

UNIVERSITY OF LUCKNOW

UNDERGRADUATE ENTRANCE TEST (UGET) - B.Sc. (MATHEMATICS) 2026

लखनऊ विश्वविद्यालय - स्नातक प्रवेश परीक्षा - बी.एस-सी. (गणित) 2026

MODEL PAPER - SET 5 / प्रतिदर्श प्रश्नपत्र - सेट 5

General Instructions: All questions are compulsory. Each question carries 2 marks. Only one option is correct.
सामान्य निर्देश: सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 2 अंक का है। केवल एक विकल्प सही है।

SECTION A - MATHEMATICS / खण्ड A - गणित

1. A closed and bounded subset of \mathbb{R} is called ?

A closed and bounded subset of \mathbb{R} is called ?

- (1) path connected set / path connected set
- (2) totally bounded set / totally bounded set
- (3) connected set / connected set
- (4) compact set / compact set

Correct Answer / सही उत्तर : (4) compact set / compact set

Solution / हल : Correct option: compact set | सही विकल्प: compact set

2. Find the prism volume in the order $dz dy dx$ (six orders are possible) ?

Find the prism volume in the order $dz dy dx$ (six orders are possible) ?

- (1) 4 / 4 : 1
- (2) 2 / 2 : 1
- (3) 1 / 1 : 1
- (4) 3 / 3 : 1

Correct Answer / सही उत्तर : (4) 3 / 3 : 1

Solution / हल : Correct option: 3 | सही विकल्प: 3 : 1

3. The least non-negative remainder when is divided by 5 is 2100 ?

The least non-negative remainder when is divided by 5 is 2100 ?

- (1) 3 / 3 : 1
- (2) 0 / 0
- (3) 1 / 1 : 1
- (4) 2 / 2 : 1

Correct Answer / सही उत्तर : (3) 1 / 1 : 1

Solution / हल : Correct option: 1 | सही विकल्प: 1 : 1

4. The angle between two diagonals of a cube is level ?

The angle between two diagonals of a cube is level ?

- (1) 30 / 30
- (2) \cos^{-1} / \cos^{-1}
- (3) 45 / 45
- (4) \cos / \cos

Correct Answer / सही उत्तर : (4) \cos / \cos

Solution / हल : Correct option: \cos | सही विकल्प: \cos

5. While finding maximum value of a function what will we get in the case if its second derivative becomes zero?

While finding maximum value of a function what will we get in the case if its second derivative becomes zero?

- (1) we get possible inflection point / we get possible inflection point
- (2) we get both maxima and minima / we get both maxima and minima
- (3) we get maxima at that point / we get maxima at that point

(4) we get minima at that point / we get minima at that point

Correct Answer / सही उत्तर : (1) we get possible inflection point / we get possible inflection point

Solution / हल : Correct option: we get possible inflection point | सही विकल्प: we get possible inflection point

6. In which option we can evaluate the limit by using L Hospital rule?

In which option we can evaluate the limit by using L Hospital rule?

(1) \lim / \lim

(2) $\lim \ln x x / \lim \ln x x$

(3) $\lim \tan x x / \lim \tan x x$

(4) $\lim \cos x x / \lim \cos x x$

Correct Answer / सही उत्तर : (4) $\lim \cos x x / \lim \cos x x$

Solution / हल : Correct option: $\lim \cos x x$ | सही विकल्प: $\lim \cos x x$

7. Two hemispherical vessels can hold 10.8 liters and 50 liters of liquid respectively. The ratio of their minor curved surface area is ?

Two hemispherical vessels can hold 10.8 liters and 50 liters of liquid respectively. The ratio of their minor curved surface area is ?

(1) 16 : 25 / 16 : 25

(2) 9 : 25 / 9 : 25

(3) 4 : 3 / 43%

(4) 25 : 9 / 25 : 9

Correct Answer / सही उत्तर : (2) 9 : 25 / 9 : 25

Solution / हल : Correct option: 9 : 25 | सही विकल्प: 9 : 25

8. The graph of $r = a(1 + \sin \theta)$?

The graph of $r = a(1 + \sin \theta)$?

(1) Symmetric about $y = x$ / Symmetric about $y = x$

(2) Symmetric about y - axis / Symmetric about y - axis

(3) Not Symmetric / Not Symmetric

(4) Symmetric about x-axis / Symmetric about x-axis

Correct Answer / सही उत्तर : (2) Symmetric about y - axis / Symmetric about y - axis

Solution / हल : Correct option: Symmetric about y - axis | सही विकल्प: Symmetric about y - axis

9. The number of positive integers n ?

The number of positive integers n ?

(1) 103 / 103

(2) 519 / 519

(3) 1034 / 1034

(4) 831 / 831

Correct Answer / सही उत्तर : (3) 1034 / 1034

Solution / हल : Correct option: 1034 | सही विकल्प: 1034

10. The value of k for which the pair of linear equations $4x+6y=12$ and $2x+ky=6$?

The value of k for which the pair of linear equations $4x+6y=12$ and $2x+ky=6$?

(1) $k=2$ / $k=2$

(2) $k=4$ / $k=4$

(3) $k \in \mathbb{R}^+$ / $k \in \mathbb{R}^+$

(4) $k=3$ / $k=3$

Correct Answer / सही उत्तर : (4) $k=3$ / $k=3$

Solution / हल : Correct option: $k=3$ | सही विकल्प: $k=3$

11. Every uniformly continuous function on an interval is _____ on that interval ?

Every uniformly continuous function on an interval is _____ on that interval ?

- (1) oscillatory / oscillatory
- (2) continuous / संतत (Continuous)
- (3) convergent / convergent
- (4) divergent / divergent

Correct Answer / सही उत्तर : (2) continuous / संतत (Continuous)

Solution / हल : Correct option: continuous | सही विकल्प: संतत (Continuous)

12. What is the dimension of the vector space formed by the solution of the system of following equations?
What is the dimension of the vector space formed by the solution of the system of following equations?

- (1) 3 / 3 : 1
- (2) 1 / 1 : 1
- (3) 2 / 2 : 1
- (4) 0 / 0

Correct Answer / सही उत्तर : (2) 1 / 1 : 1

Solution / हल : Correct option: 1 | सही विकल्प: 1 : 1

13. Let inverse of i^5 is a then $i^5 * a = 1$ (identity element) 1 1 ?
Let inverse of i^5 is a then $i^5 * a = 1$ (identity element) 1 1 ?

- (1) 1 / 1 : 1
- (2) 3 / 3 : 1
- (3) 2 / 2 : 1
- (4) 4 / 4 : 1

Correct Answer / सही उत्तर : (2) 3 / 3 : 1

Solution / हल : Correct option: 3 | सही विकल्प: 3 : 1

14. The area of the region enclosed by the parabola $y = 2 - x^2$ and the x-axis is ?
The area of the region enclosed by the parabola $y = 2 - x^2$ and the x-axis is ?

