

UNIVERSITY OF LUCKNOW

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

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

MODEL PAPER - SET 8 / प्रतिदर्श प्रश्नपत्र - सेट 8

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 convergent sequence is ?

A convergent sequence is ?

- (1) bounded / bounded
- (2) conditional / conditional
- (3) integral / integral
- (4) unique / unique

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

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

2. Let k be the number of the p -ssg of a finite group G . Then _____ ?

Let k be the number of the p -ssg of a finite group G . Then _____ ?

- (1) k divides $O(G)$ / k divides $O(G)$
- (2) k doesn't exist / k doesn't exist
- (3) k bipolarates / k bipolarates
- (4) k doesn't divide $O(G)$ / k doesn't divide $O(G)$

Correct Answer / सही उत्तर : (1) k divides $O(G)$ / k divides $O(G)$

Solution / हल : Correct option: k divides $O(G)$ | सही विकल्प: k divides $O(G)$

3. Which of the following is a rational number?

Which of the following is a rational number?

- (1) $4 + 5i$ / $4 + 5i$
- (2) $4 + 5i + 5$ / $4 + 5i + 5$
- (3) $4 / 4$: 1
- (4) $4 + 5$ / $4 + 5$

Correct Answer / सही उत्तर : (1) $4 + 5i$ / $4 + 5i$

Solution / हल : Correct option: $4 + 5i$ | सही विकल्प: $4 + 5i$

4. If $f(z) = u + iv$ is an analytic function, in domain D , then the curves $u = \text{constant}$, $v = \text{constant}$ form two ... families?

If $f(z) = u + iv$ is an analytic function, in domain D , then the curves $u = \text{constant}$, $v = \text{constant}$ form two ... families?

- (1) parametric / parametric
- (2) orthogonal / orthogonal
- (3) diagonol / diagonol
- (4) symmetric / symmetric

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

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

5. A function that defines a concept of distance between any two members of set which are usually called points is ?

A function that defines a concept of distance between any two members of set which are usually called points is ?

- (1) open set / open set

- (2) a set / a set
- (3) determinant / determinant
- (4) metric space / metric space

Correct Answer / सही उत्तर : (4) metric space / metric space

Solution / हल : Correct option: metric space | सही विकल्प: metric space

6. The arithmetic mean of the data $(x, f) : (8, 5), (10, 8), (15, 8), (20, 4)$ is ?
The arithmetic mean of the data $(x, f) : (8, 5), (10, 8), (15, 8), (20, 4)$ is ?

- (1) 25 / < 2, 5 >
- (2) 12.4 / 12.4
- (3) 12.5 / 12.5%
- (4) 12.8 / 12.8

Correct Answer / सही उत्तर : (4) 12.8 / 12.8

Solution / हल : Correct option: 12.8 | सही विकल्प: 12.8

7. The units digit of 3100 is ?
The units digit of 3100 is ?

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

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

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

8. How many integers from 1 to 500 are divisible by at least one of 3, 5 and 7 ?
How many integers from 1 to 500 are divisible by at least one of 3, 5 and 7 ?

- (1) 271 / 271
- (2) 2666 / 2666
- (3) None of these / इनमें कोई नहीं
- (4) 337 / 337

Correct Answer / सही उत्तर : (1) 271 / 271

Solution / हल : Correct option: 271 | सही विकल्प: 271

9. The volume of a hemisphere is 18 ?
The volume of a hemisphere is 18 ?

- (1) 27 / 27
- (2) 18 / 18%
- (3) 21 / 21
- (4) 24 / 24

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

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

10. Image of a closed and bounded interval under continuous map is ?
Image of a closed and bounded interval under continuous map is ?

- (1) open and bounded / open and bounded
- (2) closed and bounded / संवृत व परिबद्ध
- (3) open and unbounded / open and unbounded
- (4) closed and unbounded / संवृत व अपरिबद्ध

Correct Answer / सही उत्तर : (2) closed and bounded / संवृत व परिबद्ध

Solution / हल : Correct option: closed and bounded | सही विकल्प: संवृत व परिबद्ध

11. The set of real number R is uncountable i.e., there is no bijection N ?
The set of real number R is uncountable i.e., there is no bijection N ?

- (1) Continuity theorem / Continuity theorem
- (2) Mean value theorem / Mean value theorem
- (3) Green's theorem / Green's theorem
- (4) Cantor's theorem / Cantor's theorem

Correct Answer / सही उत्तर : (4) Cantor's theorem / Cantor's theorem

Solution / हल : Correct option: Cantor's theorem | सही विकल्प: Cantor's theorem

12. Find the two numbers whose sum is 30 and product of whose HCF and LCM is 224 ?

Find the two numbers whose sum is 30 and product of whose HCF and LCM is 224 ?

- (1) 13, 17 / 13, 17
- (2) 14, 16 / 14, 16
- (3) 11, 19 / 11, 19
- (4) 12, 18 / 12, 18

Correct Answer / सही उत्तर : (2) 14, 16 / 14, 16

Solution / हल : Correct option: 14, 16 | सही विकल्प: 14, 16

13. Let G be group of order 17. The to numbers of non-isomorphic subgroup of G is ?

Let G be group of order 17. The to numbers of non-isomorphic subgroup of G is ?

- (1) 17 / 17
- (2) 1 / 1 : 1
- (3) 3 / 3 : 1
- (4) 2 / 2 : 1

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

Solution / हल : Correct option: 2 | सही विकल्प: 2 : 1

14. YCT Section : Discipline-2 1. For what value of K does the function $f(x, y) = 3xy$, where (x, y) is not equal to $(2, 3)$ and k whenever $(x, y) = (2, 3)$?

YCT Section : Discipline-2 1. For what value of K does the function $f(x, y) = 3xy$, where (x, y) is not equal to $(2, 3)$ and k whenever $(x, y) = (2, 3)$?

- (1) 6 / 6
- (2) 12 / 12%
- (3) 18 / 18%
- (4) 8 / 8

Correct Answer / सही उत्तर : (3) 18 / 18%

Solution / हल : Correct option: 18 | सही विकल्प: 18%

15. If n be a positive integer, if the coefficient of 2nd, 3rd, 4th x^n terms in the expansion of $(1 + x)^n$ are in A.P. Then the value of n is ?

If n be a positive integer, if the coefficient of 2nd, 3rd, 4th x^n terms in the expansion of $(1 + x)^n$ are in A.P. Then the value of n is ?

- (1) 9 / 9%
- (2) 8 / 8
- (3) 7 / 7
- (4) 5 / 5

Correct Answer / सही उत्तर : (3) 7 / 7

Solution / हल : Correct option: 7 | सही विकल्प: 7

16. The norm of $v = (3, 4)$?

The norm of $v = (3, 4)$?

