

INSTRUCTIONS**NUMBER OF QUESTIONS : 100****TIME : 2 Hrs**

1. ATTEMPT ALL QUESTIONS WITHIN THE TIME.
2. EACH QUESTION CARRIES 1 MARK
3. NO NEGATIVE MARKS.
4. DON'T DO ROUGH WORK ON QUESTION PAPER AND OMR.
5. USE BLACK (OR) BLUE PEN FOR BUBBLING ON OMR.

CORRECT METHOD OF BUBBLING

1



3

4

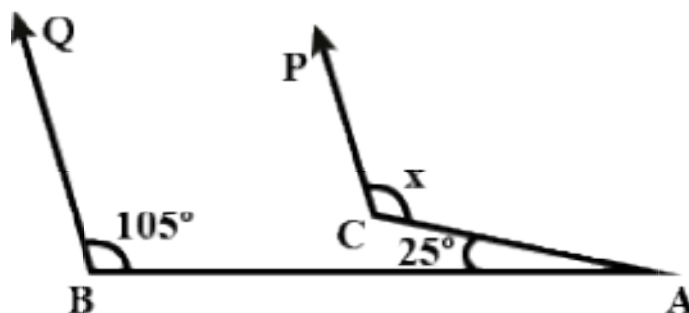
WRONG METHOD OF BUBBLING



INTO 10TH CLASS STATE

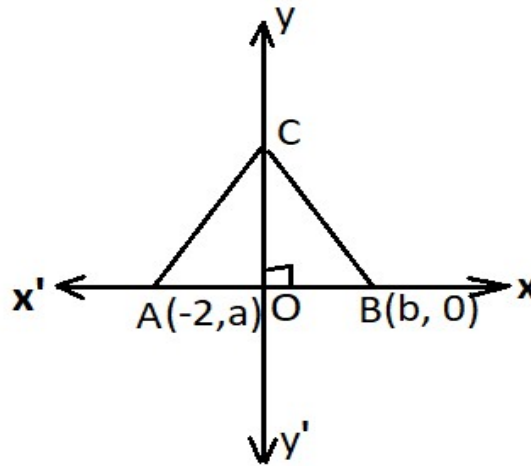
MATHEMATICS

1. Simplest rationalising factor of $\sqrt[5]{125}$
 - 1) $\sqrt[5]{2}$
 - 2) $\sqrt{5}$
 - 3) $\sqrt[4]{5}$
 - 4) $\sqrt[5]{25}$
2. In the given figure, if $CP \parallel BQ$, then measure of x is

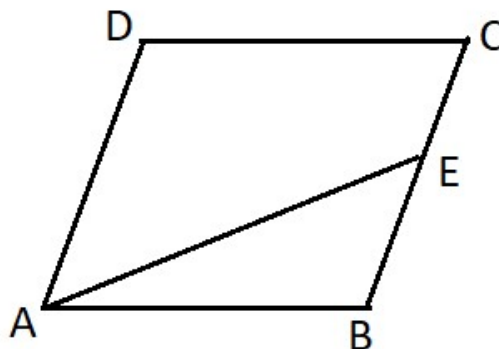


- 1) 130°
 - 2) 105°
 - 3) 175°
 - 4) 125°
3. Let α, β be the zeroes of the quadratic polynomial $x^2 + ax + b$ and γ, δ be the zeroes of the polynomial $x^2 - ax + b - 2$. Given that $\frac{1}{\alpha} + \frac{1}{\beta} + \frac{1}{\gamma} + \frac{1}{\delta} = \frac{5}{12}$ and $\alpha\beta\gamma\delta = 24$. Then the value of the coefficient a is _____
 - 1) 4
 - 2) -3
 - 3) 0
 - 4) 5
4. If $\frac{1}{7+4\sqrt{3}} + \frac{1}{2+\sqrt{5}} = a + b\sqrt{3} - c\sqrt{5}$ then find the value of $\frac{a^3 + b^3 + c^3}{3abc}$
 - 1) 1
 - 2) -1
 - 3) 0
 - 4) 2

5. On the Cartesian plane, Find the area of $\triangle ABC$. If $OC = 2$ units point A, B are equal distance from 'origin'



- 1) 2sq unit 2) 4sq unit 3) 5sq unit 4) 3sq unit
-
6. The degree of the polynomial $5t - \sqrt{7}$ is _____
- 1) -1 2) 2 3) 1 4) 0
-
7. Calculate the value of $\frac{1}{1-\sqrt[4]{2}} + \frac{1}{1+\sqrt[4]{2}} + \frac{2}{1+\sqrt{2}}$
- 1) 4 2) -4 3) 0 4) -1
-
8. The value of the polynomial $5x - 4x^2 + 3$ at $x = -\frac{1}{5}$ is _____
- 1) $\frac{46}{5}$ 2) $\frac{56}{5}$ 3) $\frac{36}{23}$ 4) $\frac{46}{25}$
-
9. If $x^{\frac{1}{3}} + y^{\frac{1}{3}} + z^{\frac{1}{3}} = 0$ then $x + y + z =$ _____
- 1) 0 2) 1 3) $3\sqrt[3]{xyz}$ 4) xyz
-
10. In the given figure $\overline{AB} \parallel \overline{CD}$ and $\overline{BC} \parallel \overline{AD}$, \overline{AE} is bisector of $\angle DAB$ meet BC at E such that $CE : EB = 1 : 2$. Then $AD =$ _____ AB .