- (1) 5 / 5
- (2) 4.5 / 4.5
- (3) $3.5 x^2 / 3.5 x^2$
- (4) 4 / 4 : 1

Correct Answer / सही उत्तर : (1) 5 / 5

Solution / हल : Correct option: 5 | सही विकल्प: 5

15. An aero plane flying at a height of 3,000 m above the ground passes vertically above another plane at an instant, when the angles of elevation of the two planes from the same point of the ground are 60° and 30° respectively. The height of the second plane above the ground is ?
An aero plane flying at a height of 3,000 m above the ground passes vertically above another plane at an instant, when the angles of elevation of the two planes from the same point of the ground are 60° and 30° respectively. The height of the second plane above the ground is ?

- (1) 100 30m / 100 30m
- (2) m / m
- (3) 300 10 m 30 / 300 10 m 30
- (4) 100 300m 100 / 100 300m 100

Correct Answer / सही उत्तर : (4) 100 300m 100 / 100 300m 100

Solution / हल : Correct option: 100 300m 100 | सही विकल्प: 100 300m 100

16. A metallic cone of diameter 32 cm and height 9 cm is melted and made into identical spheres each of radius 2 cm. How many such spheres can be made?
A metallic cone of diameter 32 cm and height 9 cm is melted and made into identical spheres each of radius 2 cm. How many such spheres can be made?

- (1) 72 / 72
- (2) 52 / 52%

(3) 48 / 48

(4) 64 / 64

Correct Answer / सही उत्तर : (1) 72 / 72

Solution / हल : Correct option: 72 | सही विकल्प: 72

17. Find out the common ratio of the GP if the first term of a GP is 1 and the sum of the third term and fifth term is 90 ?

Find out the common ratio of the GP if the first term of a GP is 1 and the sum of the third term and fifth term is 90 ?

(1) 4 / 4 : 1

(2) 2 / 2 : 1

(3) 3 / 3 : 1

(4) 9 / 9%

Correct Answer / सही उत्तर : (3) 3 / 3 : 1

Solution / हल : Correct option: 3 | सही विकल्प: 3 : 1

18. If external direct product of two groups A & B is abelian then ?

If external direct product of two groups A & B is abelian then ?

(1) only A is abelian / only A is abelian

(2) A and B both are abelian / A and B both are abelian

(3) only B is abelian / only B is abelian

(4) A and B both are not abelian / A and B both are not abelian

Correct Answer / सही उत्तर : (2) A and B both are abelian / A and B both are abelian

Solution / हल : Correct option: A and B both are abelian | सही विकल्प: A and B both are abelian

19. If $z = i$, then the value of z^4 is ?

If $z = i$, then the value of z^4 is ?

(1) $\cos 4 + i \sin 4$ / $\cos 4 + i \sin 4$

(2) $\cos + i \sin$ / $\cos + i \sin$

(3) i / i

(4) none of these / none of these

Correct Answer / सही उत्तर : (2) $\cos + i \sin$ / $\cos + i \sin$

Solution / हल : Correct option: $\cos + i \sin$ | सही विकल्प: $\cos + i \sin$

20. What is the divergence of the vector field $f = 6x^2i + 3xy^2j + xyz^3k$ at the point (2,3,4) ?

What is the divergence of the vector field $f = 6x^2i + 3xy^2j + xyz^3k$ at the point (2,3,4) ?

(1) 348 / 348

(2) 106 / 106

(3) 100 (cid:1) $F=6x^2i+3xy^2$ / 100 (cid:1) $F=6x^2i+3xy^2$

(4) 124 / 124

Correct Answer / सही उत्तर : (1) 348 / 348

Solution / हल : Correct option: 348 | सही विकल्प: 348

21. The set of limit points of a sequence is ?

The set of limit points of a sequence is ?

(1) open / ओपन

(2) neither open nor closed / neither open nor closed

(3) both open and closed / both open and closed

(4) closed set / closed set

Correct Answer / सही उत्तर : (4) closed set / closed set

Solution / हल : Correct option: closed set | सही विकल्प: closed set

22. Consider a population with is finite and sampling is with replacement. If the variance of the population is 2176.8 with sample size of 16, then the variance of the sampling distribution of means is ?
Consider a population with is finite and sampling is with replacement. If the variance of the population is 2176.8 with sample size of 16, then the variance of the sampling distribution of means is ?

- (1) 137.04 / 137.04
- (2) 136.05 / 136.05
- (3) 134.12 / 134.12
- (4) 135.21 / 135.21

Correct Answer / सही उत्तर : (2) 136.05 / 136.05

Solution / हल : Correct option: 136.05 | सही विकल्प: 136.05

23. Which function is not the Riemann integrable ?
Which function is not the Riemann integrable ?

- (1) bounded / bounded
- (2) continuous / संतत (Continuous)
- (3) unbounded / unbounded
- (4) discontinuous / असंतत

Correct Answer / सही उत्तर : (3) unbounded / unbounded

Solution / हल : Correct option: unbounded | सही विकल्प: unbounded

24. The number of real roots of the equation)x ?
The number of real roots of the equation)x ?

- (1) 2 / 2 : 1
- (2) 4 / 4 : 1
- (3) 1 / 1 : 1
- (4) 3 / 3 : 1

Correct Answer / सही उत्तर : (2) 4 / 4 : 1

Solution / हल : Correct option: 4 | सही विकल्प: 4 : 1

25. Find total number of asymmetric relations on a set $A = \{e, f, g\}$?
Find total number of asymmetric relations on a set $A = \{e, f, g\}$?

- (1) 27 / 27
- (2) 64 / 64
- (3) 34 / 3 : 4
- (4) 128 / 128

Correct Answer / सही उत्तर : (1) 27 / 27

Solution / हल : Correct option: 27 | सही विकल्प: 27

26. Find the limit of function $f(x, y) = x + 2y$ as $(x, y) \rightarrow (2, 1)$?
Find the limit of function $f(x, y) = x + 2y$ as $(x, y) \rightarrow (2, 1)$?

- (1) 4 / 4 : 1
- (2) 3 / 3 : 1
- (3) 2 / 2 : 1
- (4) 5 / 5

Correct Answer / सही उत्तर : (4) 5 / 5

Solution / हल : Correct option: 5 | सही विकल्प: 5

27. The remainder when is divided by $(x+2)$ is ?
The remainder when is divided by $(x+2)$ is ?

- (1) 24 / 24
- (2) 2 / 2 : 1
- (3) 32 / 32

(4) $25 / < 2, 5 >$

Correct Answer / सही उत्तर : (4) $25 / < 2, 5 >$

Solution / हल : Correct option: 25 | सही विकल्प: $< 2, 5 >$

28. The number of values of k for which the system of equations $x+y=2$, $kx+y=4$, $x+ky=5$ has at least one solution is ?

The number of values of k for which the system of equations $x+y=2$, $kx+y=4$, $x+ky=5$ has at least one solution is ?

(1) 0 / 0

(2) 2 / 2 : 1

(3) 1 / 1 : 1

(4) 3 / 3 : 1

Correct Answer / सही उत्तर : (3) 1 / 1 : 1

Solution / हल : Correct option: 1 | सही विकल्प: 1 : 1

29. A finite group G is a ?

A finite group G is a ?

(1) Dihedral group / Dihedral group

(2) cyclic group / cyclic group

(3) p-group / p-group

(4) conjugative group / conjugative group

Correct Answer / सही उत्तर : (3) p-group / p-group

Solution / हल : Correct option: p-group | सही विकल्प: p-group

30. Check about the nature of continuity of $f(x) = x$?

Check about the nature of continuity of $f(x) = x$?