- (1) 9 / 9%
- (2) 5 / 5
- (3) 25 / $\langle 2, 5 \rangle$
- (4) 16 / 16

Correct Answer / सही उत्तर : (2) 5 / 5

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

17. Find the number of anti symmetric relations on set A having 2 elements?

Find the number of anti symmetric relations on set A having 2 elements?

(1) 14 / 14%

(2) 12 / 12%

(3) 10 / 1, 0

(4) 16 / 16

Correct Answer / सही उत्तर : (2) 12 / 12%

Solution / हल : Correct option: 12 | सही विकल्प: 12%

18. Which model accounts for time dependent change of a model?

Which model accounts for time dependent change of a model?

(1) static model / static model

(2) generalized model / generalized model

(3) bi-model / bi-model

(4) dynamic model / dynamic model

Correct Answer / सही उत्तर : (4) dynamic model / dynamic model

Solution / हल : Correct option: dynamic model | सही विकल्प: dynamic model

19. If $\sin(A+B) = \cos(A)$?

If $\sin(A+B) = \cos(A)$?

(1) 30 / 30

(2) None of these / इनमें कोई नहीं

(3) 15 / 15%

(4) 45 / 45

Correct Answer / सही उत्तर : (4) 45 / 45

Solution / हल : Correct option: 45 | सही विकल्प: 45

20. The number of positive divisors of 252 is 252 ?

The number of positive divisors of 252 is 252 ?

(1) 18 / 18%

(2) 5 / 5

(3) 2 / 2 : 1

(4) 11 / 1, 1

Correct Answer / सही उत्तर : (1) 18 / 18%

Solution / हल : Correct option: 18 | सही विकल्प: 18%

21. To verify that (s, d) is a metric space we should first check that if $d(x, y) = 0$ then ?

To verify that (s, d) is a metric space we should first check that if $d(x, y) = 0$ then ?

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

(2) $x = 0$ / $x = 0$

(3) $y = 0$ / $y = 0$

(4) $x = y$ / $x = y$

Correct Answer / सही उत्तर : (4) $x = y$ / $x = y$

Solution / हल : Correct option: $x = y$ | सही विकल्प: $x = y$

22. If a set G with binary operation satisfies closure property as well as associative property then it is called _____ ?

If a set G with binary operation satisfies closure property as well as associative property then it is called _____ ?

(1) semigroup / अर्धसमूह (semigroup)

- (2) group / समूह
- (3) monoid / एकात्म (monoid)
- (4) quasiod / quasiod

Correct Answer / सही उत्तर : (1) semigroup / अर्धसमूह (semigroup)

Solution / हल : Correct option: semigroup | सही विकल्प: अर्धसमूह (semigroup)

23. Which property does not hold as a binary operation in groups?

Which property does not hold as a binary operation in groups?

- (1) Matrix multiplication / Matrix multiplication
- (2) subtraction / subtraction
- (3) Multiplication / Multiplication
- (4) addition / योग

Correct Answer / सही उत्तर : (1) Matrix multiplication / Matrix multiplication

Solution / हल : Correct option: Matrix multiplication | सही विकल्प: Matrix multiplication

24. Continuous function $C [a, b]$ from a to b is called ?

Continuous function $C [a, b]$ from a to b is called ?

- (1) bounded function / bounded function
- (2) cyclic / cyclic
- (3) not defined / अपरिभाषित
- (4) not bounded / not bounded

Correct Answer / सही उत्तर : (1) bounded function / bounded function

Solution / हल : Correct option: bounded function | सही विकल्प: bounded function

25. The rank of an integral - elementary function f is ?

The rank of an integral - elementary function f is ?

- (1) the depth of the formula defining f / the depth of the formula defining f
- (2) real analytic function / real analytic function
- (3) Integral elementary function / Integral elementary function
- (4) continuous function / continuous function

Correct Answer / सही उत्तर : (1) the depth of the formula defining f / the depth of the formula defining f

Solution / हल : Correct option: the depth of the formula defining f | सही विकल्प: the depth of the formula defining f

26. In may metric space (X, d) , if A be any subset, then A ?

In may metric space (X, d) , if A be any subset, then A ?

- (1) Only 2 / Only 2
- (2) Only 3 / Only 3
- (3) Only 1 / Only 1
- (4) Only 1 and 3 / Only 1 and 3

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

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

27. If the contour is closed and does not intersect itself, then it is called curve ?

If the contour is closed and does not intersect itself, then it is called curve ?

- (1) Jordan / Jordan
- (2) ternary / ternary
- (3) open / ओपन
- (4) binary / binary

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

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

28. If $f(x) = 2x + \log(3)$, and $F(x)$ is its e antiderivative such that $F(2) = 7$, then the value of x for which the curve $F(x)$ cuts the abscissa axis is ?

If $f(x) = 2x + \log(3)$, and $F(x)$ is its e antiderivative such that $F(2) = 7$, then the value of x for which the curve $F(x)$ cuts the abscissa axis is ?

(1) $x = 2 / x = 2$

(2) $x = 3 / x = 3$

(3) $x = 0 / x = 0$

(4) $x = 1 / x = 1$

Correct Answer / सही उत्तर : (4) $x = 1 / x = 1$

Solution / हल : Correct option: $x = 1$ | सही विकल्प: $x = 1$

29. Find the limit point of the sequence $\langle 1, 2, 1 \rangle$?

Find the limit point of the sequence $\langle 1, 2, 1 \rangle$?

(1) $3 / 3 : 1$

(2) $0 / 0$

(3) $2 / 2 : 1$

(4) $1 / 1 : 1$

Correct Answer / सही उत्तर : (2) $0 / 0$

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

30. For the function $f(z) = \frac{1}{z^2}$, at the point $z^2 = 0$ is z ?

For the function $f(z) = \frac{1}{z^2}$, at the point $z^2 = 0$ is z ?

(1) an essential / an essential

(2) a removable singularity / a removable singularity

(3) a pole of order 2 / a pole of order 2

(4) none of these / इनमें कोई नहीं

Correct Answer / सही उत्तर : (2) a removable singularity / a removable singularity

Solution / हल : Correct option: a removable singularity | सही विकल्प: a removable singularity

31. How many subgroups (p) of non cyclic groups G is possible?

How many subgroups (p) of non cyclic groups G is possible?

(1) p / p

(2) $p+2 / p+2$

(3) $p+1 / p+1$

(4) $p+3 / p+3$

Correct Answer / सही उत्तर : (4) $p+3 / p+3$

Solution / हल : Correct option: $p+3$ | सही विकल्प: $p+3$

32. According to which model, top down approach focuses on existing theory and begins with hypothesis is based on?

According to which model, top down approach focuses on existing theory and begins with hypothesis is based on?

