

Name of student: _____ Class: _____ Roll No. _____

General Instructions: 1. Darken the appropriate circle in the OMR answer sheet.

2. Each question carries 1 mark. There is no negative marking.

Mathematics

1. The perpendicular distance of the point P(-3, -6) from the x-axis is 1
 - a) 3 units
 - b) 6 units
 - c) -2
 - d) -3
2. Ordinate of all points on the y-axis is 1
 - a) 0
 - b) -1
 - c) any number
 - d) 1
3. Abscissa of all points on the x-axis is 1
 - a) -1
 - b) 0
 - c) 1
 - d) any number
4. If P(5, 1), Q(8, 0), R(0, 4), S(0, 5) and O(0, 0) are plotted on the graph paper, then 1 the points on the x-axis are
 - a) Q and O
 - b) Q only
 - c) R and S
 - d) P and Q
5. The equation of x-axis is 1
 - a) none of these
 - b) $x = 0$
 - c) $y = x$
 - d) $y = 0$
6. The point (0, 9) lies 1
 - a) on the positive direction of y-axis
 - b) in quadrant III
 - c) on the positive direction of x-axis
 - d) in quadrant IV
7. x co-ordinate is known as 1
 - a) origin
 - b) none of these
 - c) abscissa
 - d) ordinate

8. Ordinate of a point is negative in 1
- a) quadrant IV only b) quadrant III only
 c) quadrant I and II d) quadrant III and IV
9. The co-ordinates of a point below the x-axis lying on y-axis at a distance of 4 units are 1
- a) (-4, 0) b) (0, 4)
 c) (0, -4) d) (4, 0)
10. The co-ordinates of two points A and B are (4, 3) and (-5, 3) respectively. The co-ordinates of the point at which the line segment AB meets the y-axis are 1
- a) (0, 3) b) (3, 0)
 c) (0, 4) d) (-5, 0)
11. If O(0,0), A(3,0), B(3,4) and C(0,4) are the vertices of a quadrilateral OABC, then OABC is: 1
- a) rectangle b) square
 c) rhombus d) trapezium
12. Which of the following points lie on the line $y = 3x - 4$? 1
- a) (2, 2) b) (4, 12)
 c) (5, 15) d) (3, 9)
13. Points (2, -3), (4, -5), (5, -9) and (-2, -5) 1
- a) lie in the IV quadrant b) lie on the axes
 c) lie in the I quadrant d) does not lie in same quadrant
14. The area of the triangle formed by the line $2x + 5y = 10$ and the co-ordinate axis is 1
- a) 4 sq. units b) 3 sq. units
 c) 5 sq. units d) 10 sq. units
15. The equation $y = 2x - 7$ has 1
- a) no solution b) two solutions
 c) one solution d) many solutions
16. The point on the graph of the linear equation $2x + 5y = 19$, whose ordinate is $1\frac{1}{2}$ times its abscissa is 1
- a) (-2, -3) b) (2, 3)
 c) none of these d) (4, 6)
17. The equation of a line parallel to y-axis and 4 units to the right of origin is 1
- a) $x = 4$ b) $x = -4$

c) $y = -4$

d) $y = 4$

18. Which of the following is not a solution of $2x - 3y = 12$? **1**

a) (0, -4)

b) (2, 3)

c) (6, 0)

d) (3, -2)

19. The equation of a line parallel to y-axis and 7 units to the left of origin is **1**

a) $y = -7$

b) $y = 7$

c) $x = -7$

d) $x = 7$

20. How many linear equations in 'x' and 'y' can be satisfied by $x = 1$, $y = 2$? **1**

a) many

b) two

c) only one

d) none of these

21. If (-2, 5) is a solution of $2x + my = 11$, then the value of 'm' is **1**

a) -2

b) 2

c) 3

d) -3

22. If a linear equation has solutions (1, 2), (-1, -16) and (0, -7), then it is of the form **1**

a) $y = 9x - 7$

b) $9x - y + 7 = 0$

c) $x - 9y = 7$

d) $x = 9y - 7$

23. A linear equation in two variables is of the form $ax + by + c = 0$, where **1**

a) $a \neq 0$ and $b = 0$

b) $a = 0$ and $b = 0$

c) $a \neq 0$ and $b \neq 0$

d) $a = 0$ and $b \neq 0$

24. The positive solutions of the equation $ax + by + c = 0$ always lie in the **1**

a) 3rd quadrant

b) 4th quadrant

c) 2nd quadrant

d) 1st quadrant

25. If we multiply both sides of a linear equation with a non-zero number, then the solution of the linear equation **1**

a) remains the same

b) gets multiplied by the number

c) none of these

d) changes

26. The value of 'k' if $x = 3$ and $y = -2$ is a solution of the equation $2x - 13y = k$ is **1**

a) 31

b) 23

c) 32

d) 30

27. The whole is _____ the part. **1**

a) equal

b) greater than

c) less than

d) double

28. The number of line segments determined by three non-collinear points is **1**

- a) 3
- b) 2
- c) 0
- d) 1

29. If C lies between A and B and $AB = 10\text{cm}$, $AC = 3\text{cm}$, then $BC^2 =$ **1**

- a) 13 cm^2
- b) 9 cm^2
- c) 7 cm^2
- d) 49 cm^2

30. A statement whose truth can easily be deduced from a theorem is called **1**

- a) Postulate
- b) None of these.
- c) Corollary
- d) Axiom

31. "Lines are parallel if they do not intersect" is stated in the form of **1**

- a) A proof
- b) A postulate
- c) A definition
- d) An axiom

32. Euclid stated that if equals are subtracted from equals, the remainders are equal in the form of **1**

- a) A definition
- b) None of these
- c) A theorem
- d) An axiom

33. The boundaries of the solids are **1**

- a) Surfaces
- b) Curves
- c) lines
- d) points

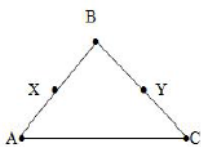
34. The things which coincide with one another are **1**

