

PHYSICS

Q.1 A car accelerates uniformly from 18 km/h to 36km/ h in 5 s. The acceleration in ms^{-2} is -

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

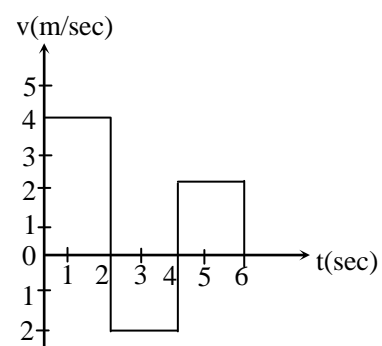
Ans. (a)

Q.2 A quantity has value of -6.0 ms^{-1} . It may be the-

- (a) Speed of a particle
(b) Velocity of a particle
(c) Position of a particle
(d) Displacement of a particle

Ans. (b)

Q.3 The velocity-time graph of a body moving in a straight line is shown in figure. The displacement and distance travelled by the body in 6 seconds are respectively-



- (a) 8m , 16m
(b) 16m, 8m
(c) 16m, 16m
(d) 8m, 8m

Ans. (a)

Q.4 A man is standing on a boat in still water.

If he walks towards the shore the boat will

- (a) move away from the shore
(b) remain stationary
(c) move towards the shore

(d) sink

Ans. (a)

Q.5 A body of mass M strikes against wall with a velocity v and rebounds with the same velocity. Its change in momentum is -

- (a) zero
(b) Mv
(c) -Mv
(d) -2 Mv

Ans. (d)

Q.6 The earth attracts the moon with a gravitational force of 10^{20} N. Then the moon attracts the earth with a gravitational force of:

- (a) 10^{-20} N
(b) 10^2 N

CHEMISTRY

Q.11 When Magnesium Ribbon burnt in air it produces -

- (a) Magnesium hydroxide
(b) Magnesium oxide
(c) Magnesium bicarbonate
(d) Magnesium sulphate.

Ans. (b)

Q.12 Substance which vaporise during burning gives -

- (a) Sound
(b) Flame
(c) Combustion
(d) None of these.

Ans. (b)

Q.13 Coke is used in the manufacturing of

- (a) Lead
(b) Iron
(c) Steel
(d) Copper.

Ans. (c)

Q.14 Which of the following is an almost pure form of carbon?

- (a) Coke
(b) Coal tar
(c) Coal gas
(d) Black carbon.

Ans. (c)

(c) 10^{20} N

(d) 10^{10} N

Ans. (c)

Q.7 Two iron and wooden balls identical in size are released from the same height in vacuum. The time taken by them to reach the ground are-

- (a) not equal
(b) exactly equal
(b) regularly equal
(d) zero

Ans. (b)

Q.8 A student dropped a stone in Ranital pond. After striking on the surface of water he heard the sound in 0.01sec. If the speed of sound is 330 m/s. What will be its height above the surface of pond?

- (a) 4.2 m
(b) 3.3 m
(c) 2.1 m
(d) None of these

Ans. (b)

Q.9 The rainbow that appears in sky after the rains is caused by the by water droplets present in upper atmosphere.

- (a) Reflection of light
(b) Refraction of light
(c) Dispersion of light
(d) Polarization of light

Ans. (c)

Q.10 Example of natural satellite is -

- (a) Venus
(b) Comet
(c) Moon
(d) Spuntnik-1

Ans. (c)

- Q.15 Refining is
- (a) Extracting petroleum gas
- (b) Separation of various fractions of petroleum
- (c) Heating of coal.
- (d) Sedimentation of fossil fuels.

Ans. (b)

- Q.16 Metals generally have _____no. of electrons in their valence shell
- (a) 1, 2, or 3
- (b) 7, 8 or 9
- (c) 10, 11 or 12
- (d) 20, 30 or 40.

Ans. (a)

- Q.17 The components of water can be separated by –
- (a) Physical Methods
- (b) Chemical Methods
- (c) Both
- (d) They cannot be separated.

Ans. (b)

- Q.18 Brass is a _____
- (a) Compound
- (b) Element
- (c) Homogeneous Mixture
- (d) Heterogeneous Mixture.

Ans. (c)

- Q.19 On heating, a solid is converted to liquid. This change is called –
- (a) Melting
- (b) Fusion
- (c) Diffusion
- (d) Freezing.

Ans. (b)

- Q.20 Dry Ice is –
- (a) Dry CO_2
- (b) Solid CO_2
- (c) Gaseous CO_2
- (d) None of these.