(1) not continuous / not continuous

(2) Continuous but not uniformly continuous / Continuous but not uniformly continuous

(3) uniformly continuous / uniformly continuous

(4) not uniformly continuous / not uniformly continuous

Correct Answer / सही उत्तर : (3) uniformly continuous / uniformly continuous

Solution / हल : Correct option: uniformly continuous | सही विकल्प: uniformly continuous

31. A solution-curve of the equation $xy' = 2y$, passing through (1, 2) also passes through meceerke ?

A solution-curve of the equation $xy' = 2y$, passing through (1, 2) also passes through meceerke ?

(1) (4, 12) / (4, 12)

(2) (2, 3) / 2.3%

(3) (24, 5) / (24, 5)

(4) (0, 0) / 0, 0

Correct Answer / सही उत्तर : (4) (0, 0) / 0, 0

Solution / हल : Correct option: (0, 0) | सही विकल्प: 0, 0

32. Which of the following is not a type of mathematical model?

Which of the following is not a type of mathematical model?

(1) abstractions / abstractions

(2) insilicators / insilicators

(3) presumptions / presumptions

(4) heuristics / heuristics

Correct Answer / सही उत्तर : (3) presumptions / presumptions

Solution / हल : Correct option: presumptions | सही विकल्प: presumptions

33. All the units in ring of all integers modulo 8 are ceeheebke ?

All the units in ring of all integers modulo 8 are ceeheebke ?

- (1) none of these / इनमें कोई नहीं
- (2) 0, 1 / 0, 1
- (3) 1, 3, 5, 7 / 1, 3, 5, 7
- (4) 2, 4, 6 / 2, 4, 6

Correct Answer / सही उत्तर : (3) 1, 3, 5, 7 / 1, 3, 5, 7

Solution / हल : Correct option: 1, 3, 5, 7 | सही विकल्प: 1, 3, 5, 7

34. The mode of the number 25, 15, 23, 40, 27, 25, 23, 20 is ?

The mode of the number 25, 15, 23, 40, 27, 25, 23, 20 is ?

- (1) 24.7 / 24.7
- (2) 24.8 / 24.8
- (3) 25 / < 2, 5 >
- (4) 13 / 13

Correct Answer / सही उत्तर : (3) 25 / < 2, 5 >

Solution / हल : Correct option: 25 | सही विकल्प: < 2, 5 >

35. Eigen values of a real symmetric matrix are always ?

Eigen values of a real symmetric matrix are always ?

- (1) real / रियल
- (2) complex / complex
- (3) negative / negative
- (4) Positive / Positive

Correct Answer / सही उत्तर : (2) complex / complex

Solution / हल : Correct option: complex | सही विकल्प: complex

36. For a given series of items, if we subtract 'a' from every item and divide every item by 'b', then arithmetic mean of the series ?

For a given series of items, if we subtract 'a' from every item and divide every item by 'b', then arithmetic mean of the series ?

- (1) increases by 'a' and divided by 'b' / increases by 'a' and divided by 'b'
- (2) diminishes by 'a' and multiplied by 'b' / diminishes by 'a' and multiplied by 'b'
- (3) increases by 'a' and multiplied 'b' / increases by 'a' and multiplied 'b'
- (4) diminishes by 'a' and divided by 'b' / diminishes by 'a' and divided by 'b'

Correct Answer / सही उत्तर : (4) diminishes by 'a' and divided by 'b' / diminishes by 'a' and divided by 'b'

Solution / हल : Correct option: diminishes by 'a' and divided by 'b' | सही विकल्प: diminishes by 'a' and divided by 'b'

37. The points a, b, c, d taken in that order, in the complex plane are the vertices of a parallelogram if_?

The points a, b, c, d taken in that order, in the complex plane are the vertices of a parallelogram if_?

- (1) $a + b = b + c$ / $a + b = b + c$
- (2) $a + c = b + d$ / $a + c = b + d$
- (3) a / a
- (4) $a + b = c + d$ / $a + b = c + d$

Correct Answer / सही उत्तर : (2) $a + c = b + d$ / $a + c = b + d$

Solution / हल : Correct option: $a + c = b + d$ | सही विकल्प: $a + c = b + d$

38. The number of points at which the function $f(x) = \frac{1}{x}$ is not continuous is x ?

The number of points at which the function $f(x) = \frac{1}{x}$ is not continuous is x ?

- (1) 1 / 1 : 1
- (2) None of these / इनमें कोई नहीं

(3) 3 / 3 : 1

(4) 2 / 2 : 1

Correct Answer / सही उत्तर : (2) None of these / इनमें कोई नहीं

Solution / हल : Correct option: None of these | सही विकल्प: इनमें कोई नहीं

39. The curve obtained in exponential growth is of which type?

The curve obtained in exponential growth is of which type?

(1) W shaped curve / W shaped curve

(2) S shaped curve / S shaped curve

(3) J shaped curve / J shaped curve

(4) T shaped curve / T shaped curve

Correct Answer / सही उत्तर : (3) J shaped curve / J shaped curve

Solution / हल : Correct option: J shaped curve | सही विकल्प: J shaped curve

40. A stone is thrown horizontally with a velocity $2\sqrt{gh}$ from the top of a tower of height h . At what distance will it strike the horizontal ground from the tower?

A stone is thrown horizontally with a velocity $2\sqrt{gh}$ from the top of a tower of height h . At what distance will it strike the horizontal ground from the tower?

(1) $2h$ / $2h$

(2) $3h$ / $3h$

(3) $6h$ / $6h$

(4) h / h

Correct Answer / सही उत्तर : (1) $2h$ / $2h$

Solution / हल : Correct option: $2h$ | सही विकल्प: $2h$

SECTION B - PHYSICS / खण्ड B - भौतिक विज्ञान

41. Transference of molecules from the vapour phase to the liquid phase is called ?

Transference of molecules from the vapour phase to the liquid phase is called ?

(1) None of these / इनमें कोई नहीं

(2) Evaporation / Evaporation

(3) Sublimation / ऊर्ध्वपातन

(4) Condensation / Condensation

Correct Answer / सही उत्तर : (4) Condensation / Condensation

Solution / हल : Correct option: Condensation | सही विकल्प: Condensation

42. A 2.5 kg iron ball has the same diameter as a 1.25 kg aluminium ball. The balls are dropped at the same time from a cliff. Just before they reach the ground, they have same ?

A 2.5 kg iron ball has the same diameter as a 1.25 kg aluminium ball. The balls are dropped at the same time from a cliff. Just before they reach the ground, they have same ?

(1) Potential energy / Potential energy

(2) Kinetic energy / Kinetic energy

(3) Momentum / Momentum

(4) Acceleration / Acceleration

Correct Answer / सही उत्तर : (4) Acceleration / Acceleration

Solution / हल : Correct option: Acceleration | सही विकल्प: Acceleration

43. For diffraction at a single slit, the width of the central maximum is _____ the wavelength of light ?

For diffraction at a single slit, the width of the central maximum is _____ the wavelength of light ?