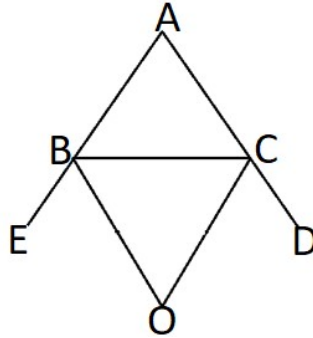


- 1) $\frac{1}{2}$ 2) $\frac{2}{3}$ 3) $\frac{3}{2}$ 4) 2

11. If $S = \frac{1}{\frac{1}{1980} + \frac{1}{1981} + \dots + \frac{1}{1997}}$. What is the integer part of S?

- 1) 1997 2) 10 3) 110 4) 1980

12. In the adjacent figure the sides AB and AC of ABC are produced to point E and D respectively. If bisectors BO and CO of $\angle CBE$ and $\angle BCD$ respectively meet of a point O, then



- 1) $90^\circ - \frac{1}{2}\angle BAC = \angle BOC$ 2) $90^\circ + \frac{1}{2}\angle BAC = \angle BOC$
 3) $180^\circ - \frac{1}{2}(\angle BAC) = \angle BOC$ 4) $\angle BOC = 90^\circ$

13. Euclid divided his famous treatise “The Elements” into:

- 1) 13 chapters 2) 12 chapters 3) 11 chapters 4) 9 chapters

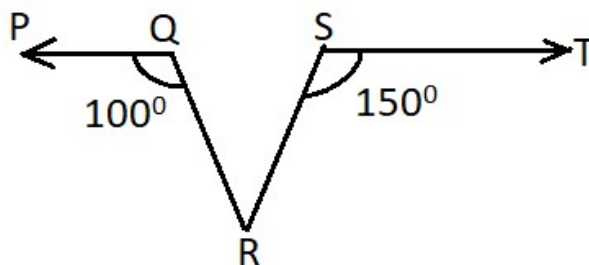
14. If $f\left(x - \frac{1}{x}\right) = x^2 + \frac{1}{x^2}$, then the remainder when $f(x)$ is divided by $(x - 3)$ is _____

- 1) 10 2) 11 3) 7 4) $\frac{82}{9}$

15. A solution of linear equation $0x - 2y + 11 = 0$. In two variables is of the form

- 1) $\left(K, \frac{11}{2}\right)$ 2) $\left(m, \frac{-11}{2}\right)$ 3) $(m, 11)$ 4) $(m, -11)$

16. $\overline{QP} \parallel \overline{ST}$, $\angle PQR = 100^\circ$, $\angle RST = 150^\circ$, $\angle QRS =$ _____



- 1) 60° 2) 70° 3) 80° 4) 90°

17. Evaluate $\frac{1}{1 \times 2 \times 3} + \frac{1}{2 \times 3 \times 4} + \dots + \frac{1}{100 \times 101 \times 102}$

1) $\frac{25}{103}$

2) 1

3) $\frac{2575}{10302}$

4) $\frac{1423}{2020}$

18. Find the co-ordinates of point whose ordinate is $-2\frac{1}{4}$ and abscissa is $-1\frac{2}{3}$

1) $\left(-\frac{1}{3}, -\frac{7}{3}\right)$

2) $\left(\frac{1}{3}, \frac{7}{3}\right)$

3) $\left(-\frac{5}{3}, -\frac{9}{4}\right)$

4) $\left(\frac{5}{3}, \frac{9}{4}\right)$

19. On plotting the points $C(-3,0), A(3,0), B(0,4)$ and joining CB, AB . Which of the following figure is formed.

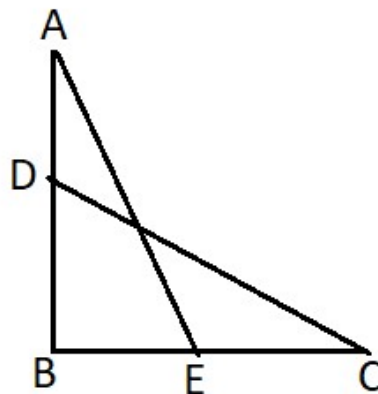
1) Equilateral tringle

2) Only right angled triangle

3) Acute angled triangle

4) Right isosceles triangle

20. In the following diagram $AB \perp BC$. D and E an points on points AB and BC respectively, such that $BA + AE = BD + DC$. It is know that $AD = 2, BE = 3$ and $EC = 4$. Find $BA + AE$