Ans. (b)

MATHEMATICS

- Q.21 Let R_1 and R_2 are the remainders when the polynomials $x^3 + 2x^2 - 5ax - 7$ and $x^3 + ax^2 - 12x + 6$ are divided by $2x + 1$ and $2x - 3$ respectively. If

$$2R_1 + R_2 = 2, \text{ then the value of } a \text{ is}$$

- (a) $\frac{-24}{58}$
- (b) $\frac{-251}{58}$
- (c) $\frac{191}{58}$
- (d) None of these

Ans. (c)

- Q.22 In a quadrilateral ABCD, $\angle A = (3x + 4)^\circ$
 $\angle B = (5x - 6)^\circ$, $\angle C = (x - 3)^\circ$ and
 $\angle D = (x - 5)^\circ$, then the values of
 $\angle A$, $\angle B$, $\angle C$ and $\angle D$ are respectively
- (a) $115^\circ, 179^\circ, 34^\circ, 32^\circ$
- (b) $120^\circ, 177^\circ, 35^\circ, 33^\circ$
- (c) $100^\circ, 184^\circ, 39^\circ, 37^\circ$
- (d) None of these

Ans. (a)

- Q.23 The value of $\frac{(0.06)^2 + (0.47)^2 + (0.079)^2}{(0.006)^2 + (0.047)^2 + (0.0079)^2}$ is
- (a) 0.1
- (b) 10
- (c) 100
- (d) 1000

Ans. (c)

- Q.24 The length of a rectangle is twice its breadth. If its length is decreased by 5cm and breadth is increased by 5cm, the area of the rectangle is increased by 75 sq.cm. Then the length of the rectangle is
- (a) 20cm
- (b) 30cm
- (c) 40cm

- (d) none of these

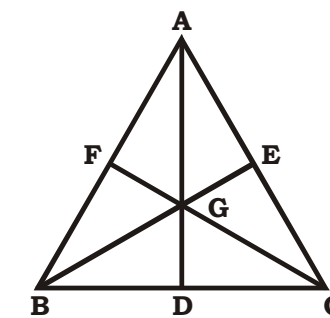
Ans. (c)

- Q.25 The parallel sides of a trapezium are 30 and 20 units and non-parallel sides are 13 and 15 units. Then its area is
- (a) $25\sqrt{15.2 \times 10.8}$
- (b) $50\sqrt{15.2 \times 10.8}$
- (c) $10\sqrt{15.2 \times 10.8}$
- (d) $\sqrt{15.2 \times 10.8}$

Ans. (a)

- Q.26 In a ΔABC , the medians AD, BE and CF intersect at G. If AD = 7.2 cm, then AG is

- (a) 4.8 cm
- (b) 2.4 cm
- (c) 3.6 cm
- (d) 1.7 cm



Ans. (a)

- Q.27 A fort had provision of food for 150 men for 45 days. After 10 days, 25 men left the fort, the number of days for which the remaining food will last, is :

- (a) $29\frac{1}{5}$
- (b) $37\frac{1}{4}$

(c) 42

(d) 54

Ans. (c)

Q.28 A buys a car for Rs. 100,000 and sell it to B at a profit of 10%, B sells it back to A at a loss of 10%. Then in the deal.

(a) A loses Rs. 1000

(b) A makes Rs. 110000

(c) A makes Rs. 11000

(d) A neither loses nor gains

Ans. (b)

Q.29 There are 90 students in class 9th of Career Academy.

(i) 50% students gets above 85% marks,

(ii) 30% of students gets above 90% marks

(iii) Remaining students passed above 60% marks?

Find the No. of students who gets

(85 – 90)% marks in examination

(a) 18

(b) 27

(c) 45

(d) 9

Ans. (a)

Q.30 If $x = (7 + 4\sqrt{3})$, then the value of $\sqrt{x} + \frac{1}{\sqrt{x}}$ is :

(a) 8

(b) 6

(c) 5

(d) 4

Ans. (d)**BIOLOGY**

Q.31 Project Tiger was launched in which year?

(a) 1963

(b) 1973

(c) 1983

(d) 1993

Ans. (b)

Q.32 Propagation of ginger is generally done using-

(a) Seed

(b) Stem (Rhizome)

(c) Root

(d) Leaf

Ans. (b)

Q.33 Which of the following is the smallest micro-organisms?

(a) Algae

(b) Bacteria

(c) Protozoan

(d) Virus

Ans. (d)

Q.34 Given below are events that lead to pregnancy and development of embryo-

(1) Fertilization of egg

(2) Maturation of egg

(3) Release of egg

(4) Embedding of embryo in thickened uterine

(a) 1 → 2 → 3 → 4

(b) 2 → 1 → 3 → 4

(c) 3 → 2 → 1 → 4

(d) 2 → 3 → 1 → 4

Ans. (d)

Q.35 Which hormone is responsible for secondary sexual character in girls?

(a) Estrogen

(b) Testosterone

(c) Thyroxin

(d) Adernalin

Ans. (a)

Q.36 Colourless plastids are known as-

(a) Chromoplast

(b) Chloroplast

(c) Leucoplast

(d) Protoplast

Ans. (c)

Q.37 Name the process in which ingestion of material by the cells is done through the plasma membrane?