- a) Double the same thing
- b) Equal
- c) Unequal
- d) Triple the same thing

35. The 'Sriyantra' consists of _____ interwoven isosceles triangles. **1**

- a) One
- b) Six
- c) Three
- d) Nine

36. In the figure, if $AB = BC$ and $BX = BY$, then **1**



- a) $AX < CY$
- b) None of these
- c) $AX = CY$
- d) $AX > CY$

37. Given four distinct points in a plane. How many line segments can be drawn using them when no three of them are collinear? **1**

- a) 8
- b) 4

- c) 6 d) 1
38. A polygon is a closed figure made up of **1**
- a) three line segments only b) none of these
- c) three or more line segments d) two line segments
39. In Indus Valley Civilisation, the bricks used for construction work were having **1**
dimensions in the ratio
- a) 4 : 2 : 1 b) 4 : 3 : 2
- c) 1 : 3 : 4 d) 4 : 4 : 1
40. A, B and C are three collinear points. How many lines can be determined by **1**
them?
- a) 2 b) 3
- c) 1 d) 0

Science

41. Liquid A boils at 60 C while liquid B boils at 80 C which is more volatile? **1**
- a) Liquid A b) Liquid B
- c) Neither A nor B d) Both A and B
42. When the liquid starts boiling, the further heat energy which is supplied **1**
- a) is absorbed as latent heat of vaporization by the liquid b) is lost to the surrounding as such
- c) Increases the temperature of the liquid. d) increases the K.E of the particle in the liquid
43. When acetone or nail polish remover is applied cooling is experienced due to **1**
which factor?
- a) Reaction of nail polish with acetone b) Boiling of acetone.
- c) Evaporation of acetone from the nail d) reaction of acetone with skin
44. Name the phenomenon which causes one crystal of potassium permanganate **1**
to turn a beaker of water purple.
- a) centrifugation b) filtration
- c) diffusion d) sedimentation
45. Which of the two statement is true **1**
- Statement A: Petrol, ether, acetone, water, CCl_4 are volatile liquid
- Statement B: Naphthalene, Camphor, iodine, NH_4Cl undergo sublimation.

- a) Neither statement A or B. b) Statement A
 c) Both the statement A and B d) Statement B

46. The name of A, B, C and D in the following diagram are: 1

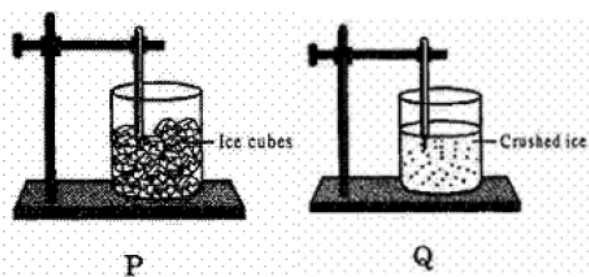


- a) A - Solidification, B - Vaporisation, C - Fusion, D - Condensation
 b) A - Vapourisation, B - Fusion, C - Condensation, D - Solidification
 c) A - Fusion, B - Vaporisation, C - Condensation, D - Solidification
 d) A - Condensation, B - Vaporisation, C - Solidification, D - Fusion

47. Which of the following solids undergo sublimation upon heating? 1

- a) Urea b) Iodine
 c) Ice d) sugar

48. Which experiments set-up is correct for determining the melting pt. of ice? 1



- a) Both P and Q b) Q
 c) P d) Neither P nor Q

49. The inter-particle forces are the strongest in 1

- a) Sodium Bromide b) Ammonia
 c) Carbon dioxide d) Ethyl alcohol

50. Which of the two statements is true? 1

Statement A: The temperature of the liquid becomes constant once it starts boiling.

Statement B: Pressure of air at sea level is 70 cm.

- a) Statement B b) Statement A
 c) Both A and B d) Neither A or B

51. Find the incorrect statement. 1

- a) Gases have maximum fluidity and least rigidity. b) Solids have negligible K.E. of the particles.

c) Potassium permanganate is orange in colour.

d) Inter-particle attraction depends on the physical state of the matter

52. A pressure cooker work on the basis of which of the following principle? **1**

a) By increases the quantity of liquid

b) Boiling point is raised by increasing the pressure on the surface of the liquid

c) By decreases the quantity of liquid

d) Boiling point is lowered by increasing the pressure on the surface of the liquid

53. The melting points of two solids [A] and [B] are 300 K and 350 K respectively. **1**

Which has stronger inter-particle forces?

a) Both have the same inter-particle forces.

b) Both have the greater inter-particle forces.

c) Solid [B]

d) Solid [A]

54. Animal cell lacking nuclei would also lack in: **1**

a) Chromosome

b) Endoplasmic Reticulum

c) Ribosome

d) Lysosome

55. The primary function of smooth endoplasmic reticulum in liver cells is **1**

a) detoxification

b) protein synthesis

c) carbohydrate metabolism

d) catabolism of proteins

56. Which of the following is not a function of vacuole? **1**

a) Waste excretion

b) Locomotion

c) Providing turgidity and rigidity to the cell

d) Storage

57. A common feature of chloroplasts and mitochondria is that both are **1**

a) found in animal cells

b) having their own DNA and ribosomes

c) involved in photosynthesis

d) found in animal cells

58. Match the following with the correct response **1**

(1) Large-sized vacuoles	(A) Endo-osmosis
(2) Swelling of cells	(B) Nucleus
(3) Shrinkage of cell content	(C) Hypertonic solution
(4) Organelle that control all the activities	(D) Plant cells