1) 5

2) 8

3) 9

4) 10

21. (m, n) is a pair of positive integers such that

i) $m < n$

ii) their g.c.d is 2003

iii) m, n are both 4 digit numbers. The no. of such ordered pairs is _____

1) Zero

2) 3

3) 4

4) 5

22. If $x = (-1) + 1 + (-1) + \dots + (-1) + 1$ (100 terms) and

$y = 1 + (-1) + 1 + (-1) + \dots + 1$ (201 terms) then find $x - y =$ _____

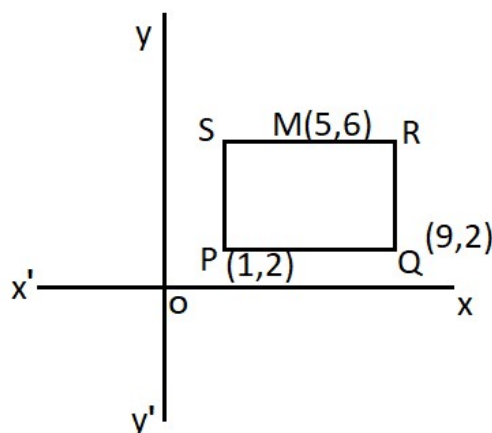
1) 0

2) 1

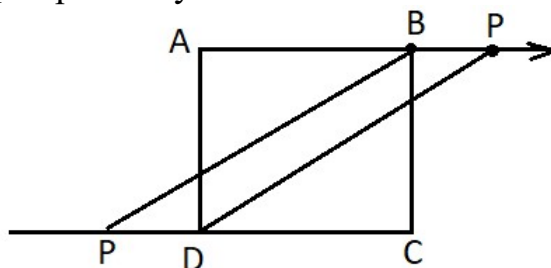
3) -1

4) 2

23. The given figure shows a rectangle on a Cartesian plane M is the midpoint of SR. Find the co-ordinates of S



- 1) (9,6) 2) (1,6) 3) (10,6) 4) (2,6)
24. Find the zero of the polynomial $p(x) = (2x + 5)^2$ is _____
- 1) 2 2) $\frac{5}{2}$ 3) $-\frac{5}{2}$ 4) $-\frac{1}{2}$
25. A bill for ₹40 is paid by means of ₹5 notes and ₹10 notes seven notes are used in all. If x is the number of ₹5 notes and y is the number of ₹10 notes, then
- 1) $x + y = 7$ and $x + 2y = 40$ 2) $x + y = 7$ and $x + 2y = 8$
- 3) $x + y = 7$ and $2x + y = 8$ 4) $x + y = 7$ and $2x + y = 40$
26. If $x^2 - 3x + 1 = 0$ Then $\frac{x^7 - x^5 + x^3}{x^5} = ?$
- 1) 4 2) 6 3) 8 4) 9
27. The number of consecutive zeroes in $2^3 \times 5^3 \times 7 \times 8 \times 125$ is _____
- 1) 3 2) 4 3) 5 4) 6
28. If $x = -3$ and $y = 2$ is the solution of the equation $3x + 5y = -k$. Identify the value of $K + k^2 + k^3 + \dots + k^{100}$
- 1) 1 2) -1 3) 2 4) 0
29. In the given figure bisectors of $\angle B$ and $\angle D$ of a quadrilateral ABCD meet CD and AB produced to P and Q respectively. Then which of the following is true?

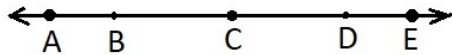


- 1) $\angle P + \angle Q = \angle ABC + \angle ADC$ 2) $\angle P + \angle Q = \frac{1}{2}(\angle ABC + \angle ADC)$
- 3) $\angle P - \angle Q = [\angle ABC + \angle ADC]$ 4) $\angle P - \angle Q = \frac{1}{2}(\angle ABC + \angle ADC)$

30. The statement “a circle is bisected by its diameter” this is proved at first by _____

- 1) Thales 2) Euclid 3) Aryabhatta 4) Boudhayana

31. If $AE = 14$ and $AC - BD + CE = 8$ then $BD =$ _____



- 1) 6 2) 8 3) 2 4) 5

32. Given that $f(x)$ is a polynomial of degree 3, and its remainders are

$2x - 5$ and $-3x + 4$ when divided by $x^2 - 1$ and $x^2 - 4$ respectively then $f(-3) =$

- 1) Zero 2) 82 3) 91 4) 53

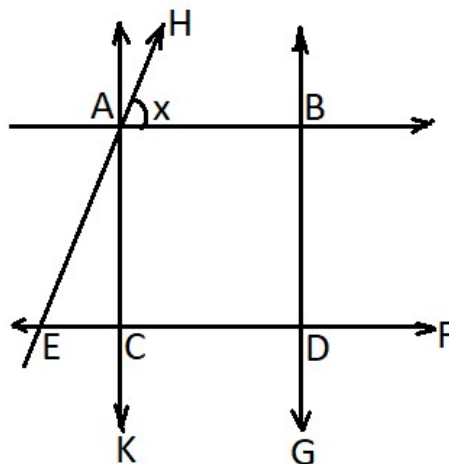
33. If $\frac{(a-b)(c-d)}{(b-c)(d-a)} = \frac{2016}{2017}$ find the value of $\frac{(a-c)(b-d)}{(a-b)(c-d)}$

- 1) -201 2) $\frac{1}{2015}$ 3) $\frac{-1}{2016}$ 4) $\frac{1}{2016}$

34. One of the factor of $\frac{25}{4}x^2 - \frac{y^2}{9}$

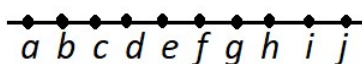
- 1) $\frac{15x+2y}{6}$ 2) $\left(\frac{5x}{4} - \frac{y}{9}\right)$ 3) $5x + y$ 4) $5x - y$

