1. The value of $(0.04)^{-1.5}$ is?
$(0.04)^{-1.5}$ का मान है?
(RRB ALP 2024)
[A] 25 [B] 250
[C] 625 [D] 125

2. If $3x - y = 12$, then find $\frac{8^x}{2^y}$?
यदि $3x - y = 12$ है, तो $\frac{8^x}{2^y}$ ज्ञात कीजिये?
[A] 2021 [B] 4096
[C] 8192 [D] 2048

3. If $8^{3x-5} = \frac{1}{32^{7-4x}}$ then x=?
[A] $\frac{16}{9}$ [B] $\frac{20}{11}$
[C] $\frac{25}{13}$ [D] 2

4. If $625^{2x-3} = 25^{6^{1^{14^8}}}$ then x=?
(UPSI exam 2011)
[A] 2 [B] 3
[C] 4 [D] 5

5. If $(\frac{x}{y})^{5a-3} = (\frac{y}{x})^{17-3a}$, what is the value of a?
यदि $(\frac{x}{y})^{5a-3} = (\frac{y}{x})^{17-3a}$ तो a का मान क्या है?
[A] –6 [B] –5
[C] –7 [D] –8

6. If $x^{x\sqrt{x}} = (x\sqrt{x})^x$, then x equal to?
[A] 4/9 [B] 16/9
[C] 3/2 [D] 9/4

7. If x and y are natural numbers such that x + y = 2021, then what is the value of $(-1)^x + (-1)^y$?
यदि x तथा y प्राकृतिक संख्याए इस प्रकार है कि x + y = 2021 है; तो$(-1)^x + (-1)^y$ का मान क्या है?
[A] 2 [B] –2
[C] 0 [D] 1

8. Given that $87^{0.27} = x$, $87^{0.15} = y$ and $x^z = y^6$, then the value of z is close to:
यह देखते हुए कि $87^{0.27} = x$, $87^{0.15} = y$ & $x^z = y^6$, तो z का मान करीब है:
(RRB RPF SI 2024)
[A] 5.77 [B] 2.15
[C] 3.16 [D] 3.33

9. On comparing the following two numeric expressions $[(2\frac{7}{9})^{2\frac{1}{2}}]^{\frac{3}{5}}$ & $[(1\frac{2}{3})^5]^{\frac{3}{5}}$, we find that _____?

निम्नलिखित दो संख्यात्मक व्यंजक $[(2\frac{7}{9})^{2\frac{1}{2}}]^{\frac{3}{5}}$ & $[(1\frac{2}{3})^{5}]^{\frac{3}{5}}$ की तुलना करने पर हम पाते हैं कि _____?

(MTS 2023)

[A] Both the expression are equal.
[B] The first expression is smaller than the second.
[C] The first expression is larger than second expression.
[D] The given two expressions cannot be compared.

10. If $3^{x+y} = 81$ and $81^{x-y} = 3$ then x*y=?

[A] $\frac{255}{64}$ [B] $\frac{125}{32}$
[C] $\frac{240}{64}$ [D] none

11. If $\left(\frac{25}{9}\right)^{x+1} \times \left(\frac{81}{625}\right)^{x-1} = \frac{9}{25}$, then find the value of 'x'.

यदि $\left(\frac{25}{9}\right)^{x+1} \times \left(\frac{81}{625}\right)^{x-1} = \frac{9}{25}$ है, तो x का मान ज्ञात कीजिए।

RRB Group D- 2022

[A] 8 [B] 6
[C] 5 [D] 4

12. Find the value of $\left(\frac{1}{7}\right)^{-4} + \left(\frac{1}{9}\right)^{-4} + \left(\frac{1}{5}\right)^{-4}$.

$\left(\frac{1}{7}\right)^{-4} + \left(\frac{1}{9}\right)^{-4} + \left(\frac{1}{5}\right)^{-4}$ का मान ज्ञात करें।

