-metal which exists in liquid state at room temperature?
- a) Sodium
 - b) Potassium
 - c) Mercury
 - d) Bromine
33. When the liquid is spun rapidly, the denser particles are forced to the bottom and the lighter particles stay at the top. This principle is used in:
- a) Centrifugation
 - b) Fractional distillation
 - c) Evaporation
 - d) Tunnelling
34. What is the name of the metal which exists in liquid state at room temperature?
- a) Mercury
 - b) Bromine
 - c) Sodium
 - d) Potassium
35. Which of the following elements is not a metalloid?
- a) Boron
 - b) Silicon
 - c) Germanium
 - d) Tungsten
36. In tincture of iodine, find the solute and solvent?
- a) alcohol is the solute and iodine is the solvent
 - b) iodine is the solute and alcohol is the solvent
 - c) any component can be considered as solute or solvent
 - d) tincture of iodine is not a solution

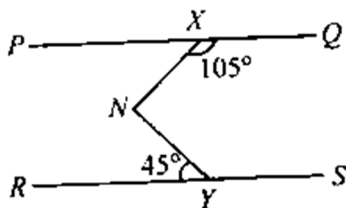
37. The continuous zig-zag movement of colloidal particles in a dispersion medium is called
- a) Dispersion b) Tyndall effect c) Brownian movement d) Oscillation
38. A pure substance which is made up of only one kind of atom and cannot be broken into two or more simpler substances by physical or chemical means is referred to as
- a) a compound b) an element c) a molecule d) a mixture
39. How one can separate ammonium chloride from a mixture containing ammonium chloride and sodium chloride?
- a) Precipitation b) Sublimation c) Chromatography d) Centrifugation
40. According to the definition of pure substance, which of the following is a pure substance?
- a) Ice b) Mercury c) Iron d) All of these

MATHS

41. In the given fig, $AB \parallel PQ$. The values of x and y respectively are

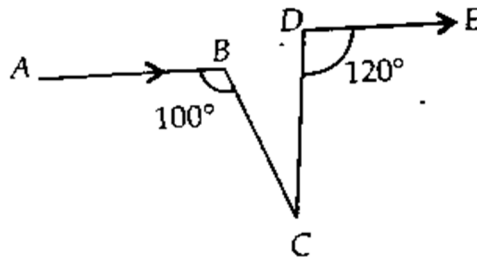


- a) $50^\circ, 70^\circ$ b) $70^\circ, 50^\circ$ c) $75^\circ, 45^\circ$ d) $20^\circ, 75^\circ$
42. In the given fig, $PQ \parallel RS$ and $\angle QXN = 105^\circ$, $\angle RYN = 45^\circ$, find $\angle XNY$.



- a) 45° b) 30° c) 60° d) 120°
43. In the fig $AB \parallel CD \parallel EF$, then the angle marked as x and y is
-
- a) $x = 155^\circ, y = 50^\circ$ b) $x = 105^\circ, y = 55^\circ$ c) $x = 145^\circ, y = 50^\circ$ d) $x = 155^\circ, y = 45^\circ$

44. In the fig, $AB \parallel DE$, then the value of $\angle BCD$ is



- a) 60° b) 40° c) 45° d) 50°
45. The length of diagonal of cube is $(14 \times \sqrt{3})$ cm. The volume of the cube is
a) $2744 \sqrt{3} \text{ cm}^3$ b) 2744 cm^3 c) 588 cm^3 d) 3528 cm^3
46. If the length, breadth and height of a cuboid are in the ratio 6 : 5 : 4 and if the total surface area is 33300 cm^2 , then the length, breadth and height (in cms) respectively are
a) 90, 85, 60 b) 85, 75, 60 c) 90, 75, 70 d) 90, 75, 60
47. The radius of a cylinder is same as that of a sphere. Their volumes are equal. The height of the cylinder is
a) $4/3$ times its radius b) $2/3$ times its radius c) equal to its radius d) equal to its diameter
48. The slant height of a cone is increased by P %. If radius remains same, the curved surface area is increased by
a) P % b) P^2 % c) 2P % d) 3P %
49. Let U be the upper class boundary of a class in a frequency distribution and M be the midpoint of the class. Which one of the following is the lower class boundary of the class?
a) $M + \frac{M+L}{2}$ b) $L + \frac{M+L}{2}$ c) $2M - U$ d) $M - 2L$
50. If \bar{x} is the mean of x_1, x_2, \dots, x_n , then for $a \neq 0$, the mean of $ax_1, ax_2, \dots, ax_n, \frac{x_1}{a}, \frac{x_2}{a}, \dots, \frac{x_n}{a}$ is
a) $\left(a + \frac{1}{a}\right) \bar{x}$ b) $\left(a + \frac{1}{a}\right) \frac{\bar{x}}{2}$ c) $\left(a + \frac{1}{a}\right) \frac{\bar{x}}{n}$ d) $\frac{\left(a + \frac{1}{a}\right) \bar{x}}{2n}$
51. Let \bar{x} be the mean of x_1, x_2, \dots, x_n and \bar{y} be the mean of y_1, y_2, \dots, y_n . If \bar{z} is the mean of $x_1, x_2, \dots, x_n, y_1, y_2, \dots, y_n$, then $\bar{z} =$
a) $(\bar{x} + \bar{y})$ b) $\frac{1}{2}(\bar{x} + \bar{y})$ c) $\frac{1}{n}(\bar{x} + \bar{y})$ d) $\frac{1}{2n}(\bar{x} + \bar{y})$
52. The mean of the following data is 11.