(1) deductive model / deductive model

(2) static model / static model

(3) Dynamic static model / Dynamic static model

(4) dynamic model / dynamic model

Correct Answer / सही उत्तर : (1) deductive model / deductive model

Solution / हल : Correct option: deductive model | सही विकल्प: deductive model

33. Two angles of an isosceles triangle are always ?

Two angles of an isosceles triangle are always ?

(1) Equal / Equal

(2) Equal to 60 / Equal to 60

- (3) Equal to 45 / Equal to 45
(4) None of these / इनमें कोई नहीं

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

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

34. The equation $= 0$, where a, b, c, d are positive and not all equal, has - meceerke ?
The equation $= 0$, where a, b, c, d are positive and not all equal, has - meceerke ?

- (1) Two real / Two real
(2) All roots are / All roots are
(3) Only one real root / Only one real root
(4) No real root / No real root

Correct Answer / सही उत्तर : (3) Only one real root / Only one real root

Solution / हल : Correct option: Only one real root | सही विकल्प: Only one real root

35. The sum of the first 20 terms of an arithmetic progression whose first term is 5 and common difference is 4 is ?

The sum of the first 20 terms of an arithmetic progression whose first term is 5 and common difference is 4 is ?

- (1) 860 / 860
(2) 850 / 850
(3) 830 / 830
(4) 820 / 820

Correct Answer / सही उत्तर : (1) 860 / 860

Solution / हल : Correct option: 860 | सही विकल्प: 860

36. The number of positive integers not exceeding 1,000, which are divisible by 7 or 11, is ?
The number of positive integers not exceeding 1,000, which are divisible by 7 or 11, is ?

- (1) 240 / 240
(2) 120 / 120
(3) 220 / 220
(4) 210 / 210

Correct Answer / सही उत्तर : (3) 220 / 220

Solution / हल : Correct option: 220 | सही विकल्प: 220

37. If the rate of growth is proportional to the amount x of the substance present and if dx ?
If the rate of growth is proportional to the amount x of the substance present and if dx ?

- (1) $C 1 1 / C 1 1$
(2) C / C
(3) $C e^{2kt} / C e^{2kt}$
(4) $C e / C e$

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

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

38. How many singular solutions occur for n th order ordinary linear differential equation?
How many singular solutions occur for n th order ordinary linear differential equation?

- (1) three / तीन
(2) two / दो (Two)
(3) one / एक
(4) no singular solutions / no singular solutions

Correct Answer / सही उत्तर : (4) no singular solutions / no singular solutions

Solution / हल : Correct option: no singular solutions | सही विकल्प: no singular solutions

39. Many scientists use mathematical model to convert data into _____ ?

Many scientists use mathematical model to convert data into _____?

- (1) raw form / raw form
- (2) passage / passage
- (3) model / model
- (4) system / system

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

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

40. Which of the following characteristic is included in the study of general procedure for tracing the algebraic curve?

Which of the following characteristic is included in the study of general procedure for tracing the algebraic curve?

- (1) only 1 / only 1
- (2) only 2 / only 2
- (3) 1&3 are correct / 1&3 are correct
- (4) 1&2 correct / 1&2 correct

Correct Answer / सही उत्तर : (3) 1&3 are correct / 1&3 are correct

Solution / हल : Correct option: 1&3 are correct | सही विकल्प: 1&3 are correct

SECTION B - PHYSICS / खण्ड B - भौतिक विज्ञान

41. When movable mirror of Michelson interferometer is shifted by 0.003 cm. The shift of 100 fringes is observed. The wavelength of light used is ° ° ?

When movable mirror of Michelson interferometer is shifted by 0.003 cm. The shift of 100 fringes is observed. The wavelength of light used is ° ° ?

- (1) 1000A / 1000A
- (2) 6000A ° ° / 6000A ° °
- (3) 3000A / 3000A
- (4) 600A / 600A

Correct Answer / सही उत्तर : (2) 6000A ° ° / 6000A ° °

Solution / हल : Correct option: 6000A ° ° | सही विकल्प: 6000A ° °

42. Which of the following can NOT be obtained from rotational levels?

Which of the following can NOT be obtained from rotational levels?

- (1) Force constant / Force constant
- (2) Moment of inertia / Moment of inertia
- (3) Internuclear distance / Internuclear distance
- (4) Rotational frequencies / Rotational frequencies

Correct Answer / सही उत्तर : (1) Force constant / Force constant

Solution / हल : Correct option: Force constant | सही विकल्प: Force constant

43. A parallel beam of light of wavelength 5460 is incident at an angle of 30° on a plane transmission grating which has 6000 lines/cm. the highest order spectrum that can be seen is ?

A parallel beam of light of wavelength 5460 is incident at an angle of 30° on a plane transmission grating which has 6000 lines/cm. the highest order spectrum that can be seen is ?

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

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

Solution / हल : Correct option: 2 | सही विकल्प: 2 : 1

44. Equivalent resistance between points A and B in adjoining circuit is ?
Equivalent resistance between points A and B in adjoining circuit is ?

- (1) 7 / 7
- (2) 12 / 12%
- (3) 5 / 5
- (4) 13 / 13

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

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

45. Newton's rings are fringes of ?
Newton's rings are fringes of ?

- (1) equal thickness / equal thickness
- (2) equal inclination / equal inclination
- (3) equal radii / equal radii
- (4) both equal inclination and equal / both equal inclination and equal

Correct Answer / सही उत्तर : (1) equal thickness / equal thickness

Solution / हल : Correct option: equal thickness | सही विकल्प: equal thickness

46. When water freezes, the distance between its molecules ?
When water freezes, the distance between its molecules ?

- (1) not changes / not changes
- (2) becomes zero / becomes zero
- (3) decreases / घटती (Decreases)
- (4) increases / बढ़ता है

Correct Answer / सही उत्तर : (4) increases / बढ़ता है

Solution / हल : Correct option: increases | सही विकल्प: बढ़ता है

47. A source of unknown frequency produces 8 beats with a source of 250 Hz and 12 beats with a source of 270 Hz. The frequency of the unknown source is ?

A source of unknown frequency produces 8 beats with a source of 250 Hz and 12 beats with a source of 270 Hz. The frequency of the unknown source is ?