(1) Proportional to / Proportional to

(2) Independent of / Independent of

(3) Inversely proportional / Inversely proportional

(4) Proportional to the square of / Proportional to the square of

Correct Answer / सही उत्तर : (1) Proportional to / Proportional to

Solution / हल : Correct option: Proportional to | सही विकल्प: Proportional to

44. The law of gravitation gives the gravitational force between ?

The law of gravitation gives the gravitational force between ?

(1) any two charged bodies only / any two charged bodies only

(2) the earth and the sun only / the earth and the sun only

(3) the earth and a point mass only / the earth and a point mass only

(4) any two bodies having some mass / any two bodies having some mass

Correct Answer / सही उत्तर : (4) any two bodies having some mass / any two bodies having some mass

Solution / हल : Correct option: any two bodies having some mass | सही विकल्प: any two bodies having some mass

45. The least thickness of a soap film (refractive index of soap solution is 1.38) which will appear black when viewed with sodium light $^{\circ}$ ($\lambda=5893\text{\AA}$) reflected perpendicular to the film shall be $^{\circ}$?

The least thickness of a soap film (refractive index of soap solution is 1.38) which will appear black when viewed with sodium light $^{\circ}$ ($\lambda=5893\text{\AA}$) reflected perpendicular to the film shall be $^{\circ}$?

(1) 2946\AA / 2946\AA

(2) 1380\AA / 1380\AA

(3) 2135\AA / 2135\AA

(4) 5893\AA / 5893\AA

Correct Answer / सही उत्तर : (3) 2135\AA / 2135\AA

Solution / हल : Correct option: 2135\AA | सही विकल्प: 2135\AA

46. The cell reaction of a secondary battery is ?

The cell reaction of a secondary battery is ?

(1) Endothermic / Endothermic

(2) Reversible / Reversible

(3) Irreversible / Irreversible

(4) Equilibrium / Equilibrium

Correct Answer / सही उत्तर : (2) Reversible / Reversible

Solution / हल : Correct option: Reversible | सही विकल्प: Reversible

47. Current through a capacitive element is called ?

Current through a capacitive element is called ?

(1) Displacement current / Displacement current

(2) Conduction current / Conduction current

(3) Transient current / Transient current

(4) Steady state current / Steady state current

Correct Answer / सही उत्तर : (1) Displacement current / Displacement current

Solution / हल : Correct option: Displacement current | सही विकल्प: Displacement current

48. An electric generator has an emf of 120 V and a terminal voltage of 110 V, When it supplies a terminal current of 20 A. Its internal resistance must be ?

An electric generator has an emf of 120 V and a terminal voltage of 110 V, When it supplies a terminal current of 20 A. Its internal resistance must be ?

(1) 5 / 5

(2) 0.3 / 0.3

(3) 0.5 / 0.5

(4) 1 / 1 : 1

Correct Answer / सही उत्तर : (3) 0.5 / 0.5

Solution / हल : Correct option: 0.5 | सही विकल्प: 0.5

49. For D and D lines of Na 1000. In order $1 \ 2 \ \lambda$ to resolve these lines by a grating in the fourth order of spectrum the total number of line on the grating should be ?

For D and D lines of Na 1000. In order $1 \ 2 \ \lambda$ to resolve these lines by a grating in the fourth order of spectrum the total number of line on the grating should be ?

- (1) any number / any number
- (2) 250 / 250
- (3) 500 / 500
- (4) 1000 / 1000

Correct Answer / सही उत्तर : (2) 250 / 250

Solution / हल : Correct option: 250 | सही विकल्प: 250

50. A galvanometer connected in series with a high resistance is called ?

A galvanometer connected in series with a high resistance is called ?

- (1) Wattmeter / Wattmeter
- (2) None of these / इनमें कोई नहीं
- (3) Voltmeter / Voltmeter
- (4) Ammeter / Ammeter

Correct Answer / सही उत्तर : (3) Voltmeter / Voltmeter

Solution / हल : Correct option: Voltmeter | सही विकल्प: Voltmeter

51. A cylinder of cross sectional radius cm and height 4 cm is heated from 00C to 1000C. If the coefficient of linear expansion $=4 \times 10^4 / 0C$. What will be the increase in the volume of the cylinder?

A cylinder of cross sectional radius cm and height 4 cm is heated from 00C to 1000C. If the coefficient of linear expansion $=4 \times 10^4 / 0C$. What will be the increase in the volume of the cylinder?

- (1) 0.32 / 0.32
- (2) 0.16 cm^3 / 0.16 cm^3
- (3) 0.49 / 0.49
- (4) 0.16 cm^3 cm^3 cm^3 / 0.16 cm^3 cm^3 cm^3

Correct Answer / सही उत्तर : (3) 0.49 / 0.49

Solution / हल : Correct option: 0.49 | सही विकल्प: 0.49

52. Water rises to height of 4.0 cm in a capillary tube. If the capillary tube is tilted such that it make an angle of 30° with the horizontal, to that light water will rise?

Water rises to height of 4.0 cm in a capillary tube. If the capillary tube is tilted such that it make an angle of 30° with the horizontal, to that light water will rise?

- (1) 4.0 cm / 4.0 cm
- (2) 2.0 cm / 2.0 cm
- (3) 8.0 cm / 8.0 cm
- (4) 6.0 cm / 6.0 cm

Correct Answer / सही उत्तर : (3) 8.0 cm / 8.0 cm

Solution / हल : Correct option: 8.0 cm | सही विकल्प: 8.0 cm

53. In Young's experiment the distance between 10^{-3} the slits was obtained as m, the distance between the slits and the screen as 3.0 m. The 2.1×10^{-3} width of the fringe is obtained as m. The colour of light used in the experiment will be ?

In Young's experiment the distance between 10^{-3} the slits was obtained as m, the distance between the slits and the screen as 3.0 m. The 2.1×10^{-3} width of the fringe is obtained as m. The colour of light used in the experiment will be ?

- (1) Red / लाल

(2) Green / हरा (Green)

(3) Yellow / पीला

(4) Violet / Violet

Correct Answer / सही उत्तर : (1) Red / लाल

Solution / हल : Correct option: Red | सही विकल्प: लाल

54. The equivalent resistance between point A and B in the given circuit is ?

The equivalent resistance between point A and B in the given circuit is ?

(1) 0.5 / 0.5

(2) 7.5 / 75

(3) 3 / 3 : 1

(4) 10 / 1, 0

Correct Answer / सही उत्तर : (2) 7.5 / 75

Solution / हल : Correct option: 7.5 | सही विकल्प: 75

55. The efficiency of a Carnot engine is 25%, if the temperature of its source is 327°C , the temperature of the sink must be ?

The efficiency of a Carnot engine is 25%, if the temperature of its source is 327°C , the temperature of the sink must be ?

(1) 82°C / 82°C

(2) 227°C / 227°C

(3) 127°C / 127°C

(4) 177°C / 177°C

Correct Answer / सही उत्तर : (4) 177°C / 177°C

Solution / हल : Correct option: 177°C | सही विकल्प: 177°C

56. If we throw a body upwards with velocity of 4 m/s, at what height its kinetic energy reduces to m/s^2 half of the initial value? Take $g = ?$

If we throw a body upwards with velocity of 4 m/s, at what height its kinetic energy reduces to m/s^2 half of the initial value? Take $g = ?$

(1) 4 m / 4 m

(2) 0.4 m / 0.4 m

(3) 1 m / 1 m

(4) 2 m / 2 m

Correct Answer / सही उत्तर : (2) 0.4 m / 0.4 m

Solution / हल : Correct option: 0.4 m | सही विकल्प: 0.4 m

57. First law of thermodynamics represents conservation of ?

First law of thermodynamics represents conservation of ?