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

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

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

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

59. Amoeba acquires its food through a process, termed **1**

- a) plasmolysis
- b) endocytosis
- c) both exocytosis and endocytosis
- d) exocytosis

60. A cell has 10 chromosomes. After mitotic cell division, the number of chromosomes in the daughter cell will be: 1

- a) 10
- b) 4
- c) 20
- d) 5

61. Match the following with the correct response: 1

(1) Genes	(A) Gases
(2) Diffusion	(B) Loss of water by plant cells
(3) Osmosis	(C) Movement of water molecular
(4) Plasmolysis	(D) Hereditary units

- a) 1-D, 2-A, 3-C, 4-B
- b) 1-A, 2-C, 3-B, 4-D
- c) 1-B, 2-D, 3-A, 4-C
- d) 1-C, 2-B, 3-D, 4-A

62. Silver nitrate solution is used to study 1

- a) Mitochondria
- b) Golgi apparatus
- c) Nucleus
- d) Endoplasmic reticulum

63. The only cell organelle seen in prokaryotic cell is 1

- a) ribosomes
- b) mitochondria
- c) lysosomes
- d) plastids

64. Viruses do not show any characteristic of living until they enter a living cell, because of the absence of 1

- a) membrane
- b) mitochondria
- c) nucleic acid
- d) proteins

65. Which among the following is concerned with the synthesis and transport of lipids within the cell? 1

- a) Smooth endoplasmic reticulum
- b) Lysosomes
- c) Rough endoplasmic reticulum
- d) Golgi apparatus

66. Chlorophyll is present in _____. 1

- a) Thylakoid
- b) Matrix
- c) Stroma
- d) Cristae

67. The two states of motion treated alike by the Newton's first law, among A, B, C 1

Social Science

81. Passive citizens of France were: 1
- a) Only men above 25 years b) Only propertied women
c) Only propertied men d) Men and women who didn't
vote
82. 'Marseilles' was a: 1
- a) Militia b) National anthem of France
c) Representative of third estate d) Political club
83. Napoleon Bonaparte was defeated in: 1
- a) Battle of Paris b) Battle of Ecuador
c) Battle of Plassey d) Battle of Waterloo
84. During which period did China record its worst famines in the world's 1
history?
- a) 1935-39 b) 1952-55
c) 1958-61 d) 1943-46
85. The famous political party of Mexico was: 1
- a) Revolutionary party b) Chinese Communist party
c) Institutional Revolutionary d) People's party
party
86. Which Pakistan General led a military coup in October 1999? 1
- a) Nawaz Sharif b) None of these
c) Ayub Khan d) Parvez Musharraf
87. Who did not have the right to vote in Saudi Arabia? 1
- a) Non-residents b) Propertied men
c) Non-propertied men d) Women

- c) Bhangar
d) Bhabar
99. Mountain ranges in the eastern part of India, forming its boundary with Myanmar are collectively called: **1**
- a) Himalayas
b) Purvanchal
c) Uttarakhand
d) Himachal Pradesh
100. The eastward extension of the Central Highlands are known as: **1**
- a) Maikal range and Mahadev hills
b) Chota Nagpur plateau
c) Bundelkhand and Baghelkhand
d) Aravali range
101. The western coastal strip, south of Goa is referred to as: **1**
- a) Kannad
b) Northern Circar
c) Coromandel
d) Konkan
102. Lakshadweep Islands are formed by: **1**
- a) Metamorphic rocks
b) Earthquake
c) Coral polyps
d) Volcanic eruption
103. A landmass bounded by sea on three sides is referred to as: **1**
- a) Peninsula
b) Island
c) Coast
d) Delta
104. Mountain ranges in the eastern part of India forming its boundary with Myanmar are collectively called as: **1**
- a) None of the above
b) Uttarakhand
c) Himachal
d) Purvachal
105. The highest peak in the Eastern Ghats is: **1**
- a) Mahendragiri
b) Kanchenjunga
c) Anai Mudi
d) Khasi
106. HYV means: **1**
- a) High Yielding Variety
b) Highly Yellow Variety
c) Highly Young Variety
d) High Yoghurt Variety
107. What are the major factors of production? **1**
- a) Labour and land
b) Land and technology
c) Capital and labour
d) Land and capital
108. The main activity of the village of Palampur is: **1**
- a) Manufacturing
b) Farming

c) South

d) North

119. Sri Lanka is separated from India by a narrow channel of sea called: **1**

a) Palk Strait

b) Gulf of Khambhat

c) Colombo Gulf

d) Gulf of Kachchh

120. Uttarakhand, Uttar Pradesh, Bihar, West Bengal and Sikkim have common **1**
frontiers with:

a) Myanmar

b) Bhutan

c) China

d) Nepal

Solution
Class 09 - Mathematics
MCQ July
Section A

1. (b)
6 units

Explanation:

Perpendicular distance of point from x-axis is y-ordinate of given point

Distance=6unit

2. (c)
any number

Explanation:

In the cartesian plane any point P is written as $p(x, y)$

when the value of x co-ordinate is equal to zero then the point P lies on y axis,

So, Ordinate of any point on y-axis can be any number but abscissa will be zero

3. (d)
any number

Explanation:

Abscissa of point in x axis is can be any number but ordinate will always be

zero, because for any point to lie on x-axis its y-ordinate must be equal to zero.