35. In the given figure $AB \parallel CD$ and $AC \parallel BD$. If $\angle EAC = 40^\circ$, $\angle FDG = 55^\circ$, $\angle HAB = x^\circ$, then the value of x is



- 1) 85° 2) 55° 3) 125° 4) 95°

36. Number of possible line segments are formed by the given 10 points in the following figure



- 1) 10 2) 90 3) 55 4) 45

37. One rational number between 3 and 4

- 1) $\frac{10}{2}$ 2) $\frac{7}{2}$ 3) $\frac{11}{2}$ 4) $\frac{12}{2}$

38. Suppose $a + x^2 = 2006, b + x^2 = 2007, c + x^2 = 2008$ and $abc = 3$, find the value of

$$\frac{a}{bc} + \frac{b}{ca} + \frac{c}{ab} - \frac{1}{a} - \frac{1}{b} - \frac{1}{c} = ?$$

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

39. Determine the quadrants in which $M(x, y)$ can be situated if $x + y = 0$

- 1) Either Q_1 or Q_2 2) Either Q_3 or Q_4 3) Either Q_4 or Q_3 4) Either Q_2 or Q_1

40. If $P(x) = x^4 + ax^3 + bx^2 + cx + d$ is a polynomial such that $P(1) = P(2) = P(3) = 0$.

Compute the value of $P(4) + P(0)$

- 1) -1 2) 12 3) 24 4) Zero

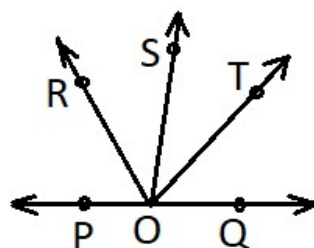
41. If the two arms of one angle are respectively perpendicular to the two arms of another angle then the two angles are _____ or _____

- 1) Equal, perpendicular 2) Not equal, perpendicular
3) Not equal, supplementary 4) Equal, supplementary

42. In a row of 21 girls when monika was shifted by 4 places towards the right, she became 12th from the left end. What was her earlier position from the right end of the row

- 1) 9th 2) 10th 3) 11th 4) 14th

43. In the adjacent figure ray OS stands on a line PQ. Ray OR and ray OT are angle bisectors of $\angle POS$ and $\angle SOQ$ respectively. Then $\angle ROT =$ _____

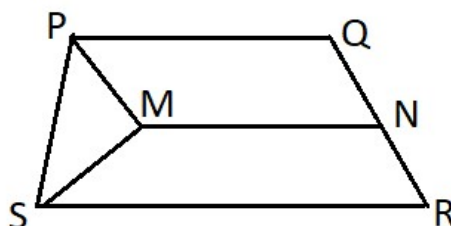


- 1) 45° 2) 135° 3) 90° 4) 80°

44. The point which lies on the y-axis at a distance of "7" units in the negative direction of y-axis is _____

- 1) (7,0) 2) (0,-7) 3) (-7,0) 4) (0,0)

45. In the given figure, PQRS is an isosceles trapezium and $\overline{PQ} \parallel \overline{SR} \parallel \overline{MN}$. If $\angle SPM = 70^\circ$ and $\angle PQR = 110^\circ$, then find $\angle PMN$.



- 1) 140° 2) 150° 3) 120° 4) 100°

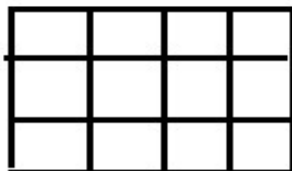
46. The graph of the linear equation $4x + 3y = 24$ meet y -axis at _____

- 1) $(-6, 0)$ 2) $(6, 0)$ 3) $(0, 8)$ 4) $(0, -8)$

47. A bamboo of height 49 ft was broken (but not detached) at some height, the top of the broken part fallen touches the ground 21 ft away from the foot of the bamboo. At what height was the bamboo broken?

- 1) 15ft 2) 20ft 3) 10ft 4) 28ft

48. Number of possible squares in a rectangle of dimensions 3×4 is _____



- 1) 20 2) 16 3) 10 4) 12

49. If $x < 0, y > 0$ then $P(-x, -y) \in$ _____ quadrant.

- 1) first 2) second 3) third 4) fourth

50. The value of $0.\overline{2} \times 0.\overline{5}$ is _____

- 1) 1 2) $\frac{10}{9}$ 3) $\frac{10}{81}$ 4) $\frac{10}{99}$

ARITHMETIC AND LOGICAL REASONING QUESTIONS:

51. Pointing out to a lady. Rajan said, "She is the daughter of the woman who is the mother of the husband of my mother. "Who is the lady to Rajan?