(1) Work / Work

(2) Energy / Energy

(3) heat / heat

(4) Momentum / Momentum

Correct Answer / सही उत्तर : (2) Energy / Energy

Solution / हल : Correct option: Energy | सही विकल्प: Energy

58. The amount of work done in rotating a magnet 1800 of moment M through from its position along the magnetic meridian is ?

The amount of work done in rotating a magnet 1800 of moment M through from its position along the magnetic meridian is ?

(1) zero / शून्य

(2) 2MB / 2MB

(3) MB / MB

(4) 1/2 MB / 1/2 MB

Correct Answer / सही उत्तर : (2) 2MB / 2MB

Solution / हल : Correct option: 2MB | सही विकल्प: 2MB

59. Water soaks the glass surface because of water, - the value of Angle of tangent to ?
Water soaks the glass surface because of water, - the value of Angle of tangent to ?

- (1) 0° / 0
- (2) 45° / 45°
- (3) 135° / 135°
- (4) 90° / 90°

Correct Answer / सही उत्तर : (1) 0° / 0

Solution / हल : Correct option: 0° | सही विकल्प: 0

60. In double slit experiment the shape of the fringes is ?
In double slit experiment the shape of the fringes is ?

- (1) Hyperbolic / Hyperbolic
- (2) Circular / वृत्ताकार (Circular)
- (3) None of these / इनमें कोई नहीं
- (4) Straight lines / Straight lines

Correct Answer / सही उत्तर : (1) Hyperbolic / Hyperbolic

Solution / हल : Correct option: Hyperbolic | सही विकल्प: Hyperbolic

SECTION C - CHEMISTRY / खण्ड C - रसायन विज्ञान

61. Modern materials formed from the hydrolysis of chlorosilanes in the presence of water is called _____ ?

जल की उपस्थिति में क्लोरोसाइलेन के जल-अपघटन से बनी आधुनिक सामग्री क्या कहलाती है ?

- (1) Polydimethylsiloxanes / पॉलीडाइमिथाइलसाइलॉक्सेन
- (2) HDPE / HDPE
- (3) LDPE / LDPE
- (4) Carbosilanes / कार्बोसाइलेन

Correct Answer / सही उत्तर : (1) Polydimethylsiloxanes / पॉलीडाइमिथाइलसाइलॉक्सेन

Solution / हल : Hydrolysis of chlorosilanes gives polydimethylsiloxanes (silicones). | क्लोरोसाइलेन का जल-अपघटन पॉलीडाइमिथाइलसाइलॉक्सेन (सिलिकोन) देता है।

62. The binding of oxygen molecules ?

ऑक्सीजन अणुओं का बंधन किस प्रकार की सहकारिता दर्शाता है ?

- (1) Chelate Cooperativity / कीलेट सहकारिता
- (2) Intramolecular Cooperativity / अंतःआण्विक सहकारिता
- (3) Intermolecular Cooperativity / अंतराण्विक सहकारिता
- (4) Interannular Cooperativity / अंतरवलयी सहकारिता

Correct Answer / सही उत्तर : (3) Intermolecular Cooperativity / अंतराण्विक सहकारिता

Solution / हल : O₂ binding shows intermolecular cooperativity (in haemoglobin). | O₂ बंधन (हीमोग्लोबिन में) अंतराण्विक सहकारिता दर्शाता है।

63. Which of the following alcohols cannot be oxidised to a carbonyl compound?

निम्नलिखित में कौन-सा एल्कोहल कार्बोनिल यौगिक में ऑक्सीकृत नहीं हो सकता ?

- (1) 1-pentanol / 1-पेंटानॉल
- (2) n-butyl alcohol / n-ब्यूटिल एल्कोहल
- (3) Ter-butyl alcohol / टर्ट-ब्यूटिल एल्कोहल
- (4) Sec-butyl alcohol / सेक-ब्यूटिल एल्कोहल

Correct Answer / सही उत्तर : (3) Ter-butyl alcohol / टर्ट-ब्यूटिल एल्कोहल

Solution / हल : Tert-butyl alcohol (3° alcohol) cannot be oxidised to a carbonyl. | टर्ट-ब्यूटिल एल्कोहल (3°) कार्बोनिल में ऑक्सीकृत नहीं होता।

64. While it exist also as triethylaluminium along with $TiCl_4$. Here it exists in + 4 oxidation state. 4 146.

Gabriel phthalimide reaction is used for preparation of ?

While it exist also as triethylaluminium along with $TiCl_4$. Here it exists in + 4 oxidation state.

4 146. Gabriel phthalimide reaction is used for preparation of ?

- (1) Secondary amines / द्वितीयक ऐमीन
- (2) Tertiary amines / तृतीयक ऐमीन
- (3) Primary amines / प्राथमिक ऐमीन
- (4) Quaternary amines / चतुष्क ऐमीन

Correct Answer / सही उत्तर : (3) Primary amines / प्राथमिक ऐमीन

Solution / हल : Correct option: Primary amines | सही विकल्प: प्राथमिक ऐमीन

65. When Electro-Magnetic radiation interacts with a single atom and molecule, its behaviour depends on the amount of _____ ?

विद्युत-चुंबकीय विकिरण जब एकल परमाणु/अणु से क्रिया करता है तो उसका व्यवहार किस पर निर्भर करता है ?

- (1) Wavenumber / तरंग संख्या
- (2) Wavelength / तरंगदैर्घ्य
- (3) Electrons / इलेक्ट्रॉन
- (4) Energy per quanta (photons) / प्रति क्वांटा ऊर्जा (फोटॉन)

Correct Answer / सही उत्तर : (4) Energy per quanta (photons) / प्रति क्वांटा ऊर्जा (फोटॉन)

Solution / हल : EM radiation behaviour depends on the energy per quantum (photon). | EM विकिरण का व्यवहार प्रति क्वांटा ऊर्जा (फोटॉन) पर निर्भर करता है।

66. In electrodeposition of a metal, the quantity of deposition of a metal on cathode depends on Oeeleg ?
धातु के विद्युत-निक्षेपण में कैथोड पर निक्षेपण की मात्रा किस पर निर्भर करती है ?

- (1) quantity of electricity supplied to the cell / सेल को दी गई विद्युत की मात्रा
- (2) shape of cathode / कैथोड का आकार
- (3) size of cathode / कैथोड का आकार
- (4) concentration of metal ions in electrolytic solution / विलयन में धातु आयनों की सांद्रता

Correct Answer / सही उत्तर : (1) quantity of electricity supplied to the cell / सेल को दी गई विद्युत की मात्रा

Solution / हल : Deposition on cathode depends on the quantity of electricity (Faraday's law). | कैथोड पर निक्षेपण विद्युत की मात्रा पर निर्भर है (फैराडे नियम)।

67. The word polymer is derived originally _____ ?

'पॉलिमर' शब्द मूलतः किस भाषा से लिया गया है ?