(a) Egestion

(b) Diffusion

(c) Osmosis

(d) Endocytosis

Ans. (d)

Q.38 A teacher teaching in Career Academy asks his student that what is known as suicidal bag of cell.

(a) Mitochondria

(b) Lysosome

(c) Peroxisome

(d) Chloroplast.

Ans. (b)

Q.39 Which cell does not have perforated cell wall?

(a) Tracheids

(b) Companion cells

(c) Sieve tubes

(d) Vessels

Ans. (b)

Q.40 The girth of the stem or root increases due to-

(a) Apical meristem

- (b) Cambium
- (c) Intercalary meristem
- (d) Epidermis

Ans. (b)

I.Q

- Q.41 In certain code language, 'CAREER' is written as 'DBSFFS'. Following the same code language, how would you write 'ACADEMY'?
- (a) BDBEFNZ
 - (b) BDCEFMZ
 - (c) CDBEANZ
 - (d) BABEFNZ

Ans. (a)

- Q.42 If 'South - East' is called 'East', North-West' is called 'West', 'South- West' is called 'South' and so on, what will 'North' be called ?
- (a) East
 - (b) North- East
 - (c) North - West
 - (d) South - West.

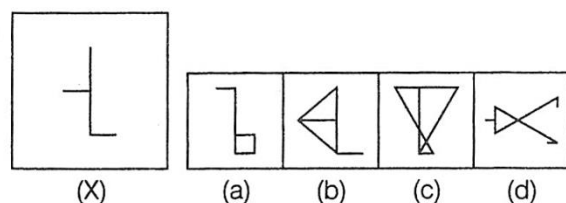
Ans. (b)

- Q.43 Choose the alternative which most closely resembles the mirror image of the given combination

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

Ans. (b)

- Q.44 You are given a figure (X) following by four figure (a), (b), (c) and (d) such that (x) is embedded in one of them. Trace out the correct alternative.



Ans. (b)

- Q.45 Which one of the following four interchanges in signs and/or numbers would make the given equation correct.
- If \times stands for $+$, $<$ stands for $-$, $>$ stands for \times , $+$ stands for \div , $=$ stands for $=$, \div stands for $>$, and $=$ stands for $<$, then which of the given equations is correct?
- (a) $8 < 4 \times 3 - 3 > 2 \times 1$
 - (b) $8 > 4 < 3 - 3 > 2 < 1$
 - (c) $8 + 4 < 3 \div 3 < 2 < 1$
 - (d) $8 + 4 \times 3 = 3 > 2 \times 1$.

Ans. (d)

- Q.46 Choose the alternative which most closely resembles the water image of the given combination.

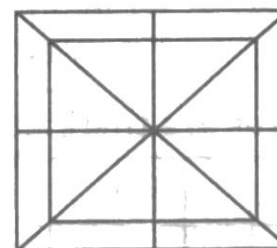
- FAMILY**
- (a)
 - (b)
 - (c)
 - (d)

Ans. (d)

- Q.47 If (i) $A + B$ means 'A is the husband of B'
 (ii) $A \div B$ means 'A is the sister of B'.
 (iii) $A \times B$ means 'A is the son of B'.
 Then, which of the following shows that A is the daughter of B?
- (a) $A \div C \times B$
 - (b) $(b) C \times B \div A$
 - (c) $B + C \times A$
 - (d) $C \times B + C \div A$

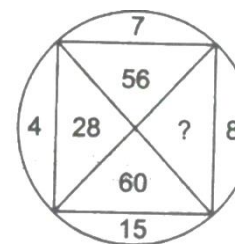
Ans. (c)

- Q.48 How many triangles are there in the following figure?
- (a) 16
 - (b) 24
 - (c) 28
 - (d) 32

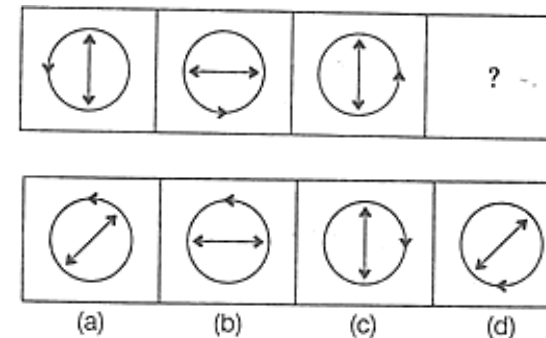


Ans. (d)

- Q.49 Insert the missing letter or numerical value in following questions.
- (a) 33
 - (b) 145
 - (c) 120
 - (d) 18



- Ans. (c)
- Q.50 Four problem figures are given. Select a figure from amongst the answer figures which will continue the same series as given in the problem figures.



Ans. (b)