4. (a)
Q and O

Explanation:

Co-ordinate of any point on x-axis is $(x, 0)$

And, we have point O and point Q with such co-ordinate so point O and Q will lie on x-axis.

5. (d)
 $y = 0$

Explanation:

In co-ordinate any point P is written as $p(x, y)$

When $Y = 0$ then the point P lies on x axis,

So, $Y=0$ is the equation of x-axis

6. (a)
on the positive direction of y-axis

Explanation:

Any point P in co-ordinate plane is written as $P(x, y)$

when the value of x-coordinate is equal to zero then the point P lies on y axis

Since, here $x=0$ so, point lies on y-axis

And the value of y is positive so,

Points lies in the positive direction of y-axis

7. (c)
abscissa

Explanation:

Any point p in cartesian plane is written as $p(x, y)$

x co-ordinate of point p is called abscissa and Y co-ordinate of point p is called ordinate.

8. (d)
quadrant III and IV

Explanation:

Since, sign of point in 3rd quadrant is $(-, -)$,

And in 4th quadrant it is $(+, -)$,

So, Ordinate of a point is -ve only in 3rd and 4th quadrant

9. (c)
 $(0, -4)$

Explanation:

Since, it lies on y-axis so abscissa=0

And since it lie 4unit below x-axis so the value of ordinate = -4 ,

Thus, point will be $(0, -4)$.

10. (a)

(0, 3)

Explanation:

Since it meets at y-axis, so , abscissa will be zero and we have ordinate=3 in common so,point will be (0,3)

11. (a)

rectangle

Explanation:

As O(0,0) and A(3,0)

So, Length of side OA = 3 units

As A(3,0) and B(3,4)

So, Length of side AB = 4 units

As O(0,0) and C(0,4)

So, Length of side OC = 4 units

As B(3,4) and C(0,4)

So, Length of side BC = 3 units

as As O(0,0) and B(3,4)

So, Length of diagonal OB = 5 units

As A(3,0) and C(0,4)

So, Length of diagonal AC = 5 units

in a quadrilateral opposite sides are equal and diagonals are also equal then it is a rectangle.

Therefore, OABC is rectangle.

12. (a)

(2, 2)

Explanation:

When we put $x=2$ in the given equation,

Then, $y = (3 \times 2) - 4$

$y = 6 - 4 = 2$, so point is (2, 2) satisfied the given equation,

Hence point (2,2) will lie on the line $y=3x-4$

13. (d)

does not lie in same quadrant

Explanation:

Point $(2, -3), (4, -5), (5, -9)$ lies in 4th quadrant, because sign of abscissa and ordinate in 4th quadrant is $(+, -)$,

But point $(-2, -5)$ lies in 3rd quadrant since, sign of abscissa and ordinate in 3rd quadrant is $(-, -)$

14. (c)

5 sq. units

Explanation:

To find the area of the triangle formed by the line $2x + 5y = 10$ and co-ordinate axis

we put $x = 0$ in given equation

at $x = 0$ we get $y = 2$

at $y = 0$ we get $x = 5$

so the line cut y axis at 2 and x axis at 5

so the height of triangle is 2 unit and base is 5 unit

area of triangle = $\frac{1}{2}$ base \times height

= $\frac{1}{2} \times 2 \times 5$

= 5 sq. units

15. (d)

many solutions

Explanation:

$y = 2x - 7$

Has many solution because for different value of x we have different value of y for example

At $x = 1$

$y = 2(1) - 7$

$y = 2 - 7$

$y = -5$

at $x = 2$

$y = 2(2) - 7$

$$y = 4-7$$

$$y = -3$$

So we can say for many value x there is many value of y

16. (b)

(2, 3)

Explanation:

Ordinate means y-coordinate. It means we need to find a point on the given line where y-coordinate = $\frac{3}{2}$ (x-coordinate) . Just put $y = [\frac{3}{2} .x]$ in the given eqn.

$$2x + 5 \cdot \frac{3}{2}x = 19$$

$$2x + \frac{15}{2}x = 19$$

$$\frac{4x + 15x}{2} = 19$$

$$\frac{19x}{2} = 19$$

$$x = \frac{19 \times 2}{19}$$

$$x = 2$$
$$y = \frac{3}{2}x$$

$$y = \frac{3}{2} \times 2$$

$$y = 3$$

so the co-ordinate are (2,3)

17. (a)

$$x = 4$$

Explanation:

The equation of a line parallel to y-axis at a distance of 4 units from it, to its right from the origin.

$$x = 4$$

because when a line parallel to y axis in that case equation of line is $x = 4$

so required equation is $x = 4$

18. (b)
(2, 3)

Explanation:

We have to check (2,3) is a solution of $2x - 3y = 12$

if (2,3) satisfy the equation then (2,3) solution of $2x - 3y = 12$

LHS

$$2x - 3y$$

$$2 \times 2 - 3 \times 3$$

$$4 - 9$$

$$-5$$

RHS

$$12$$

$LHS \neq RHS$

so (2,3) is not a solution of $2x - 3y = 12$

19. (c)
 $x = -7$

Explanation:

The equation of a line parallel to y-axis and 7 units to the left of the origin is

$$x = -7$$

because when a line parallel to y axis in that case equation of line is $x = a$

where a is the co-ordinate of x-axis and 7 units to the left of the origin value x - co-ordinate is -7

so required equation is $x = -7$

20. (a)
many

Explanation:

there are many linear equations in 'x' and 'y' can be satisfied by $x = 1, y = 2$

for example

$$x + y = 3 \quad x - y = -1$$

$$2x + y = 4$$

and so on there are infinite number of examples

21. (c)

3

Explanation:

If $(-2, 5)$ is a solution of $2x + my = 11$
then it will satisfy the given equation

$$2(-2) + 5m = 11$$

$$-4 + 5m = 11$$

$$5m = 11 + 4$$

$$5m = 15$$

$$m = \frac{15}{5} = 3$$

$$m = 3$$

22. (a)

$$y = 9x - 7$$

Explanation:

Since all the given co-ordinate $(1, 2)$, $(-1, -16)$ and $(0, -7)$ satisfy the given line $y = 9x - 7$

for point $(1, 2)$

$$y = 9x - 7$$

$$2 = 9 \cdot 1 - 7$$

$$2 = 9 - 7$$

$$2 = 2$$

hence $(2, 1)$ is a solution

for point $(-1, -16)$

$$y = 9x - 7$$

$$-16 = 9 \cdot (-1) - 7$$

$$-16 = -9 - 7$$

$$-16 = -16$$

hence $(-1, -16)$ is a solution

for point $(0, -7)$

$$y = 9x - 7$$

$$-7 = 9.0 - 7$$

$$-7 = -7$$

hence (0,-7) is a solution

23. (c)

$a \neq 0$ and $b \neq 0$

Explanation:

A linear equation in two variables is of the form $ax + by + c = 0$ as a and b are coefficient of x and y

so if $a = 0$ and $b = 0$ or either of one is zero in that case the equation will be one variable or their will be no equation respectively.

therefore when $a \neq 0$ and $b \neq 0$ then only the equation will be in two variable

24. (d)

1st quadrant

Explanation:

The positive solutions of the equation $ax + by + c = 0$ always lie in the 1st quadrant

Because in 1st quadrant both x and y have positive value.

25. (a)

remains the same

Explanation:

If for any c . where c is any natural number

Like addition and subtraction we can multiply and divide both sides of an equation by a number, c , without changing the equation, where c is any natural number.

26. (c)

32

Explanation:

We have to find the value of 'k' if $x = 3$ and $y = -2$ is a solution of the equation

$$2x - 13y = k$$

$$2x - 13y = k$$

$$2(3) - 13(-2) = k$$

$$6 + 26 = k$$

$$k = 32$$

27. (b)
greater than

Explanation:

The whole is made up of its parts, hence, it will always be greater than the part.

28. (a)
3

Explanation:

You need two points to draw a line segment. If the points A, B and are non-collinear, we can draw the lines : AB , AC, BA , BC, CA , CB. Now, line AB is the same as line BA, same for lines AC and CA and BC and CB. So, the lines are: AB, BC and AC ; 3 lines only.

29. (d)
 49 cm^2

Explanation:

Since, $AB = 10 \text{ cm}$, $C = 3 \text{ cm}$, therefore $BC = AB - AC = 10 - 3 = 7 \text{ cm}$. Hence , $BC^2 = 49 \text{ cm}^2$

30. (c)
Corollary

Explanation:

A corollary is a proposition that follows from (and is often appended to) one already proved.

31. (c)
A definition

Explanation:

Euclid gave the definition of parallel lines in Book I, Definition 23 just before the five postulates.

32. (d)

An axiom

Explanation:

This is Euclid's third axiom stating subtraction of equals. An algebraic version of Euclid's second axiom would read "if $x=y$, and if $a=b$, then $x - a = y - b$."

33. (a)

Surfaces

Explanation:

A solid has shape, size, position and can be moved from one place to another. Its boundaries are called surfaces. They separate one part of the space from the other.

34. (b)

Equal

Explanation:

"The things which coincide with one another are equal" is one of the axioms given by Euclid. Example: Segment $AB =$ Segment BA ; $\angle A = \angle A$.

35. (d)

Nine

Explanation:

The sriyantra ('great object') belongs to a class of devices used in meditation, mainly by those belonging to the Hindu tantric tradition. The diagram consists of nine interwoven isosceles triangles four point upwards, representing Sakti, the primordial female essence of dynamic energy, and five point downwards, representing Siva, the primordial male essence of static wisdom. The triangles are arranged in such a way that they produce 43 subsidiary triangles, at the centre of the smallest of which there is a big dot (known as the bindu).

36. (c)

$AX = CY$

Explanation:

Since, $AB = BC$, we have $AX + BX = CY + BY$

and we have, $BX = BY$, hence, we can say that $AX = CY$

37. (c)

6

Explanation:

If the four points are A,B,C and D, we can draw the lines: A-B, A-C, A-D, B-C, B-D, C-D

38. (c)

three or more line segments

Explanation:

Polygons are 2-dimensional shapes. They are made of straight lines, and the shape is "closed" (all the lines connect up). Polygon comes from the Greek words, Poly- means "many" and -gon means "angle".

39. (a)

4 : 2 : 1

Explanation:

In Indus Valley Civilization, the bricks used for construction work were having dimensions in the ratio length : breadth : thickness = 4 : 2 : 1.

40. (c)

1

Explanation:

Since the three points are collinear, they lie on the same line, so only one line can be determined by them.

Solution
Class 09 - Science
MCQ JULY(2019)
Section A

41. (a)

Liquid A

Explanation:

Boiling Point of liquid A =60°C

Boiling Point of liquid B =80°C

Liquid A has lower boiling point, so it is being more volatile and has high vapor pressure at 80°C Because vapour pressure has an inverse relation with boiling point.

42. (a)

is absorbed as latent heat of vaporization by the liquid

Explanation:

The latent heat does not increase the kinetic energy of the particles of the substance. and since there is no increase in the kinetic energy of the particles, the temp. of a substance does not rise during the change of state. When the liquid starts boiling, the further heat energy which is supplied is absorbed as latent heat of vaporisation by the liquid to change its state of matter.