- (1) French / फ्रेंच
- (2) English / अंग्रेज़ी
- (3) Greek / ग्रीक
- (4) Swiss / स्विस

Correct Answer / सही उत्तर : (3) Greek / ग्रीक

Solution / हल : The word polymer is derived from Greek. | 'पॉलिमर' शब्द ग्रीक से लिया गया है।

68. The pH of a hydrochloric acid solution is 2.0. Sufficieint quantity of water is added to it to make the pH of the new solution 5.0. The hydrogen-ion concentration is reduced ?

HCl विलयन का pH 2.0 है। जल मिलाकर pH 5.0 करने पर H^+ सांद्रता कितनी घटती है ?

- (1) hundred fold / सौ गुना
- (2) thousand fold / हज़ार गुना
- (3) seven fold / सात गुना

(4) ten fold / दस गुना

Correct Answer / सही उत्तर : (2) thousand fold / हजार गुना

Solution / हल : pH 2 to 5 means H^+ is reduced a thousand-fold. | pH 2 से 5 होने पर H^+ हजार गुना घटता है।

69. With increasing quantum number, the energy difference between adjacent orbits of hydrogen atom ?
क्वांटम संख्या बढ़ने पर हाइड्रोजन परमाणु की निकटवर्ती कक्षाओं की ऊर्जा का अंतर कैसा होता है ?

(1) first increases followed by decreases / पहले बढ़ता फिर घटता

(2) remains constant / स्थिर रहता है

(3) decreases / घटती (Decreases)

(4) increases / बढ़ता है

Correct Answer / सही उत्तर : (3) decreases / घटती (Decreases)

Solution / हल : Energy difference between adjacent H orbits decreases with higher n. | n बढ़ने पर H की निकटवर्ती कक्षाओं का ऊर्जा अंतर घटता है।

70. In the ground state of an atom, the orbitals are filled by electrons according to ?
परमाणु की मूल अवस्था में कक्षक इलेक्ट्रॉनों से किसके अनुसार भरते हैं ?

(1) Aufbau principle / ऑफबाऊ सिद्धांत

(2) Pauli's exclusion principle / पाउली अपवर्जन नियम

(3) All the three / तीनों

(4) Hund's rule / हुंड नियम

Correct Answer / सही उत्तर : (3) All the three / तीनों

Solution / हल : Orbitals fill by Aufbau, Pauli and Hund — all three. | कक्षक ऑफबाऊ, पाउली व हुंड — तीनों के अनुसार भरते हैं।

71. The Aufbau principle implies that a new electron will enter an orbital for which : $nBhe$?
ऑफबाऊ सिद्धांत के अनुसार नया इलेक्ट्रॉन किस कक्षक में प्रवेश करेगा ?

(1) The value of $(n + l)$ is minimum / $(n + l)$ का मान न्यूनतम हो

(2) n has lower value / n का मान कम हो

(3) l has lower value / l का मान कम हो

(4) The value of $(n + l)$ is maximum / $(n + l)$ का मान अधिकतम हो

Correct Answer / सही उत्तर : (1) The value of $(n + l)$ is minimum / $(n + l)$ का मान न्यूनतम हो

Solution / हल : By Aufbau, an electron enters the orbital with minimum $(n + l)$ value. | ऑफबाऊ अनुसार इलेक्ट्रॉन न्यूनतम $(n+l)$ वाले कक्षक में जाता है।

72. Which of the following is an extensive property?

निम्नलिखित में कौन विस्तीर्ण गुण (extensive property) है ?

(1) Volume / आयतन

(2) Temperature / ताप

(3) Density / घनत्व

(4) Pressure / दाब

Correct Answer / सही उत्तर : (1) Volume / आयतन

Solution / हल : Volume is an extensive property. | आयतन एक विस्तीर्ण गुण है।

73. A particle in a box possesses an irremovable minimum energy called the _____ ?

बॉक्स में कण की न्यूनतम अनिवार्य ऊर्जा क्या कहलाती है ?

(1) Transmission energy / संचरण ऊर्जा

(2) Barrier energy / अवरोध ऊर्जा

(3) Zero-point energy / शून्य-बिंदु ऊर्जा

(4) Transition-state energy / संक्रमण-अवस्था ऊर्जा

Correct Answer / सही उत्तर : (3) Zero-point energy / शून्य-बिंदु ऊर्जा

Solution / हल : The irremovable minimum energy of a particle in a box is the zero-point energy. | बॉक्स में कण की न्यूनतम अनिवार्य ऊर्जा शून्य-बिंदु ऊर्जा है।

74. A hydrocarbon used as a refrigerant and aerosol propellant is prepared using Wurtz reaction with bromoethane and sodium metal in dry ether. The final product is _____ ?
प्रशीतक व एयरोसोल प्रणोदक के रूप में प्रयुक्त हाइड्रोकार्बन (वुर्ट्ज़ अभिक्रिया, ब्रोमोएथेन व सोडियम से) कौन-सा है ?

- (1) Ethane / एथेन
- (2) n-Butane / n-ब्यूटेन
- (3) n-Propane / n-प्रोपेन
- (4) Ethene / एथीन

Correct Answer / सही उत्तर : (2) n-Butane / n-ब्यूटेन

Solution / हल : Wurtz reaction of bromoethane gives n-butane. | ब्रोमोएथेन की वुर्ट्ज़ अभिक्रिया n-ब्यूटेन देती है।

75. K for the equilibrium : $c A(g) \rightleftharpoons B(g)$
साम्य $A(g) \rightleftharpoons B(g)$ के लिए K_c का मान क्या है ?

- (1) 3.5 moles / 3.5 मोल
- (2) 4.5 moles / 4.5 मोल
- (3) 2.5 moles / 2.5 मोल
- (4) 9.5 moles / 9.5 मोल

Correct Answer / सही उत्तर : (1) 3.5 moles / 3.5 मोल

Solution / हल : K_c for the given equilibrium equals 3.5 moles. | दिए साम्य के लिए $K_c = 3.5$ मोल।

76. Maltose, which is obtained by hydrolysis of starch and cellobiose are _____ ?
स्टार्च के जल-अपघटन से प्राप्त माल्टोज व सेलोबायोज क्या हैं ?

- (1) Disaccharide / डाइसैकेराइड
- (2) Polysaccharide / पॉलिसैकेराइड
- (3) Sugar / शर्करा
- (4) Monosaccharide / मोनोसैकेराइड

Correct Answer / सही उत्तर : (1) Disaccharide / डाइसैकेराइड

Solution / हल : Maltose and cellobiose are disaccharides. | माल्टोज व सेलोबायोज डाइसैकेराइड हैं।

77. Generally nitric acid is not used in the preparation of hydrogen from metals because Oeeleg mes neF[^espeve yeveeles mece ?
धातुओं से हाइड्रोजन बनाने में नाइट्रिक अम्ल सामान्यतः क्यों प्रयोग नहीं होता ?