| | | | | | | |
|-------|----|---|----|-----|----|----|
| x_i | 13 | 5 | 7 | 19 | 11 | 13 |
| f_i | 6 | 8 | 15 | p | 8 | 4 |

- a) 11 b) 4 c) 8 d) 4.8
53. The heights (in cm) of 50 students of a class are given below:

| | | | | | | | |
|----------------|-----|-----|-----|-----|-----|-----|-----|
| Height (in cm) | 156 | 154 | 155 | 151 | 157 | 152 | 153 |
| No of students | 8 | 4 | 10 | 6 | 7 | 3 | 12 |

One student is selected at random. Then the probability that his minimum height is 157 cm is
a) $3/50$ b) $2/25$ c) $8/25$ d) $7/50$

54. If $\frac{10}{100}, \frac{13}{100}, \frac{15}{100}, \frac{18}{100}, \frac{x}{100}, \frac{30}{100}$ are the probabilities of 6 observations, then the value of x is
 a) 12 b) 13 c) 14 d) 15
55. An event containing only a single element of the sample space is called a ____
 a) simple event b) compound event c) impossible event d) none of these
56. The probability of getting at least one tail in 4 throws of a coin is ____
 a) 15/16 b) 15/24 c) 1/4 d) 16/15
57. Points (1, 2), (-2, -3), (2, -3) is
 a) First quadrant b) Do not lie in the same quadrant c) Third quadrant d) Fourth quadrant
58. The point which lies on the y-axis at a distance of 5 units in the negative direction of the y-axis is
 a) (5, 0) b) (0, 5) c) (-5, 0) d) (0, -5)
59. What is the distance of the point (3, 2) from the Y axis?
 a) 2 units b) 3 units c) 5 units d) 6 units
60. The points $A(-a, -a), B(a, -a), C(a, a)$ and $D(-a, a)$ form a polygon. Where does the origin lie?
 a) on the vertex of the polygon b) on the side of the polygon
 c) outside the polygon d) At the point where the diagonals of the polygon meet
- BIOLOGY**
61. Eukaryotic cells size generally
 a) 1-100 mm b) 5-100mm c) 5mm d) 1000mm
62. Chromosomes are composed of
 a) carbohydrate and protein b) DNA and RNA c) DNA and proteins d) RNA and fats
63. The barrier between the protoplasm and the outer environment in an animal cell is?
 a) Animal cell b) Plasma membrane c) Plant cell d) nuclear membrane
64. Which of the following maintains the basic structure (shape) of the plant cell after shrinkage of the cell content during plasmolysis?
 a) Nucleus membrane b) cell wall c) plastids d) Vacuole
65. _____ are membrane - bound sacs filled with digestive enzymes. These enzymes are made by RER
 a) lysosomes b) Golgi apparatus c) mitochondria d) plastids
66. _____ cells have more than one chromosome
 a) nucleus b) prokaryotic cells c) eukaryotic cells d) lysosomes
67. The complete breakdown of glucose in presence of oxygen in the cell takes place?
 a) Mitochondria b) Chloroplast c) Ribosome d) Lysosomes
68. Lysosomes stores?
 a) DNA b) Fats c) RNA d) Hydrolytic enzymes

a) Adenosine triphosphate
b) Amino triphosphate
c) Amino tri- glycerophosphate
d) Adenosme tri- phosphoglyceride

a) Mitochondria b) Nucleus membrane c) Plasma membrane d) Golgi apparatus

a) RER b) SER c) RNA d) DNA

a) Mitochondria b) Vacuole c) Muscle cell d) liver cell

a) 1665 b) 1995 c) 1885 d) 1775

a) Human b) Single cell c) Bacteria d) Tissue

a) Texture b) Shape c) Function d) chemical

a) Reverse Osmosis b) Diffusion c) Transportation d) Circulation

a) Reverse Osmosis b) Diffusion c) Transportation d) Circulation

a) 5-10% b) 20-25% c) 30-50% d) 50-90 %

a) Cellulose b) Carbohydrates c) Minerals d) Lipids

a) Cytoplasm b) Vacuole c) Proteins d) Chromosomes

81. In question there is a number series with one term missing shown by question mark (?). This term is one of the alternatives among the four numbers given under it. That number is 8, 7, 16, 5, 32, 3, 64, 1, 128, (?)

a) 18 b) 13 c) -1 d) 3

82. This question consists of a number series which contains a wrong term. This term is given as one of the four alternatives among the four numbers given below. The wrong term is 6, 8, 9, 12, 14, 18, 22, 26, 30

a) 12 b) 22 c) 26 d) 30

83. This question consists of four groups. One set is different from other three in someway. Find out the different set -