43. (c)

Evaporation of acetone from the nail

Explanation:

Evaporation causes cooling effect because the heat of evaporation is absorbed by the surroundings. Evaporation of acetone present in nail polish remover absorbs the latent heat from the nail Causing cooling of a nail.

44. (c)

diffusion

Explanation:

Diffusion is a mass transfer phenomenon that causes the distribution of a chemical species to become more uniform in space as time passes. Potassium permanganate diffusion in water. Beaker containing potassium permanganate (purple) and water, and a clock being used to time how long it takes for the purple colour to spread through the water as the potassium permanganate dissolves. This apparatus is used to demonstrate diffusion in a liquid. Eventually, the random motion of all the potassium permanganate particles results in the purple colour being equally dispersed throughout the water. The process appears slow as the dissolved particles collide with the water molecules and each other, slowing their progress.

45. (d)

Statement B

Explanation:

Naphthalene, camphor, iodine and ammonium chloride are sublime substance. So, statement B is correct. Petrol, ether, acetone and carbon tetrachloride are volatile liquid but water is not a volatile liquid.

46. (c)

A - Fusion, B - Vaporisation, C - Condensation, D - Solidification

Explanation:

- i. A – Fusion: Change of solid state into liquid state is known as fusion.
- ii. B – Vaporization: Change of liquid state into gases state is known as vaporization.
- iii. C – Condensation: Change of gases state into liquid state is known as condensation.
- iv. D – Solidification: Change of liquid state into solid state is known as solidification.

47. (b)

Iodine

Explanation:

The process of changing solid directly into gases without changing into liquid is called sublimation. sugar, urea and ice are not sublime substance, only Iodine is a sublime substance.

48. (b)

Q

Explanation:

Q is correct arrangement of determination of melting point of Ice because its contains crushed ice cubes. In P ice cubes added in place of crush ice, so its not correct arrangement of determination of melting point of Ice.

49. (a)

Sodium Bromide

Explanation:

Solids substances have the strongest inter-particle force of attraction. In the given substances, **sodium bromide is solid**, ethyl alcohol is liquid and ammonia and carbon dioxide are gases. So, the particles of Sodium bromide have the strongest force of attraction.

50. (b)

Statement A

Explanation:

Statement A is correct. The temperature of the liquid becomes constant once it starts boiling. The heat is used to change the state of matter.

The pressure of air at the sea level is 760 mm (76 cm) of Hg (mercury).

51. (c)

Potassium permanganate is orange in colour.

Explanation:

A solution of potassium permanganate (KMnO_4) is not orange. It is purple in colour. Crystals of potassium permanganate dissolve in water to give intensely pink or purple solutions.

52. (b)

Boiling point is raised by increasing the pressure on the surface of the liquid

Explanation:

Pressure cookers work on the principle that as the pressure increases boiling point of water increases and the steam is produced from water. The pressure cookers are designed in such a way it controls the escape of steam. When the steam is not allowed to escape, it builds up more pressure which allows the water in the cooker to start boiling with increase in temperature. Thus higher the temperature of water makes cooking faster. And the steam covering the entire cooker completely helps to heat and cook food evenly and quickly.

53. (c)

Solid [B]

Explanation:

The melting point of a solid is an indication of the strength of the force of attraction between its particles. So, solid B has more intermolecular force of attraction.

54. (a)

Chromosome

Explanation:

Animal cell that do not contain nuclei will also lack in chromosomes. Chromosomes are present inside the nucleus of a cell. Chromosomes contain information for inheritance of features from parents to next generation in the form of DNA (Deoxyribo Nucleic Acid) molecules.

55. (a) detoxification

Explanation:

Smooth Endoplasmic Reticulum (SER) is responsible for the synthesis and repair of membranes. It also has a detoxification function.

56. (b) Locomotion

Explanation:

Vacuoles appear to have three main functions, they:

1. contribute to the rigidity of the plant using water to develop hydrostatic pressure
2. store nutrient and non-nutrient chemicals
3. break down complex molecules.

Locomotion is not a function of vacuole.

57. (b)
having their own DNA and ribosomes

Explanation:

Chloroplast and mitochondria have their own DNA and ribosomes as they are capable of transcription and secreting proteins. They possess their own genetic material along with the nucleus.

58. (b)
1-D, 2-A, 3-C, 4-B

Explanation:

Shrinkage of cell occurs due to exo-osmosis in a hypertonic medium. A hypertonic solution is one which has a lesser concentration of water as compared to that inside the cell. During exo-osmosis, there is a higher external osmotic pressure and a net flow of water from the cell. Swelling of cells occurs due to endo-osmosis. The inward flow of water into the cell containing an aqueous solution through a semi-permeable membrane is called as endo-osmosis. Nucleus is the organelle that control all the activities of a cell. Plant cells have large-sized vacuoles.

59. (b) endocytosis

Explanation:

Amoeba acquires its food through the process of Endocytosis. Actually it has cytoplasmic projections called pseudopodia (false feet) that extend out of its body. It moves the pseudopodia towards the food and take it in its body through the process of endocytosis.

60. (a)
10

Explanation:

Mitosis is a part of the cell cycle where replicated chromosomes are separated into two new nuclei. During mitotic division, the number of chromosomes in the daughter cells remains the same. Therefore, a cell having 10 chromosomes will produce daughter cells that have 10 chromosomes each.

61. (a)
1-D, 2-A, 3-C, 4-B

Explanation:

Genes are functional units of heredity that determines the characters of organisms.

Diffusion is the process of passage of fluid from a region of high concentration to a region of low concentration. It plays an important role in gaseous exchange between the cells as well as the cell and its external environment. Water also obeys the law of diffusion.