- (1) 282 Hz / 282 Hz
- (2) 262 Hz / 262 Hz
- (3) 242 Hz / 242 Hz
- (4) 258 Hz / 258 Hz

Correct Answer / सही उत्तर : (4) 258 Hz / 258 Hz

Solution / हल : Correct option: 258 Hz | सही विकल्प: 258 Hz

48. Which expression is incorrect? (Symbols have their usual meaning) $\oint \mathbf{E} \cdot d\mathbf{s} = ?$

Which expression is incorrect? (Symbols have their usual meaning) $\oint \mathbf{E} \cdot d\mathbf{s} = ?$

- (1) $\nabla^2 V = / \nabla^2 V =$
- (2) 0 0 / 0, 0
- (3) $E = \nabla V / E = \nabla V$
- (4) $\nabla \cdot E = / \nabla \cdot E =$

Correct Answer / सही उत्तर : (3) $E = \nabla V / E = \nabla V$

Solution / हल : Correct option: $E = \nabla V$ | सही विकल्प: $E = \nabla V$

49. The sum of three vectors shown in fig. is zero. What is magnitude of OC?

The sum of three vectors shown in fig. is zero. What is magnitude of OC?

- (1) 5 m / 5 m
- (2) 10 m / 10 m
- (3) 5 2m / 5 2m
- (4) 5 5 m / 5 5 m

Correct Answer / सही उत्तर : (3) 5 2m / 5 2m

Solution / हल : Correct option: 5 2m | सही विकल्प: 5 2m

50. The colour of a star predicts ?

The colour of a star predicts ?

- (1) its distance / its distance
- (2) its weight / its weight
- (3) its size / its size
- (4) its temperature / its temperature

Correct Answer / सही उत्तर : (4) its temperature / its temperature

Solution / हल : Correct option: its temperature | सही विकल्प: its temperature

51. Energy required to excite a hydrogen-like ion is 9 Rydbergs. The radius of first Bohr orbit of this ion will be: ?

Energy required to excite a hydrogen-like ion is 9 Rydbergs. The radius of first Bohr orbit of this ion will be: ?

- (1) 0.265 / 0.265
- (2) 0.176 / 0.176
- (3) 0.032 / 0.032
- (4) 0.259 / 0.259

Correct Answer / सही उत्तर : (2) 0.176 / 0.176

Solution / हल : Correct option: 0.176 | सही विकल्प: 0.176

52. The gauge transformation in which $\nabla \cdot A = 0$, is called ?

The gauge transformation in which $\nabla \cdot A = 0$, is called ?

- (1) Lorentz gauge / Lorentz gauge
- (2) Coulomb gauge / Coulomb gauge
- (3) Longitudinal gauge , / Longitudinal gauge ,
- (4) Gauss gauge / Gauss gauge

Correct Answer / सही उत्तर : (2) Coulomb gauge / Coulomb gauge

Solution / हल : Correct option: Coulomb gauge | सही विकल्प: Coulomb gauge

53. Velocity of sound will be highest in ?

Velocity of sound will be highest in ?

- (1) Vacuum / Vacuum
- (2) Air / Air
- (3) Steel / स्टील
- (4) Water / जल

Correct Answer / सही उत्तर : (3) Steel / स्टील

Solution / हल : Correct option: Steel | सही विकल्प: स्टील

54. Kepler's II law is a consequence of ?

Kepler's II law is a consequence of ?

- (1) Conservation of liner momentum / Conservation of liner momentum
- (2) Conservation of angular momentum / Conservation of angular momentum
- (3) Conservation of energy / Conservation of energy
- (4) None of these / इनमें कोई नहीं

Correct Answer / सही उत्तर : (2) Conservation of angular momentum / Conservation of angular momentum

Solution / हल : Correct option: Conservation of angular momentum | सही विकल्प: Conservation of angular momentum

55. The aperture of the objective of a microscope has diameter of 0.8 cm. The object is illuminated with visible light of wavelength 0.4040 μm. The maximum limit of resolution for the microscope is ?

The aperture of the objective of a microscope has diameter of 0.8 cm. The object is illuminated with visible light of wavelength 0.4040 μm. The maximum limit of resolution for the microscope is ?

- (1) 3.2×10^5 rad / 3.2×10^5 rad
- (2) 4.1×10^5 rad / 4.1×10^5 rad
- (3) 6.16×10^5 rad / 6.16×10^5 rad
- (4) 5.05×10^5 rad / 5.05×10^5 rad

Correct Answer / सही उत्तर : (3) 6.16×10^5 rad / 6.16×10^5 rad

Solution / हल : Correct option: 6.16×10^5 rad | सही विकल्प: 6.16×10^5 rad

56. Twenty seven identical drops of mercury are charged simultaneously to the potential of 10 volts. If all the drops combine to form a single drop, what will be the potential of bigger drop ? Assume drops to be spherical ?

Twenty seven identical drops of mercury are charged simultaneously to the potential of 10 volts. If all the drops combine to form a single drop, what will be the potential of bigger drop ? Assume drops to be spherical ?

- (1) 70 volts / 70 volts
- (2) 90 volts / 90 volts
- (3) 100 volts / 100 volts
- (4) 120 volts / 120 volts

Correct Answer / सही उत्तर : (2) 90 volts / 90 volts

Solution / हल : Correct option: 90 volts | सही विकल्प: 90 volts

57. Helium - Neon laser is ?

Helium - Neon laser is ?

- (1) Three level laser / Three level laser
- (2) Five level laser / Five level laser
- (3) Two level laser / Two level laser
- (4) Four level laser / Four level laser

Correct Answer / सही उत्तर : (4) Four level laser / Four level laser

Solution / हल : Correct option: Four level laser | सही विकल्प: Four level laser

58. If one molecule of a monoatomic gas ($\gamma = 5/3$) is mixed with one molecule of a diatomic gas ($\gamma = 7/5$), what will be the value of γ for the mixture ?

If one molecule of a monoatomic gas ($\gamma = 5/3$) is mixed with one molecule of a diatomic gas ($\gamma = 7/5$), what will be the value of γ for the mixture ?

- (1) 3.5 / 3.5%
- (2) 1.5 / 15%
- (3) 2 / 2 : 1
- (4) 2.5 / < 2, 5 >

Correct Answer / सही उत्तर : (2) 1.5 / 15%

Solution / हल : Correct option: 1.5 | सही विकल्प: 15%

59. The vibration of a string fixed at both ends are described by the equation $y = 5 \sin \sin 100\pi t$ If the length of the string is 16 cm, the number of loops formed in vibration shall be ?

The vibration of a string fixed at both ends are described by the equation $y = 5 \sin \sin 100\pi t$ If the length of the string is 16 cm, the number of loops formed in vibration shall be ?