- (1) it is very difficult to handle nitric acid / नाइट्रिक अम्ल संभालना कठिन है
- (2) it is a very strong oxidizing agent / यह बहुत प्रबल ऑक्सीकारक है
- (3) metal becomes passive so that further reaction stops / धातु निष्क्रिय हो जाती है, अभिक्रिया रुक जाती है
- (4) it forms an explosive metal nitrate / यह विस्फोटक धातु नाइट्रेट बनाता है

Correct Answer / सही उत्तर : (2) it is a very strong oxidizing agent / यह बहुत प्रबल ऑक्सीकारक है

Solution / हल : Nitric acid is a strong oxidising agent, so not used to get H_2 from metals. | नाइट्रिक अम्ल प्रबल ऑक्सीकारक है, इसलिए धातु से H_2 नहीं मिलता।

78. Rickets is caused by the deficiency of ?
Rickets is caused by the deficiency of ?

- (1) Vitamin-D / विटामिन-D
- (2) Vitamin-B / विटामिन B
- (3) Vitamin-C / विटामिन-C
- (4) Vitamin-A / विटामिन-A

Correct Answer / सही उत्तर : (1) Vitamin-D / विटामिन-D

Solution / हल : Correct option: Vitamin-D | सही विकल्प: विटामिन-D

79. A powerful narcotic used for relief of pain and has high addictive property is _____ ?
दर्द निवारण हेतु प्रयुक्त व अत्यधिक व्यसनकारी प्रबल स्वापक कौन-सा है ?

- (1) Aspirin / एस्पिरिन
- (2) Caffeine / कैफीन
- (3) Quinidine / क्विनिडीन
- (4) Morphine / मॉर्फिन

Correct Answer / सही उत्तर : (4) Morphine / मॉर्फिन

Solution / हल : Morphine is a powerful, addictive narcotic for pain relief. | मॉर्फिन दर्द निवारण हेतु प्रबल, व्यसनकारी स्वापक है।

80. Acidified aqueous solution (with H₂S) precipitates ?
अम्लीय जलीय विलयन (H₂S सहित) किसे अवक्षेपित करता है ?

- (1) NiS and HgS / NiS व HgS
- (2) MnS and NiS / MnS व NiS
- (3) MnS and CuS / MnS व CuS
- (4) CuS and HgS / CuS व HgS

Correct Answer / सही उत्तर : (4) CuS and HgS / CuS व HgS

Solution / हल : Acidified H₂S precipitates CuS and HgS (group II). | अम्लीय H₂S CuS व HgS (समूह II) को अवक्षेपित करता है।

81. Magnetic nanoparticle tends to behave as larger particle because of phenomena called _____ ?
चुंबकीय नैनोकण किस परिघटना के कारण बड़े कण की तरह व्यवहार करता है ?

- (1) Suspension / निलंबन
- (2) Agglomeration / संपिंडन (एग्लोमरेशन)
- (3) Dispersion / परिक्षेपण
- (4) Dissociation / वियोजन

Correct Answer / सही उत्तर : (2) Agglomeration / संपिंडन (एग्लोमरेशन)

Solution / हल : Magnetic nanoparticles behave like larger particles due to agglomeration. | संपिंडन (एग्लोमरेशन) के कारण चुंबकीय नैनोकण बड़े कण जैसा व्यवहार करते हैं।

82. Diel's- Alder reaction is an example of _____ ?
डील्स-एल्डर अभिक्रिया किसका उदाहरण है ?

- (1) Stereospecific anti / त्रिविमविशिष्ट एंटी
- (2) Regioselective syn / क्षेत्रचयनी सिन
- (3) Regioselective anti / क्षेत्रचयनी एंटी
- (4) Stereospecific syn / त्रिविमविशिष्ट सिन

Correct Answer / सही उत्तर : (4) Stereospecific syn / त्रिविमविशिष्ट सिन

Solution / हल : Diels-Alder reaction is a stereospecific syn (cis) addition. | डील्स-एल्डर त्रिविमविशिष्ट सिन (सिस) योग है।

83. The change in internal energy and change in entropy, respectively, for the reversible isothermal expansion of one mole of an ideal gas at 27 °C ?
27°C पर एक मोल आदर्श गैस के उत्क्रमणीय समतापी प्रसार में आंतरिक ऊर्जा व एन्ट्रॉपी परिवर्तन क्रमशः क्या हैं ?

- (1) 0 J, 0 J / 0 J, 0 J
- (2) 0 J, 20 J / 0 J, 20 J
- (3) 10 J, 20 J / 10 J, 20 J
- (4) 20 J, 0 J / 20 J, 0 J

Correct Answer / सही उत्तर : (1) 0 J, 0 J / 0 J, 0 J

Solution / हल : For reversible isothermal expansion of ideal gas, $dU=0$ and... here 0 J, 0 J (key). | आदर्श गैस के उत्क्रमणीय समतापी प्रसार में $dU=0$; यहाँ 0 J, 0 J (कुंजी)।

84. Which of the following is the incorrect match?

निम्नलिखित में कौन-सा मेल गलत है ?

- (1) Antipyretic - Analgin / ज्वररोधी - एनाल्जिन
- (2) Analgesic - Aspirin / पीड़ाहारी - एस्पिरिन
- (3) Antibiotic - Amoxicillin / प्रतिजैविक - एमॉक्सीसिलिन
- (4) Disinfectant - Streptomycin / विसंक्रामक - स्ट्रेप्टोमाइसिन

Correct Answer / सही उत्तर : (4) Disinfectant - Streptomycin / विसंक्रामक - स्ट्रेप्टोमाइसिन

Solution / हल : Disinfectant-Streptomycin is the incorrect match (it is an antibiotic). | विसंक्रामक-स्ट्रेप्टोमाइसिन गलत मेल है (यह प्रतिजैविक है)।

85. Which of the following has the highest boiling point?

निम्नलिखित में किसका क्वथनांक सर्वाधिक है ?

- (1) Isopentane / आइसोपेंटेन
- (2) Dimethyl amine / डाइमिथाइल ऐमीन
- (3) Ethyl-methyl amine / एथिल-मिथाइल ऐमीन
- (4) Butylamine / ब्यूटिलऐमीन

Correct Answer / सही उत्तर : (4) Butylamine / ब्यूटिलऐमीन

Solution / हल : Butylamine has the highest boiling point (H-bonding). | ब्यूटिलऐमीन का क्वथनांक सर्वाधिक है (H-बंध)।

SECTION D - COMPUTER / खण्ड D - कंप्यूटर

86. Addition of binary number 11011 and 10111 is : ef ?

Addition of binary number 11011 and 10111 is : ef ?

- (1) 11001 / 11001
- (2) 010010 / 010010
- (3) 10010 / 10010
- (4) 110010 / 110010

Correct Answer / सही उत्तर : (4) 110010 / 110010

Solution / हल : Correct option: 110010 | सही विकल्प: 110010

87. Among the following options, the peripheral is ?

निम्नलिखित में परिधीय (peripheral) उपकरण कौन-सा है ?

- (1) ALU / ALU
- (2) Spreadsheet / स्प्रेडशीट
- (3) Printer / प्रिंटर
- (4) CPU / CPU

Correct Answer / सही उत्तर : (3) Printer / प्रिंटर

Solution / हल : A printer is a peripheral device. | प्रिंटर एक परिधीय उपकरण है।

88. Which of the following, in general, cannot compute?

निम्नलिखित में सामान्यतः कौन गणना नहीं कर सकता ?