- 1) Aunt 2) Grand-daughter 3) Daughter 4) Sister

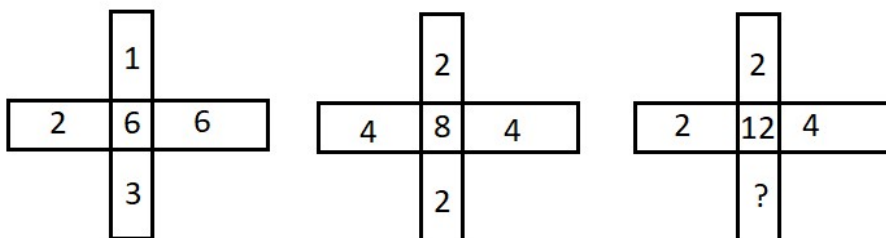
52. There are five friends A, B, C, D and E, D is not as tall as A, A is taller than C but shorter than B. E is shorter than C. No two are equal in height. Who is the tallest?

- 1) A 2) B 3) C 4) D

53. Going 90m to the South, Gaurav turns left and goes another 35m. Then turning to the North, goes 60m and then turning to his right and goes 25m. How far is he now from his starting point and in which direction?

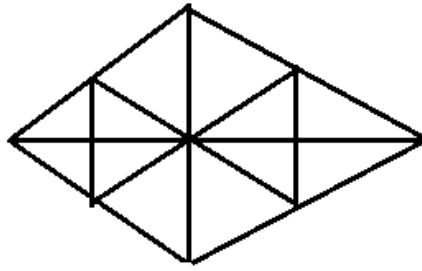
- 1) $30\sqrt{5}m, North - East$ 2) $30\sqrt{5}m, South - East$
3) $38m, South$ 4) $40\sqrt{3}m, North - West$

54. Find the missing character from the given alternatives.



- 1) 3 2) 5 3) 7 4) 9

55. Count the number of triangles in the following figure.



- 1) 16 2) 22 3) 28 4) 32

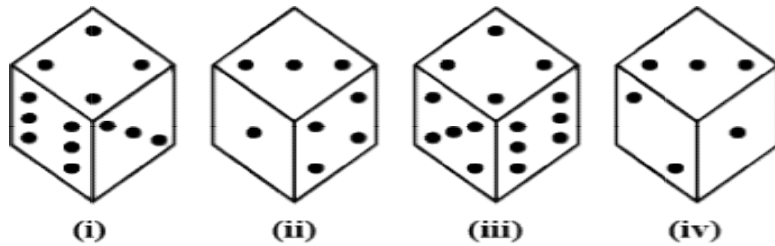
56. Find the mirror image of the following combination of letters.

MAGAZINE

- 1) ENISAGAM 2) ENIZAGAM 3) MAGAZINE 4) MAGASINE

57. The four different positions of a dice are given below.

How many dots are there on the face opposite the face with three dots?



- 1) 2 2) 4 3) 5 4) 6

58. Choose the wrong term in the given series.

ABZ, BCY, CDX, EFW, EFV

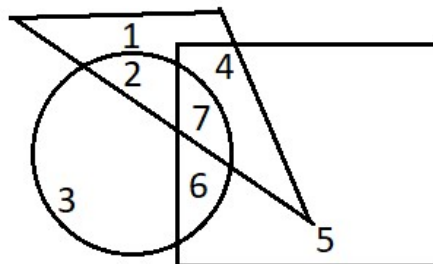
- 1) BCY 2) CDX 3) EFV 4) EFW

59. Find out the missing term marked with ‘?’

-4, 7, 29, 62, ?

- 1) 95 2) 106 3) 62 4) 102

60. If ambitious is equivalent to circle, females to triangle and sincere to rectangle. Which number will represent female members who are sincere but not ambitious?



- 1) 3 2) 4 3) 5 4) 6

PHYSICS

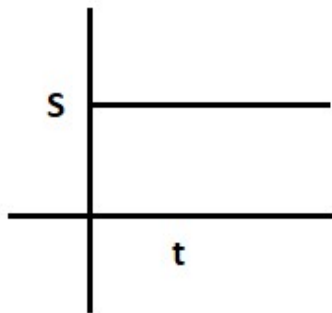
61. What is speed?

- 1) The distance travelled divided by the time taken
- 2) The rate of change of position
- 3) The displacement divided by the time taken
- 4) The distance travelled times the time taken

62. A car accelerates from rest at a rate of 4m/s^2 . What is the speed of the car after 5 seconds?

- 1) 20 m/s 2) 25 m/s 3) 40 m/s 4) 50m/s

63.



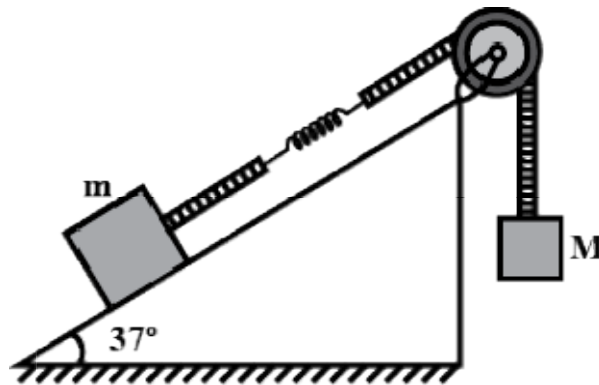
The graph represents

- 1) Uniform motion
- 2) Non-uniform motion
- 3) No motion
- 4) Constant motion

64. What is the property of an object that resists a change in its state of motion?

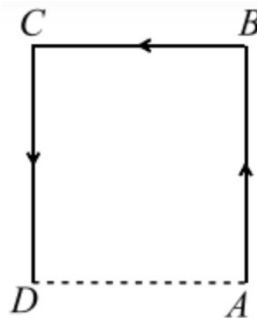
- 1) Weight 2) Inertia 3) Velocity 4) Acceleration