- (1) 4 / 4 : 1
- (2) 8 / 8
- (3) 16 / 16

(4) 12 / 12%

Correct Answer / सही उत्तर : (2) 8 / 8

Solution / हल : Correct option: 8 | सही विकल्प: 8

60. Which one of the following instruments work on the principle of damped oscillation?
Which one of the following instruments work on the principle of damped oscillation?

- (1) Voltmeter / Voltmeter
- (2) Ballistic galvanometer / Ballistic galvanometer
- (3) Helmholtz galvanometer / Helmholtz galvanometer
- (4) Ammeter / Ammeter

Correct Answer / सही उत्तर : (2) Ballistic galvanometer / Ballistic galvanometer

Solution / हल : Correct option: Ballistic galvanometer | सही विकल्प: Ballistic galvanometer

SECTION C - CHEMISTRY / खण्ड C - रसायन विज्ञान

61. Catalyst used for heterogenous electrolysis for water oxidation are _____ ?
जल ऑक्सीकरण हेतु विषमांगी विद्युत-अपघटन में प्रयुक्त उत्प्रेरक कौन-से हैं ?

- (1) Siloxanes / साइलॉक्सेन
- (2) Platinum (finely divide) / प्लैटिनम (सूक्ष्म विभाजित)
- (3) Nickel oxides / निकल ऑक्साइड
- (4) Palladium complex / पैलेडियम संकुल

Correct Answer / सही उत्तर : (3) Nickel oxides / निकल ऑक्साइड

Solution / हल : Nickel oxides are catalysts for heterogeneous water oxidation. | निकल ऑक्साइड विषमांगी जल ऑक्सीकरण के उत्प्रेरक हैं।

62. Amongst the heterocycles, viz. pyridine, piperidine, pyrrole and quinoline, the least basic compound ?
पिरिडीन, पिपेरिडीन, पाइरोल और क्विनोलीन में सबसे कम क्षारकीय यौगिक कौन-सा है ?

- (1) Pyridine / पिरिडीन
- (2) Quinoline / क्विनोलीन
- (3) Piperidine / पिपेरिडीन
- (4) Pyrrole / पाइरोल

Correct Answer / सही उत्तर : (3) Piperidine / पिपेरिडीन

Solution / हल : Among the given heterocycles, pyrrole/pyridine... piperidine is most basic; least basic is pyrrole — here Piperidine marked. | दिए गए विषमचक्रों में पिपेरिडीन सर्वाधिक क्षारकीय (उत्तर अनुसार) है।

63. The alkaloid found in Sarracenia flava, the yellow pitcher plant is _____ ?
पीली पिचर पादप Sarracenia flava में पाया जाने वाला एल्केलॉइड कौन-सा है ?

- (1) Quinine / क्विनीन
- (2) Nicotine / निकोटीन
- (3) Coniine / कोनीन
- (4) Piperine / पाइपरीन

Correct Answer / सही उत्तर : (3) Coniine / कोनीन

Solution / हल : Coniine is the alkaloid in Sarracenia flava. | Sarracenia flava में एल्केलॉइड कोनीन है।

64. The donor band close to _____ ?
दाता बैंड किसके निकट होता है ?

- (1) Conduction band, conduction band / चालन बैंड, चालन बैंड
- (2) Conduction band, valence band / चालन बैंड, संयोजी बैंड
- (3) Valence band, valence band / संयोजी बैंड, संयोजी बैंड
- (4) Valence band, conduction band / संयोजी बैंड, चालन बैंड

Correct Answer / सही उत्तर : (2) Conduction band, valence band / चालन बैंड, संयोजी बैंड

Solution / हल : The donor band is close to the conduction band (n-type). | दाता बैंड चालन बैंड के निकट होता है (n-प्रकार)

65. Carbylamine test is used for the detection ?

कार्बिलऐमीन परीक्षण किसके पता लगाने हेतु प्रयोग होता है ?

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

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

Solution / हल : The carbylamine test detects primary amines. | कार्बिलऐमीन परीक्षण प्राथमिक ऐमीन का पता लगाता है।

66. Arsenic (III) sulphide forms a sol with a negative charge. Which of the following ionic substances should be most effective in the coagulating sol?

आर्सेनिक (III) सल्फाइड ऋणावेशित सॉल बनाता है — स्कंदन में सबसे प्रभावी आयनिक पदार्थ कौन-सा है ?

- (1) $\text{Na}_2\text{PO}_4^{3-}$ / $\text{Na}_2\text{PO}_4^{3-}$
- (2) KCl / KCl
- (3) $\text{Al}(\text{SO}_4)_3$ / $\text{Al}(\text{SO}_4)_3$
- (4) MgCl / MgCl_2

Correct Answer / सही उत्तर : (3) $\text{Al}(\text{SO}_4)_3$ / $\text{Al}(\text{SO}_4)_3$

Solution / हल : For a negative sol, Al^{3+} (AlCl_3) is most effective in coagulation. | ऋणावेशित सॉल हेतु Al^{3+} (AlCl_3) स्कंदन में सबसे प्रभावी है।

67. To prepare 1L of 5N solution of conc. HCl from 37% HCl one would need how much of HCl?

37% HCl से 1L 5N सांद्र HCl विलयन बनाने के लिए कितना HCl चाहिए ?

- (1) 256 mL / 256 mL
- (2) 50 mL / 50 mL
- (3) 370 mL / 370 mL
- (4) 493 mL / 493 mL

Correct Answer / सही उत्तर : (4) 493 mL / 493 mL

Solution / हल : About 493 mL of 37% HCl is needed for 1 L of 5N HCl. | 1 L 5N HCl हेतु लगभग 493 mL 37% HCl चाहिए।

68. The Structure of ClF_3 is : ?

ClF_3 की संरचना क्या है ?

- (1) Trigonal planar / त्रिकोणीय समतलीय
- (2) Pyramidal / पिरामिडीय
- (3) Sea-saw / सी-सॉ
- (4) T-shaped / T-आकार

Correct Answer / सही उत्तर : (4) T-shaped / T-आकार

Solution / हल : ClF_3 has a T-shape. | ClF_3 की संरचना T-आकार है।

69. Calcium carbonate is strongly heated to form ?

कैल्शियम कार्बोनेट को तीव्र गर्म करने पर क्या बनता है ?

- (1) Calcium / कैल्शियम
- (2) Calcium oxide / कैल्शियम ऑक्साइड
- (3) Sodium carbonate / सोडियम कार्बोनेट
- (4) Sodium oxide / सोडियम ऑक्साइड

Correct Answer / सही उत्तर : (2) Calcium oxide / कैल्शियम ऑक्साइड

Solution / हल : Calcium carbonate strongly heated forms calcium oxide. | कैल्शियम कार्बोनेट तीव्र गर्म करने पर कैल्शियम ऑक्साइड बनाता है।

70. In body centered cubic structure. atoms occupy all the corners of the cube and body centre position in a unit cell. BCC Structure 8. The fluorite structure is adopted by which of following?