- (1) Mobile / मोबाइल
- (2) phone / फोन
- (3) Printer / प्रिंटर
- (4) Computer / कंप्यूटर

Correct Answer / सही उत्तर : (2) phone / फोन

Solution / हल : A phone (basic) generally cannot compute. | एक साधारण फोन सामान्यतः गणना नहीं कर सकता।

89. Which of the following is not a part of a personal computer?
निम्नलिखित में कौन पर्सनल कंप्यूटर का भाग नहीं है ?

- (1) RAM / RAM
- (2) ROM / ROM
- (3) CPU / CPU
- (4) USB / USB

Correct Answer / सही उत्तर : (4) USB / USB

Solution / हल : USB is not an internal part of a personal computer. | USB पर्सनल कंप्यूटर का आंतरिक भाग नहीं है।

90. From the given options, select the developer of 'PARAM 10000', a supercomputer of Indian origin ?
भारतीय सुपरकंप्यूटर 'PARAM 10000' का विकासकर्ता कौन है ?

- (1) C-DAC, / C-DAC
- (2) IIT Kanpur / IIT कानपुर
- (3) IIT Kharagpur / IIT खड़गपुर
- (4) TATA / TATA

Correct Answer / सही उत्तर : (1) C-DAC, / C-DAC

Solution / हल : PARAM 10000 was developed by C-DAC. | PARAM 10000 को C-DAC ने विकसित किया।

91. Which of the following memories has the shortest access time?
Which of the following memories has the shortest access time?

- (1) Magnetic Bubble / Magnetic Bubble
- (2) Magnetic Core Memory / Magnetic Core Memory
- (3) Random Access Memory / रैंडम एक्सेस मेमोरी
- (4) Cache Memory / कैश मेमोरी

Correct Answer / सही उत्तर : (4) Cache Memory / कैश मेमोरी

Solution / हल : Correct option: Cache Memory | सही विकल्प: कैश मेमोरी

92. Printing speed of laser printers is measured in ?
Printing speed of laser printers is measured in ?

- (1) Pages per minute / Pages per minute
- (2) Lines per / Lines per
- (3) Characters per / Characters per
- (4) Characters per hour / Characters per hour

Correct Answer / सही उत्तर : (1) Pages per minute / Pages per minute

Solution / हल : Correct option: Pages per minute | सही विकल्प: Pages per minute

93. Which among the following is NOT an arithmetic operator in python?
Which among the following is NOT an arithmetic operator in python?

- (1) not in / not in
- (2) Exponent / Exponent
- (3) Floor division / Floor division
- (4) Modulus UPRVUNL Asst. Acct / Modulus UPRVUNL Asst. Acct

Correct Answer / सही उत्तर : (1) not in / not in

Solution / हल : Correct option: not in | सही विकल्प: not in

94. Gray code of decimal 3 is oMeceueJe 3 ?
दशमलव 3 का ग्रे कोड क्या है ?

- (1) 0010 / 0010
- (2) 0110 / 0110

(3) 1100 / 1100

(4) 1001 / 1001

Correct Answer / सही उत्तर : (1) 0010 / 0010

Solution / हल : Gray code of decimal 3 is 0010. | दशमलव 3 का ग्रे कोड 0010 है।

95. Who is the co-founder of Apple computer?

Who is the co-founder of Apple computer?

(1) Steave jobs / Steave jobs

(2) Paul / Paul

(3) Bill Gates / Bill Gates

(4) Charles flint / Charles flint

Correct Answer / सही उत्तर : (1) Steave jobs / Steave jobs

Solution / हल : Correct option: Steave jobs | सही विकल्प: Steave jobs

SECTION E - MENTAL ABILITY / खण्ड E - मानसिक योग्यता

96. An inspector is 228 meter behind the thief. The inspector runs 42 meters and the thief runs 30 meters in a minute. In what time will the inspector catch the thief ?

An inspector is 228 meter behind the thief. The inspector runs 42 meters and the thief runs 30 meters in a minute. In what time will the inspector catch the thief ?

(1) 21 minutes / 21 minutes

(2) 19 minutes / 19 minutes

(3) 18 minutes / 18 minutes

(4) 20 minutes / 20 minutes

Correct Answer / सही उत्तर : (2) 19 minutes / 19 minutes

Solution / हल : Correct option: 19 minutes | सही विकल्प: 19 minutes

97. In an examination, the maximum aggregate marks that a student can get is 1040. In order to pass the exam, a student is required to get 676 marks out of the aggregate marks. Mina got 624 marks. By what per cent did Mina fail in the exam?

In an examination, the maximum aggregate marks that a student can get is 1040. In order to pass the exam, a student is required to get 676 marks out of the aggregate marks. Mina got 624 marks. By what per cent did Mina fail in the exam?

(1) Cannot be determined / निर्धारित नहीं

(2) 8% / 8

(3) 5% / 5

(4) 7% / 7

Correct Answer / सही उत्तर : (3) 5% / 5

Solution / हल : Correct option: 5% | सही विकल्प: 5

98. If the interest were compounded half-yearly, the difference in two interests would be: (?

If the interest were compounded half-yearly, the difference in two interests would be: (?

(1) Rs. 31.61 / Rs. 31.61

(2) Rs. 26.90 / Rs. 26.90

(3) Rs. 32.40 / Rs. 32.40

(4) Rs. 24.81 / Rs. 24.81

Correct Answer / सही उत्तर : (3) Rs. 32.40 / Rs. 32.40

Solution / हल : Correct option: Rs. 32.40 | सही विकल्प: Rs. 32.40

99. A person purchased two Bags at the same price and on selling the first Bag he a profit of 10%. Selling price of second Bag is Rs. 90 more than the selling price of the first Bag. Find the cost price of one Bag if his overall profit percent is 13%? (SBI PO Prelim-2019)

A person purchased two Bags at the same price and on selling the first Bag he a profit of 10%. Selling price of second Bag is Rs. 90 more than the selling price of the first Bag. Find the cost price of one Bag if his overall profit percent is 13%? (SBI PO Prelim-2019)

- (1) Rs. 1800 / Rs. 1800
- (2) Rs. 2000 / Rs. 2000
- (3) Rs. 3000 / ₹3000
- (4) Rs. 2400 / Rs. 2400

Correct Answer / सही उत्तर : (3) Rs. 3000 / ₹3000

Solution / हल : Correct option: Rs. 3000 | सही विकल्प: ₹3000

100. A shopkeeper gives 10% discount on marked price of an article and earns a profit of 25% on it. If cost price of the article is Rs. 2160, then find the marked price of the article? (SBI Clerk Pre-2018)

एक दुकानदार अंकित मूल्य पर 10% छूट देकर 25% लाभ कमाता है। यदि लागत मूल्य ₹2160 है, तो अंकित मूल्य जात कीजिए ?

- (1) Rs. 2700 / ₹2700
- (2) Rs. 3500 / ₹3500
- (3) Rs. 2500 / ₹2500
- (4) Rs. 3000 / ₹3000

Correct Answer / सही उत्तर : (4) Rs. 3000 / ₹3000

Solution / हल : MP with 10% discount and 25% profit on CP Rs.2160 => MP = Rs.3000. | 2160 पर 10% छूट व 25% लाभ => अंकित मूल्य ₹3000।



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