The passage of water from a region of higher water concentration to a region of lower water concentration through a semi-permeable membrane is called osmosis. The movement of water across the plasma membrane is affected by the amount of substance dissolved in water.

Plasmolysis in a plant cell refers to the contraction of protoplast as a result of loss of water from the cell. The shrinkage of cytoplasm occurs due to exosmosis in a hypertonic medium. A hypertonic solution is one which has a lesser concentration of water as compared to that inside the cell. During the process, there is a higher external osmotic pressure and a net flow of water from the cell.

62. (b) Golgi apparatus

Explanation:

Silver nitrate is an inorganic, irritant, colourless, water-soluble, poisonous, clear, crystalline compound. It is used in photography and silver plating. Silver nitrate solution is used to study Golgi apparatus. Golgi apparatus is an organelle in eukaryotic cells.

63. (a) ribosomes

Explanation:

Unlike eukaryotic cell, a prokaryotic cell lacks membrane-bound organelles like plastids, mitochondria and endoplasmic reticulum but smaller and randomly scattered ribosomes are seen.

64. (a)
membrane

Explanation:

Viruses are only crystalline genetic materials in the form of RNA and DNA. They lack any membrane. After getting incorporated in the host DNA they

become functional otherwise remain inactive.

65. (a) Smooth endoplasmic reticulum

Explanation:

Smooth endoplasmic reticulum synthesises lipids while rough endoplasmic reticulum synthesise proteins.

66. (a)

Thylakoid

Explanation:

A thylakoid is a sheet-like membrane-bound structure that is the site of the light-dependent photosynthesis reactions in chloroplasts and cyanobacteria. It is the site that contains the chlorophyll used to absorb light and use it for biochemical reactions

67. (d)

A, B

Explanation:

Newton's first law deals with rest or uniform motion of a body, i.e.; An object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force.

68. (d)

a cup of tea

Explanation:

Inertia is directly proportional to mass and one which poses least resistance also possess least inertia.

69. (b)

zero

Explanation:

No reaction occurs between the ball and the base of the cup.

70. (c)

to resist any change in its state of motion

Explanation:

Inertia resists any change in its state of motion. It is a property of matter by which it continues in its existing state of rest or uniform motion in a straight line, unless that the state is changed by any external force.

71. (d) Newton's third law of motion

Explanation:

Inflated balloon lying on the surface of a floor moves forward when pierced with a pin due to Newton's third law of motion. The air coming out of the balloon forces the balloon in opposite direction.

72. (b)

isolated

Explanation:

Force can not generate in a body on its own.

73. (b)

change in momentum

Explanation:

Momentum is mass in motion, and any moving object can have momentum. An object's change in momentum is equal to its impulse. Impulse is a quantity of force times the time interval.

74. (b)

1000N

Explanation:

Mass of bullet = 10 g = 10/1000 kg.

initial velocity (u) = 0 and final velocity (v) = 300 m/s.

time (t) = 0.003 s

$F = (mv - mu)/t$

$= (0.01 \times 300 - 0.01 \times 0)/0.003$

$= (3 - 0)/0.003$

$= 3/0.003$

$= 1000N$

75. (b)

Non-zero force

Explanation:

Any object which face non zero force will have some change in speed if the body is at rest or moving. So it is not possible to travel with constant speed. The forces can do work against each other. For example, you could push the object at constant speed over a rough surface. The net force on the object is zero.

76. (b)

momentum

Explanation:

Momentum remains conserved in absence of any external force. Momentum is the product of the mass and velocity of an object. It is a three-dimensional vector quantity, possessing a magnitude and a direction.

77. (d)

third law of motion

Explanation:

Jet engine sucks air in at the front with a fan. A compressor raises the pressure of the air. The compressor is made with many blades attached to a shaft. The blades spin at high speed and compress or squeeze the air. The compressed air is then sprayed with fuel and an electric spark lights the mixture. The burning gases expand and blast out through the nozzle, at the back of the engine. As the jets of gas shoot backward, the engine and the aircraft are thrust forward (Newton's third law of motion).

78. (d) 6.67ms^{-2}

Explanation:

$$M_1 = 5\text{N}/10\text{ms}^{-2} = 0.5\text{kg}, m_2 = 5\text{N}/20\text{ms}^{-2} = 0.25\text{kg}.$$

$$\text{Total mass} = 0.5 + 0.25 = 0.75\text{kg}.$$

$$\text{Acceleration produced when both masses are tied together} = 5\text{N}/0.75\text{kg} = 6.67\text{ms}^{-2}.$$

79. (c) momentum

Explanation:

The acceleration of an object as produced by a net force is directly proportional to the magnitude of the net force, in the same direction as the net force, and inversely proportional to the mass of the object.

80. (a)

Newton

Explanation:

The newton (symbol: N) is the International System of Units (SI) derived unit of force. It is named after Isaac Newton in recognition of his work on classical mechanics, specifically Newton's second law of motion. See below for the conversion factors.

Solution
Class 09 - Social Science
MCQ Examination July (2019-20)
Section A

81. (d) Men and women who didn't vote

Explanation:

Only men above 25 years of age who paid taxes equal to at least 3 days of a labourer's wage were given the status of active citizens, that is, they were entitled to vote. The remaining men and all women were classed as passive citizens.

82. (b) National anthem of France

Explanation:

Marseillaise, composed by the poet Roget de L'Isle. It was sung for the first time by volunteers from Marseilles as they marched into Paris and so got its name. The Marseillaise is now the national anthem of France.

83. (d) Battle of Waterloo

Explanation:

Napoleon Bonaparte was finally defeated at Waterloo in 1815.