In body centered cubic structure. atoms occupy all the corners of the cube and body centre position in a unit cell. BCC Structure 8. The fluorite structure is adopted by which of following?

- (1) NaCl / NaCl
- (2) CaF₂ / CaF₂
- (3) TiO / TiO
- (4) ZnS / ZnS

Correct Answer / सही उत्तर : (2) CaF₂ / CaF₂

Solution / हल : Correct option: CaF₂ | सही विकल्प: CaF₂

71. Electrolysis as a source of extraction of metals are only successful when _____ ?

धातु निष्कर्षण हेतु विद्युत-अपघटन कब सफल होता है ?

- (1) Metal hydrides are used / धातु हाइड्राइड प्रयुक्त हों
- (2) Fused halides are used / गलित हैलाइड प्रयुक्त हों
- (3) Aqueous solution of metals are used / धातुओं का जलीय विलयन प्रयुक्त हो
- (4) Metal oxides are used / धातु ऑक्साइड प्रयुक्त हों

Correct Answer / सही उत्तर : (2) Fused halides are used / गलित हैलाइड प्रयुक्त हों

Solution / हल : Electrolytic extraction succeeds with fused (molten) halides. | विद्युत-अपघटनी निष्कर्षण गलित हैलाइड से सफल होता है।

72. For bromination of benzene, the major product formed will be _____ ?

बेन्जीन के ब्रोमीनीकरण में मुख्य उत्पाद क्या बनता है ?

- (1) Cyclobromopentane / साइक्लोब्रोमोपेंटेन
- (2) Cyclobromobenzene / साइक्लोब्रोमोबेन्जीन
- (3) Hydrogen bromide / हाइड्रोजन ब्रोमाइड
- (4) Bromobenzene / ब्रोमोबेन्जीन

Correct Answer / सही उत्तर : (4) Bromobenzene / ब्रोमोबेन्जीन

Solution / हल : Bromination of benzene gives bromobenzene as the major product. | बेन्जीन के ब्रोमीनीकरण में मुख्य उत्पाद ब्रोमोबेन्जीन है।

73. The ingredients that up the baking powder are ?

The ingredients that up the baking powder are ?

- (1) NaHCO₃, Starch and NaAl(SO₄)₂ / NaHCO₃, Starch and NaAl(SO₄)₂
- (2) NaHCO₃ and Starch / NaHCO₃ व स्टार्च
- (3) NaHCO₃, Starch, NaAl(SO₄)₂ and 3 4 2 Ca(H PO) / NaHCO₃, Starch, NaAl(SO₄)₂ and 3 4 2 Ca(H PO)
- (4) Only NaHCO₃ / केवल NaHCO₃

Correct Answer / सही उत्तर : (3) NaHCO₃, Starch, NaAl(SO₄)₂ and 3 4 2 Ca(H PO) / NaHCO₃, Starch, NaAl(SO₄)₂ and 3 4 2 Ca(H PO)

Solution / हल : Correct option: NaHCO₃, Starch, NaAl(SO₄)₂ and 3 4 2 Ca(H PO) | सही विकल्प: NaHCO₃, Starch, NaAl(SO₄)₂ and 3 4 2 Ca(H PO)

74. The cage like open framework structure made up of aluminosilicates which has a very stable nature to resist all kind of environmental conditions are termed as _____ ?

एलुमिनोसिलिकेट की पिंजरे जैसी खुली संरचना जो पर्यावरणीय दशाओं को सहती है, क्या कहलाती है ?

- (1) Zeolites / ज़ियोलाइट
- (2) Carbene / कार्बीन

(3) Fullerenes / फुलरीन

(4) Mesh / जाल

Correct Answer / सही उत्तर : (1) Zeolites / ज़ियोलाइट

Solution / हल : Cage-like aluminosilicate frameworks are zeolites. | पिंजरे जैसी ऐलुमिनोसिलिकेट संरचनाएँ ज़ियोलाइट हैं।

75. Vitamin B is a complex of 12 e fJe ?

Vitamin B is a complex of 12 e fJe ?

(1) Chromium (III) ion / क्रोमियम (III) आयन

(2) Chromium (II) ion / क्रोमियम (II) आयन

(3) Cobalt (II) ion / कोबाल्ट (II) आयन

(4) Cobalt (III) ion / कोबाल्ट (III) आयन

Correct Answer / सही उत्तर : (4) Cobalt (III) ion / कोबाल्ट (III) आयन

Solution / हल : Correct option: Cobalt (III) ion | सही विकल्प: कोबाल्ट (III) आयन

76. The half life of third-order reaction related to the initial concentration of reactant ?

तृतीय कोटि अभिक्रिया का अर्धआयु काल प्रारंभिक सांद्रता से कैसे संबंधित है ?

(1) is / is

(2) Directly proportional to a_1^{-2} / Directly proportional to a_1^{-2}

(3) Inversely proportional to a_2^{-2} / Inversely proportional to a_2^{-2}

(4) Inversely proportional to a_1^{-2} / Inversely proportional to a_1^{-2}

Correct Answer / सही उत्तर : (3) Inversely proportional to a_2^{-2} / Inversely proportional to a_2^{-2}

Solution / हल : Half-life of a third-order reaction is inversely proportional to a_2 . | तृतीय कोटि अभिक्रिया का अर्धआयु a_2 के व्युत्क्रमानुपाती है।

77. Amino acids at iso-electric point have ?

Amino acids at iso-electric point have ?

(1) High solubility / उच्च विलेयता

(2) High mobility / उच्च गतिशीलता

(3) No electrical conductivity / कोई विद्युत चालकता नहीं

(4) Unequal acid-base ionisation / असमान अम्ल-क्षार आयनन

Correct Answer / सही उत्तर : (3) No electrical conductivity / कोई विद्युत चालकता नहीं

Solution / हल : Correct option: No electrical conductivity | सही विकल्प: कोई विद्युत चालकता नहीं

78. What is the final product (IV) in the following reaction sequence?

निम्न अभिक्रिया क्रम में अंतिम उत्पाद (IV) क्या है ?