65. A block of mass m is attached with a massless spring of force constant k . The block is placed over a rough inclined surface for which the coefficient of friction is $\mu = \frac{3}{4}$. The minimum value of M required to move the block up the plane is (Neglected mass of string and pulley and friction in pulley)

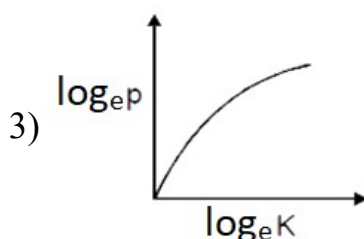
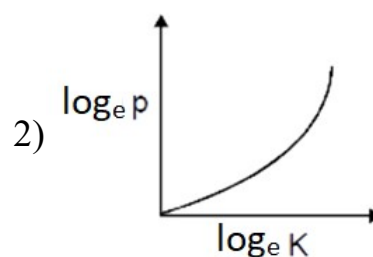
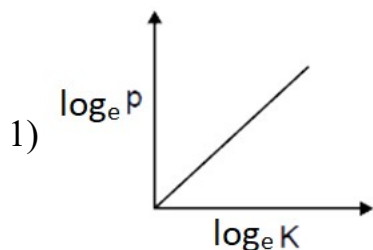


- 1) $2m$ 2) $\frac{6m}{5}$ 3) $\frac{4m}{5}$ 4) $\frac{3m}{5}$

66. What provides the centripetal force for the motion of the moon around the earth?
- 1) The gravitational force of the Sun
 - 2) The gravitational force of the moon
 - 3) The force of attraction of the earth
 - 4) The force of attraction of the Sun
67. Why does cork float while a nail sinks in water?
- 1) Cork has a lower density than water, while a nail has a higher density than water
 - 2) Cork has a higher density than water, while a nail has a lower density than water
 - 3) Cork and a nail have the same density as water, but cork is less dense than a nail
 - 4) Cork and a nail have the same density as water, but a nail is more dense than cork.
68. Six stars of equal mass m moving about the centre of mass of the system such that they are always on the vertices of a regular hexagon of side length a . Their common time period of revolution around centre will be
- 1) $4\pi\sqrt{\frac{a^3}{Gm}}$
 - 2) $2\pi\sqrt{\frac{4\sqrt{3}a^3}{Gm(5\sqrt{3}+4)}}$
 - 3) $2\pi\sqrt{\frac{3a^3}{Gm(5\sqrt{3}+4)}}$
 - 4) $2\pi\sqrt{\frac{3a^3}{Gm(5\sqrt{3}-4)}}$
69. A particle moves along the sides AB, BC, CD of a square of side 25m with a velocity of 15m/s. Its average velocity is



- 1) 15 m/s
 - 2) 10 m/s
 - 3) 7.5 m/s
 - 4) 5 m/s
70. A man pulls a bucket of water from a depth of h from a well. If the mass of the rope and that bucket of water is m and M respectively, the work done by the man is.
- 1) $(M + m)gh$
 - 2) $\left(\frac{M + m}{2}\right)gh$
 - 3) $\left(M + \frac{m}{2}\right)gh$
 - 4) $\left(\frac{M}{2} + m\right)gh$
71. Which of the following graphs represents the graphical relation between momentum (p) and kinetic energy (K) for a body in motion?

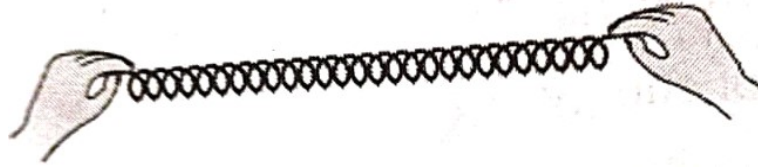


4) None of these

72. Three uniform sphere of mass M and radius R each are kept in such a way that each touches the other two. The magnitude of gravitational force on any of the spheres due to other two is

1) $\frac{\sqrt{3}}{4} \frac{GM^2}{R^2}$ 2) $\frac{3}{2} \frac{GM^2}{R^2}$ 3) $\frac{\sqrt{3}GM^2}{R^2}$ 4) $\frac{\sqrt{3}GM}{R^2}$