84. (c) 1958-61

Explanation:

China's famine of 1958-1961 was the worst recorded famine in world history. Nearly three crore people died in this famine.

85. (c) Institutional Revolutionary party

Explanation:

In Mexico, until 2000 every election was won by a party called PRI (Institutional Revolutionary Party)

86. (d) Parvez Musharraf

Explanation:

In Pakistan, General Pervez Musharraf led a military coup in October 1999.

87. (d) Women

Explanation:

There are many instances of denial of equal right to vote. Eg : In Saudi Arabia women do not have the right to vote.

88. (a) Godavari

Explanation:

Because of length of river Godavari and the area it covers, it is also known as the 'Dakshin Ganga'.

89. (b) Allahabad

Explanation:

The river Yamuna rises from the Yamunotri Glacier in the Himalayas. It flows parallel to the Ganga and as a right bank tributary, meets the Ganga at Allahabad.

90. (b) Godavari

Explanation:

The Godavari rises from the slopes of the Western Ghats in the Nasik district of Maharashtra and it is the largest Peninsular river.

91. (b) Sambhar

Explanation:

The Sambhar lake in Rajasthan, which is a salt water lake. Its water is used for producing salt.

92. (a) Jammu and Kashmir

Explanation:

The largest freshwater lake in India, Wular lake in Jammu and Kashmir. It is the result of the tectonic activity.

93. (a)

Arunachal Pradesh

Explanation:

Arunachal Pradesh

94. (b) Devaprayag

Explanation:

The headwaters of the Ganga, called the 'Bhagirathi' is fed by the Gangotri Glacier and joined by the Alaknanda at Devaprayag in Uttaranchal.

95. (c) Dendritic

Explanation:

The dendritic pattern develops where the river channel follows the slope of the terrain. The stream with its tributaries resembles the branches of a tree, thus it is named as dendritic.

96. (c) Amarkantak

Explanation:

The Narmada rises in the Amarkantak hills in Madhya Pradesh.

97. (c) Tapi

Explanation:

Tapi flows in a rift valley parallel to the Narmada but it is much shorter in length.

98. (a)

Khadar

Explanation:

Khadar

99. (b) Purvanchal

Explanation:

The Brahmaputra marks the eastern most boundary of the Himalayas. Beyond the Dihang gorge, the Himalayas bend sharply to the south and spread along the eastern boundary of India. They are known as the Purvanchal or the Eastern hills and mountains. These hills runs through the north-eastern state. Purvanchal comprises the Patkai hills, the Naga hills, Manipur hills and the Mizo hills.

100. (c) Bundelkhand and Baghelkhand

Explanation:

The Central Highlands are wider in the west but narrower in the east. The eastward extensions of this plateau are locally known as the Bundelkhand and Baghelkhand.

101. (a) Kannad

Explanation:

The western coast, sandwiched between the Western Ghats and the Arabian Sea, is a narrow plain. It consists of three sections. The northern part of the coast is called the Konkan (Mumbai – Goa), the central stretch is called the Kannad Plain while the southern stretch is referred to as the Malabar coast.

102. (c) Coral polyyps

Explanation:

The Lakshadweep Islands group is composed of small coral islands.

103. (a) Peninsula

Explanation:

A peninsula is a piece of land surrounded by water on the majority of its border (i.e three sides), while being connected to a mainland from which it extends.

104. (d) Purvachal

Explanation:

The Brahmaputra marks the eastern most boundary of the Himalayas. Beyond the Dihang gorge, the Himalayas bend sharply to the south and spread along the eastern boundary of India. They are known as the Purvachal or the Eastern hills and mountains. These hills running through the north-eastern state. The Purvachal range includes the hill ranges of the Patkai, Barail range, Manipur, Mizoram Mizo, and Naga Hills.

105. (a) Mahendragiri

Explanation:

Mahendragiri have the height of 1,501 metres thereby making it as the highest peak in the Eastern Ghats.

106. (a)

High Yielding Variety

Explanation:

HYV stands for High Yielding Variety

107. (d)

Land and capital

Explanation:

Two major factors of production are Land and Capital.

108. (b) Farming

Explanation:

Farming is the main activity of the village of Palampur.

109. (b)

Raiganj

Explanation:

Raiganj

110. (c)

Working Capital

Explanation:

Raw material and money in hand are called Working Capital.

111. (b) Working capital

Explanation:

Working capital is needed to set up a jaggery manufacturing unit.

112. (d) Multiple Cropping

Explanation:

If more than two crops are grown on the same piece of land during a year, it is called:Multiple Cropping

113. (a) Working capital

Explanation:

Working capital (c)

Less land and more capital

Explanation:

The new way of farming need less land but much more of capital.

114. (b)

Jawar

Explanation:

Jawar Kharif crop is grown during the rainy season

115. (c)

Lack of surplus

Explanation:

If farmers are unable to obtain capital from their own savings and have to borrow, it is called lack of surplus.

116. (b) Lakshadweep

Explanation:

Kavaratti is the capital of Lakshadweep islands. So, if we go to Kavaratti in summer vacations we will be going to Lakshadweep islands situated in the Arabian Sea.

117. (b)

Bangladesh

Explanation:

Bangladesh

118. (c)

South

Explanation:

Maldives Islands are situated to the south of the Lakshadweep Islands.

119. (a) Palk Strait

Explanation:

Sri Lanka is separated from India by a narrow channel of sea called Palk Strait.

120. (d) Nepal

Explanation:

Uttarakhand, Uttarakhnad Pradesh, Bihar, West Bengal and Sikkim have common frontiers with Nepal.