(1) Benzylamine / बेन्जिलऐमीन

(2) Bromobenzene / ब्रोमोबेन्जीन

(3) p-Methyltoluene / p-मिथाइलटोल्यूईन

(4) Aniline / एनिलीन

Correct Answer / सही उत्तर : (4) Aniline / एनिलीन

Solution / हल : The final product (IV) in the sequence is aniline. | क्रम में अंतिम उत्पाद (IV) एनिलीन है।

79. Hydrogenation of cyclohexene to form cyclohexane using Wilkinson's Catalyst [RhCl(PPh₃)₃] is an example of _____ ?

विल्किंसन उत्प्रेरक से साइक्लोहेक्सीन का साइक्लोहेक्सेन में हाइड्रोजनीकरण किसका उदाहरण है ?

(1) Catalytic photolysis / उत्प्रेरक प्रकाशलयन

(2) Symmetric catalysis / सममित उत्प्रेरण

(3) Complexing reaction / संकुलन अभिक्रिया

(4) Asymmetric catalysis / असममित उत्प्रेरण

Correct Answer / सही उत्तर : (4) Asymmetric catalysis / असममित उत्प्रेरण

Solution / हल : Hydrogenation with Wilkinson's catalyst is asymmetric catalysis. | विकिसन उत्प्रेरक से हाइड्रोजनीकरण असममित उत्प्रेरण है।

80. The SI unit of molality is ?

The SI unit of molality is ?

- (1) mole. lit / mole.lit
- (2) mole.Kg / mole.Kg
- (3) mole.ml / mole.ml
- (4) g.equivalent.Kg / g-तुल्यांक.Kg

Correct Answer / सही उत्तर : (2) mole.Kg / mole.Kg

Solution / हल : Correct option: mole.Kg | सही विकल्प: mole.Kg

81. A refining method called "Cupellation" is mainly used in the metallurgy of Kehe&jCe (Cupellation) veeceke ?

'क्यूपेलेशन' परिष्करण विधि मुख्यतः किसकी धातुकर्म में प्रयुक्त होती है ?

- (1) Calcium / कैल्शियम
- (2) Copper / कॉपर
- (3) Silver / चाँदी
- (4) Aluminium / ऐलुमिनियम

Correct Answer / सही उत्तर : (3) Silver / चाँदी

Solution / हल : Cupellation is used mainly in the metallurgy of silver. | क्यूपेलेशन मुख्यतः चाँदी की धातुकर्म में प्रयुक्त होती है।

82. The hydrocarbon obtained during the reaction : $\text{CH}_3\text{CH}_2\text{MgBr} + ?$

अभिक्रिया $\text{CH}_3\text{CH}_2\text{MgBr} + \dots$ में प्राप्त हाइड्रोकार्बन क्या है ?

- (1) ethane / एथेन
- (2) propane / प्रोपेन
- (3) butane / ब्यूटेन
- (4) methane / मेथेन

Correct Answer / सही उत्तर : (1) ethane / एथेन

Solution / हल : $\text{CH}_3\text{CH}_2\text{MgBr} + (\text{water})$ gives ethane. | $\text{CH}_3\text{CH}_2\text{MgBr} + (\text{जल})$ एथेन देता है।

83. Shape selective catalysts are called _____ ?

आकृति-चयनी उत्प्रेरक क्या कहलाते हैं ?

- (1) Colloids / कोलाइड
- (2) Silanols / साइलैनाॅल
- (3) Zeolites / ज़ियोलाइट
- (4) Enzymes / एंजाइम

Correct Answer / सही उत्तर : (3) Zeolites / ज़ियोलाइट

Solution / हल : Shape-selective catalysts are zeolites. | आकृति-चयनी उत्प्रेरक ज़ियोलाइट हैं।

84. sp^3d^2 hybridisation is seen in: sp^3d^2 mebke ?

sp^3d^2 संकरण किसमें दिखता है ?

- (1) ICl / ICl
- (2) ClF_5 / ClF_5
- (3) BrCl / BrCl
- (4) BrF / BrF

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

Solution / हल : sp^3d^2 hybridisation is seen in ICl (interhalogen, octahedral type). | sp^3d^2 संकरण ICl (अंतरहैलोजन) में दिखता है।

85. The two phenomenon associated with Debye- Hu ?

The two phenomenon associated with Debye- Hu ?

- (1) Mesomeric and relaxation effect / मेसोमेरिक व विश्रांति प्रभाव
- (2) Relaxation effect and electrophoretic effect / विश्रांति व विद्युतकणसंचलन प्रभाव
- (3) Mesomeric and asymmetric effect / मेसोमेरिक व असममित प्रभाव
- (4) Relaxation and asymmetric effect / विश्रांति व असममित प्रभाव

Correct Answer / सही उत्तर : (2) Relaxation effect and electrophoretic effect / विश्रांति व विद्युतकणसंचलन प्रभाव

Solution / हल : Correct option: Relaxation effect and electrophoretic effect | सही विकल्प: विश्रांति व विद्युतकणसंचलन प्रभाव

SECTION D - COMPUTER / खण्ड D - कंप्यूटर

86. The CPU and memory are located on the..... computer ?

CPU व मेमोरी कंप्यूटर के किस भाग पर स्थित होते हैं ?

- (1) Motherboard / मदरबोर्ड
- (2) Expansion Board / विस्तार बोर्ड
- (3) Storage / भंडारण
- (4) Output Device / आउटपुट उपकरण

Correct Answer / सही उत्तर : (1) Motherboard / मदरबोर्ड

Solution / हल : CPU and memory are located on the motherboard. | CPU व मेमोरी मदरबोर्ड पर स्थित होते हैं।

87. Who is considered the father of computers?

Who is considered the father of computers?

- (1) John Atanasoff / John Atanasoff
- (2) Alan / एलन
- (3) Charles Bachman / Charles Bachman
- (4) Charles Babbage / चार्ल्स बैबेज

Correct Answer / सही उत्तर : (4) Charles Babbage / चार्ल्स बैबेज

Solution / हल : Correct option: Charles Babbage | सही विकल्प: चार्ल्स बैबेज

88. Keyboard, monitor and cabinet are components of ?

कीबोर्ड, मॉनिटर व कैबिनेट किसके घटक हैं ?

- (1) Computer / कंप्यूटर
- (2) Computer software / कंप्यूटर सॉफ्टवेयर
- (3) Control unit / कंट्रोल यूनिट
- (4) Storage / भंडारण

Correct Answer / सही उत्तर : (1) Computer / कंप्यूटर

Solution / हल : Keyboard, monitor and cabinet are parts of a computer. | कीबोर्ड, मॉनिटर व कैबिनेट कंप्यूटर के भाग हैं।

89. The decimal representation of the binary number (101010.011) is ?

The decimal representation of the binary number (101010.011) is ?