- a) GEDC b) AZYX c) PNML d) USRQ

84. In the following question there is a letter series with one term missing shown by (?). Find this term and encircle its serial DOZ, GRC, (?), ALW, BMX

- a) BGL b) LWH c) DLT d) GJM

85. Find out the correct alternative of the question based on the Dice figures.



The number opposite side the face having the no. 5 will be

- a) 1 b) 2 c) 3 d) 4

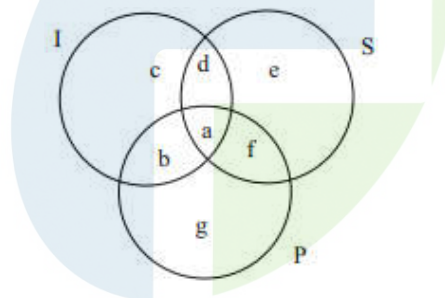
86. Shankar is father of 'B' but 'B' is not son of Shankar then what is the relationship of 'B' to Shankar?

- a) Grand Daughter b) Mother c) Daughter d) Grand son

87. Find out the missing one from the given alternative. $03 : 10 :: 08 : (?)$

- a) 17 b) 16 c) 14 d) 13

88. In the following diagram "I" represents Indians 'S' represent scientists and 'P' represents Politicians.



Indians those are politicians but not scientist will be

- a) a b) b c) d d) f

89. Two sets of the figures are given. One set of Question-figures and another set is of Answer-figures. Question-figures are arranged in sequence. One figure from the Answer figures is to be selected such that it can be placed after the series of Question-figures. Find the correct Serial number of the selected Answer-figure.



- a) b) c) d)

90. In the following questions visualize the image of the correct item



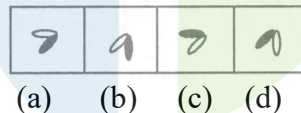
- a) b) c) d)

91. In certain language, if 1 is coded as A, 2 as B, 3 as C, and so on, how is PINNAACLE coded in that code?
 a) 123456789 b) 987654321 c) 1691414113125 d) 5213114141961
92. 4 mangoes = 5 apples, 5 apples = 10 bananas. So instead of buying 2 mangoes, how many bananas are available?
 a) 5 b) 10 c) 2 d) 4
93. If CAT is code as 3, 1, 2 then MAT will be coded as?
 a) 4,1, 2 b) 5,1,2 c) 3,1,2 d) None
94. If air is called blue, blue is called water, water is called green, green is called white, which of the following does fish live in?
 a) Water b) Blue c) Green d) White
95. If 'A' means '+', 'B' means '-', 'C' means 'x', 'D' means '/' then what is the value of 3 A 6 D 3 C 2 B 12 =?
 a) 10 b) 1 c) 0 d) -5
96. If X is the brother of the son of the son of y's son, how is X related to Y?
 a) Son b) Cousin c) Grandson d) Brother
97. A walks 20 meters towards North and then 20 meters to his left. Then every time turning to his right, he walks 20, 20 and 20 meters respectively. How far is he now his starting point?
 a) 80 b) 60 c) 40 d) 20

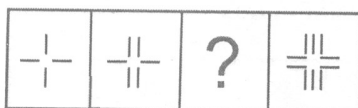
98. Problem Figure



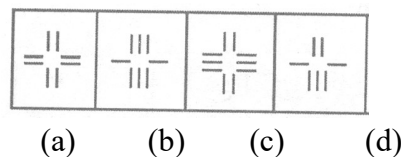
Answer Figure



99. Problem Figures

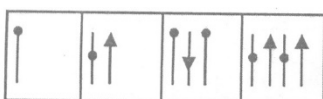


Answer Figures



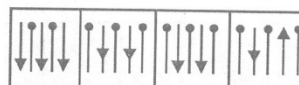
100. The following problems, contains four Problem Figures marked 1, 2, 3, and 4 and four Answer Figure marked a, b, c and d. Select a figure from amongst the Answer figures which will continue the same series as given in the Problem Figures.

Problem Figures



1 2 3 4

Answer Figures



(a) (b) (c) (d)

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586
KALAVANI



583
SHEIK ABDULLA



568
KAVIMALAR NAYAGI



568
MONIKARATNA



567
J.SAI MITESH



565
DEEBAN



564
SHALINI PRIYA



562
SABARINATHAN



562
K. VIJAY



556
THILAVAAAMAN



555
THAMILIZH INIYAR



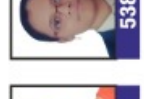
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BLESSINGTON



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VAKJITHAA



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ISWARYA LAKSHMI



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VIRUSHNITHA



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THARANI PRIYA



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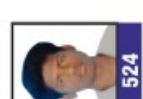
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504
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99.43
SHYAMA MISHRA



98.82
KAVYA DHANASHINI



96.58
SASIDEV



95.99
PIHANESI



95.63
GANKEEY PRASANTHI



95.46
NACHU BALAN



95.46
RAKESH



94.40
BHARGAVI KUMARI



93.54
YOGAKEERTHINI



93.50
RAHUL RAJU V



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NAVIENT KUMAR



92.27
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