73. Which type of energy stored in the given object in the below figure?

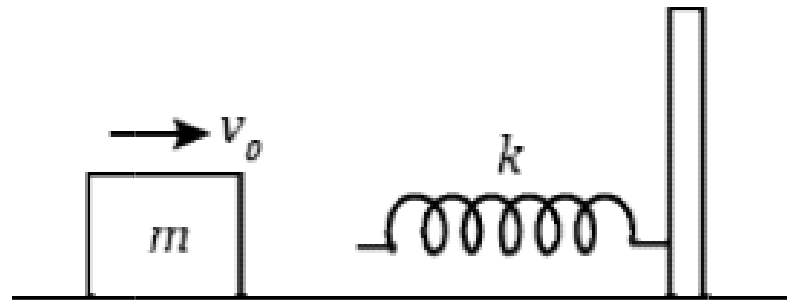


- 1) Kinetic energy 2) Potential energy 3) Thermal energy 4) Force

74. What is kinetic energy?

- 1) Energy possessed by an object due to its position
 2) Energy possessed by an object due to its motion
 3) Energy possessed by an object due to its temperature
 4) Energy possessed by an object due to its chemical composition

75. A block of mass is thrown with a velocity v_0 towards a spring as shown in figure. Initially, the block is at a distance L from the spring and the spring is in its natural length, The coefficient of friction between the block and the ground is $\mu = ax$, where a is a constant and x is the distance travelled. Find value of v_0 such that the maximum compression in the spring is L .



1) $\left[\frac{kL^2}{m} + 2aL^2g \right]^{1/2}$ 2) $\left[\frac{kL^2}{m} + aL^2g \right]^{1/2}$ 3) $\left[\frac{kL^2}{m} + 4aL^2g \right]^{1/2}$ 4) $\left[2\frac{kL^2}{m} + aL^2g \right]^{1/2}$

76. Imagine a light planet revolving around a very massive star in a circular orbit of radius 'r' with a period of revolution T . On what power of r . Will the square of time period depend. If the gravitational force of attraction between the planet and the star is proportional to $r^{\frac{5}{2}}$

- 1) $7/2$ 2) 1 3) $5/7$ 4) $5/2$

77. Two bodies of different masses are dropped from heights h_1 and h_2 above the ground. One reaching the ground, they have equal moments. The ratio of their kinetic energies on reaching the ground will be
- 1) $h_1 : h_2$ 2) $\sqrt{h_1} : \sqrt{h_2}$ 3) $h_2 : h_1$ 4) $\sqrt{h_2} : \sqrt{h_1}$
78. A person A of mass 80kg runs up a stair case in 12s. Another person B of mass 60kg runs up the same staircase in 10 s. The ratio of average power of A to that of B is
- 1) $\frac{6}{5}$ 2) $\frac{5}{3}$ 3) $\frac{10}{9}$ 4) $\frac{4}{3}$
79. A ball of mass 150g starts moving with an acceleration of $20m / s^2$. When hit by a force, which acts on it for 0.1 sec. The impulsive force is
- 1) 0.5 N-s 2) 0.1 N-s 3) 0.3 N-s 4) 1.2 N-s
80. A man is 25m behind a bus. When bus starts accelerating at $2m / s^2$ and man starts moving with constant velocity of 10m/s. Time taken by him to board the bus is
- 1) 2 s 2) 3 s 3) 4 s 4) 5 s

CHEMISTRY

81. When we put some crystals of potassium permanganate in a beaker containing water, we observe that after sometime whole water has turned pink. This is due to
- 1) Boiling 2) Melting of potassium permanganate crystals
3) Sublimation of crystals 4) diffusion
82. What is the term used to describe the phase change as a liquid becomes a solid?
- 1) Evaporation 2) Condensation 3) Freezing 4) Sublimation
83. Dry ice is
- 1) Ice having no water of crystallization 2) Ice that has been dried
3) Solid carbon dioxide 4) liquid carbon dioxide
84. Which one will help to accelerate the process of evaporation of a liquid kept in an open china dish?
- 1) Keeping dish in open 2) Blowing air into the liquid
3) Keeping the dish under a running fan 4) All the above
85. Which of the following substance(s) can sublime?
- a) Camphor
b) Solid carbon dioxide
c) Ammonium chloride
d) Sodium bicarbonate
- 1) a, b only 2) b, c only 3) a, b, c only 4) b, c, d only

86. Select the one that is not a matter
 1) Feeling of hot 2) Smoke 3) Humidity 4) Water
-
87. Student visited a Natural Gas Compressing Unit. He found that a gas can be liquefied under specific conditions of temperature and pressure. While sharing his experience with his friends, he got confused. Can you help him to identify the correct set of conditions?
 1) Low temperature and low pressure 2) High temperature and low pressure
 3) Low temperature and high pressure 4) High temperature and high pressure
-
88. During summers, water kept in an earthen pot becomes cooler after some time. Which phenomenon leads to the cooling of water in an earthen pot?
 1) Diffusion 2) Transpiration 3) Osmosis 4) Evaporation
-
89. Which of the following represents the correct arrangement of substances arranged in an increasing order of “forces of attraction” between their particles?
 1) Water, air, wind 2) Air, sugar, oil
 3) Oxygen, water, sugar 4) Salt, juice, air
-
90. 25°C , 38°C and 66°C can be converted to Kelvin scale respectively?
 1) 298K , 311K and 339K 2) 298K , 300K and 338K
 3) 273K , 278K and 543K 4) 298K , 310K and 338K
-
91. Identify the conditions where the distance between the molecules of hydrogen gas will increase?
 i) Increasing the pressure on hydrogen gas contained in a closed container.
 ii) Leaking some hydrogen out of the container.
 iii) Increasing the volume of the container.
 iv) Addition of hydrogen gas to the container without increasing the volume of the container.
 1) (i) and (iii) 2) (i) and (iv) 3) (ii) and (iii) 4) (ii) and (iv)
-
92. Match the following
- | Column I | Column II |
|------------|--------------|
| A) Steel | (p) Mixture |
| B) Air | (q) Compound |
| C) Water | (r) Alloy |
| D) Diamond | (s) Element |
- 1) $(A) \rightarrow (r); (B) \rightarrow (p); (C) \rightarrow (q); (D) \rightarrow (s)$
 2) $(A) \rightarrow (p); (B) \rightarrow (r); (C) \rightarrow (q); (D) \rightarrow (s)$
 3) $(A) \rightarrow (q); (B) \rightarrow (r); (C) \rightarrow (s); (D) \rightarrow (p)$
 4) $(A) \rightarrow (r); (B) \rightarrow (s); (C) \rightarrow (p); (D) \rightarrow (q)$
-