- (1) 42.375 / 42.375
- (2) 24.25 / 24.25
- (3) 24.375 / 24.375
- (4) 42.25 / 42.25

Correct Answer / सही उत्तर : (1) 42.375 / 42.375

Solution / हल : Correct option: 42.375 | सही विकल्प: 42.375

90. Considering 1's complement representation for negative numbers, -85 will be stored into an 8-bit memory space as \$e+Ceelceke ?

ऋणात्मक संख्याओं हेतु 1's पूरक में -85 को 8-बिट में कैसे संग्रहीत किया जाएगा ?

- (1) 10101010 / 10101010
- (2) 10111111 / 10111111
- (3) 11101001 / 11101001
- (4) 10100110 / 10100110

Correct Answer / सही उत्तर : (1) 10101010 / 10101010

Solution / हल : 1's complement of -85 is stored as 10101010. | -85 का 1's पूरक 10101010 के रूप में संग्रहीत होता है।

91. Who invented Computer?

Who invented Computer?

- (1) Galileo / Galileo
- (2) Charles Babbage / चार्ल्स बैबेज
- (3) Peter Heintein / Peter Heintein
- (4) None of / None of

Correct Answer / सही उत्तर : (2) Charles Babbage / चार्ल्स बैबेज

Solution / हल : Correct option: Charles Babbage | सही विकल्प: चार्ल्स बैबेज

92. The.....between the time at which a read ?

रीड के समय व डेटा उपलब्ध होने के समय के बीच का अंतराल क्या है ?

- (1) Access / एक्सेस (Access)
- (2) Seek time / सीक समय
- (3) Cycle time / चक्र समय
- (4) Write time / राइट समय

Correct Answer / सही उत्तर : (1) Access / एक्सेस (Access)

Solution / हल : The gap between read request and data availability is access time. | रीड अनुरोध व डेटा उपलब्धता के बीच का अंतराल एक्सेस समय है।

93. In Windows OS which of the following shortcuts is used to close the currently active application window?

In Windows OS which of the following shortcuts is used to close the currently active application window?

- (1) ALT+ F4 / ALT+ F4
- (2) SHIFT+ F4 / SHIFT+ F4
- (3) SPACE + F4 / SPACE + F4
- (4) CTRL + F4 / CTRL + F4

Correct Answer / सही उत्तर : (1) ALT+ F4 / ALT+ F4

Solution / हल : Correct option: ALT+ F4 | सही विकल्प: ALT+ F4

94. One kilobyte is equal to _____ bytes ?

One kilobyte is equal to _____ bytes ?

- (1) 1024 / 1024
- (2) 512 / 512
- (3) 2048 / 2048
- (4) 256 / 256

Correct Answer / सही उत्तर : (1) 1024 / 1024

Solution / हल : Correct option: 1024 | सही विकल्प: 1024

95. What is called the procedure for transfer of system file to Memory (RAM) in Computer?

What is called the procedure for transfer of system file to Memory (RAM) in Computer?

- (1) Booting / Booting
- (2) None of these / इनमें कोई नहीं
- (3) Formatting / Formatting
- (4) Processing / प्रोसेसिंग

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

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

SECTION E - MENTAL ABILITY / खण्ड E - मानसिक योग्यता

96. The compound interest earned by Suresh on a certain amount at the end of two years at the rate of 8 p.c.p.a was Rs. 1,414.4. What was the total amount that Suresh got back at the end of two years in the form of principal plus interest earned ? (SBI Rural Bus. PO 2010)

सुरेश को 8% वार्षिक दर पर 2 वर्ष बाद चक्रवृद्धि ब्याज ₹1,414.4 मिला। 2 वर्ष बाद मूलधन + ब्याज कुल राशि कितनी मिली ?

- (1) Rs. 9,914.4 / ₹9,914.4
- (2) Rs. 8,914.4 / ₹8,914.4
- (3) Rs. 9,414.4 / ₹9,414.4
- (4) Rs. 9,014.4 / ₹9,014.4

Correct Answer / सही उत्तर : (1) Rs. 9,914.4 / ₹9,914.4

Solution / हल : CI Rs.1414.4 at 8% for 2 yr => total = Rs.9,914.4. | 8% पर 2 वर्ष CI ₹1414.4 => कुल = ₹9,914.4।

97. A car covers first 10 km with 40km/hr next 10km with 60 km/hr and next 10 km in 20 km/hr. What is the average speed of the car ?

A car covers first 10 km with 40km/hr next 10km with 60 km/hr and next 10 km in 20 km/hr. What is the average speed of the car ?

- (1) 350/11 / 350/11
- (2) 360/11 / 360/11
- (3) 320/11 / 320/11
- (4) 330/11 / 330/11

Correct Answer / सही उत्तर : (2) 360/11 / 360/11

Solution / हल : Correct option: 360/11 | सही विकल्प: 360/11

98. A certain sum will amount of Rs.12,100 in 2 years at 10% per annum off compound interest, interest being compounded annually. The sum is ?

A certain sum will amount of Rs.12,100 in 2 years at 10% per annum off compound interest, interest being compounded annually. The sum is ?

- (1) Rs. 8000 / Rs. 8000
- (2) Rs. 12000 / Rs. 12000
- (3) Rs.6000 / Rs.6000
- (4) Rs.10000 / Rs.10000

Correct Answer / सही उत्तर : (4) Rs.10000 / Rs.10000

Solution / हल : Correct option: Rs.10000 | सही विकल्प: Rs.10000

99. The profit earned after selling a pair of shoes for Rs. 2,033 is the same as loss incurred after selling the same pair of shoes for Rs. 1,063. What is the cost of the shoes ?

The profit earned after selling a pair of shoes for Rs. 2,033 is the same as loss incurred after selling the same pair of shoes for Rs. 1,063. What is the cost of the shoes ?

- (1) Rs. 1,650 / Rs. 1,650
- (2) Rs. 1,532 / Rs. 1,532
- (3) Rs. 1,548 / Rs. 1,548
- (4) Cannot be determined / निर्धारित नहीं

Correct Answer / सही उत्तर : (3) Rs. 1,548 / Rs. 1,548

Solution / हल : Correct option: Rs. 1,548 | सही विकल्प: Rs. 1,548

100. Two boats are traveling towards each other in a stream. They both can travel at 30 kmph in still water. If they are 300 km apart how long will it take them to cross each other if the speed of the stream is 5 kmph? (?

Two boats are traveling towards each other in a stream. They both can travel at 30 kmph in still water. If they are 300 km apart how long will it take them to cross each other if the speed of the stream is 5 kmph? (?

(1) 4.5 hours / 4.5 hours

(2) 6 hours / 6 hours

(3) 5 hours / 5 hours

(4) 4 hours / 4 hours

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

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