93. Match the following

Column I

(Colloids)

A) Foam

B) Emulsion

C) Smoke

D) Suspension

Column II

(Examples)

(p) Whipped cream

(q) Cough syrup

(r) Particulates in smog

(s) Milk

1) $(A) \rightarrow (r); (B) \rightarrow (p); (C) \rightarrow (q); (D) \rightarrow (s)$

2) $(A) \rightarrow (p); (B) \rightarrow (r); (C) \rightarrow (q); (D) \rightarrow (s)$

3) $(A) \rightarrow (r); (B) \rightarrow (p); (C) \rightarrow (s); (D) \rightarrow (q)$

4) $(A) \rightarrow (p); (B) \rightarrow (s); (C) \rightarrow (r); (D) \rightarrow (q)$

94. A solution contains 40ml of ethanol mixed with 100ml of water. Calculate the concentration in terms of volume by volume percentage of the solution.

1) 40%

2) 66.7%

3) 28.6%

4) 25.8%

95. A mixture of common salt, Sulphur, sand and iron filings is shaken with carbon disulphide and filtered through a filter paper. The filtrate is evaporated to dryness in a china dish. What will be left in the dish after evaporation?

1) Sand

2) Sulphur

3) Iron filings

4) Common salt

96. White gold is used in jewellery and contains two elements, gold and palladium. A jeweller has two different samples that are both identical in appearance and have a uniform composition throughout. What can be said about the samples?

1) They are homogeneous mixture and be classified as metallic alloys

2) The materials are heterogeneous mixture and can be classified by their compounds

3) The samples have variable compositions and are classified as metallic solutions

4) The samples are heterogeneous mixtures that can be separated using magnetic properties.

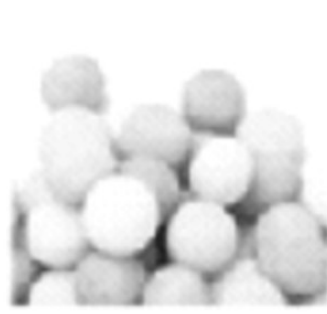
97. Three substance given below are kept in the open for a few days and some changes were observed.



Eggs



Plastic Bottle



Moth balls

Which substance will undergo chemical change?

1) Eggs

2) Plastic bottle

3) Both eggs & moth balls

4) All eggs, plastic bottle and moth balls

98. Aluminium is used for making cooking utensils. Which of the following properties of aluminium are responsible for the same?

- a) Good thermal conductivity
- b) Good electrical conductivity
- c) Ductility
- d) High melting point

1) *a, b*

2) *b, c*

3) *a, c*

4) *a, d*

99. Tyndall phenomena is exhibited by

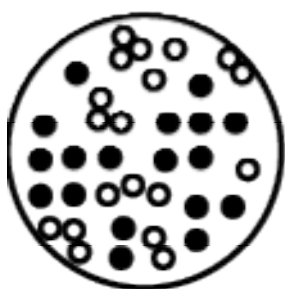
1) *NaCl* solution

2) Starch solution

3) Urea solution

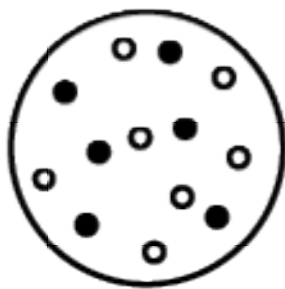
4) *CuSO₄* solution

100. Which of the following diagrams does not shows a heterogeneous mixture?



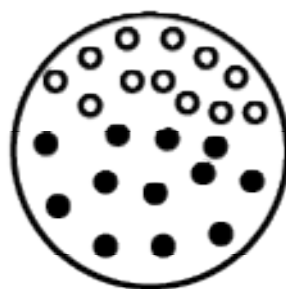
I

1) Diagram I



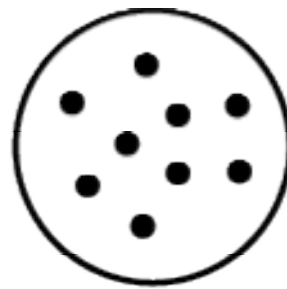
II

2) Diagram II



III

3) Diagram III



IV

4) Diagram IV

THE END