RRB Constable 2025

[A] 9584 [B] 9578
[C] 9587 [D] 9596

13. The value of $\left(\frac{4096}{9}\right)^{-\left(\frac{3}{2}\right)} \times \left(\frac{4}{3}\right)^{5} \div \sqrt[4]{(256)^{-3}}$ is:

$\left(\frac{4096}{9}\right)^{-\left(\frac{3}{2}\right)} \times \left(\frac{4}{3}\right)^{5} \div \sqrt[4]{(256)^{-3}}$ का मान ज्ञात कीजिए।

[A] $\frac{1}{41}$ [B] $\frac{1}{43}$
[C] $\frac{1}{36}$ [D] $\frac{1}{37}$

14. Find the value/मान ज्ञात करें।

$\left[\{(9261)^{1/3} \div 81^{1/4}\}^2 \times \sqrt[4]{1296}\right]$

RRB Group D- 2022

[A] 249 [B] 174
[C] 147 [D] 294

15. If $\left[\left\{\left(\frac{2}{3}\right)^3\right\}^{(2x+3)}\right]^{\frac{-3}{4}} = \left[\left\{\left(\frac{2}{3}\right)^{\frac{2}{3}}\right\}^{(3x+7)}\right]^{\frac{-6}{5}}$, then the value of $\sqrt{2-42x}$ is:

यदि $\left[\left\{\left(\frac{2}{3}\right)^3\right\}^{(2x+3)}\right]^{\frac{-3}{4}} = \left[\left\{\left(\frac{2}{3}\right)^{\frac{2}{3}}\right\}^{(3x+7)}\right]^{\frac{-6}{5}}$ है, तो $\sqrt{2-42x}$ का मान ज्ञात कीजिए।

[A] 5 [B] 6
[C] 3 [D] 4

16. $\frac{(a^7\times b^8\times c^7)}{(a^9\times b^5\times c^4)}$ in simplified form is:
$\frac{(a^7\times b^8\times c^7)}{(a^9\times b^5\times c^4)}$ का सरलीकृत रूप ज्ञात कीजिए।
(SSC CGL MAINS 2024)
[A] $(a^0)\times(b^2)\times(c^1)$ [B] $(a^{-7})\times(b^2)\times(c^{-4})$
[C] $(a^{-2})\times(b^3)\times(c^3)$ [D] $(a^{-5})\times(b^{-8})\times(c^0)$

17. If $\frac{3^{a+3}\times4^{a+6}\times25^{a+1}}{27^{a-1}\times8^{a-2}\times125^{a+4}}=\frac{4}{15^{26}}$, *then the value of* $\sqrt{a+9}$ *is*:
यदि $\frac{3^{a+3}\times4^{a+6}\times25^{a+1}}{27^{a-1}\times8^{a-2}\times125^{a+4}}=\frac{4}{15^{26}}$ है, तो $\sqrt{a+9}$ का मान ज्ञात कीजिए।
[A] 4 [B] 6
[C] 5 [D] 8

18. If $\frac{9^n\times3^2\times\left(3^{-\frac{n}{2}}\right)^{-2}-(27)^n}{3^{3m}\times2^3}=\frac{1}{729}$, then m-n =?
[A] 3 [B] 1
[C] 2 [D] –2

19. If $2^{x+y-2z}=8^{8z-5-y}; 5^{4y-6z}=25^{y+z}; 3^{4x-3z}=9^{x+z}$ then the value of 2x + 3 y + 5z is:
यदि $2^{x+y-2z}=8^{8z-5-y}; 5^{4y-6z}=25^{y+z}; 3^{4x-3z}=9^{x+z}$ है तो 2x + 3 y + 5z का मान बताइए।
[A] 56 [B] 44
[C] 32 [D] 28

20. Find the square root of
निम्न का वर्गमूल ज्ञात कीजिए
I. $7+4\sqrt{3}$
II. $4+\sqrt{15}$
III. $61+28\sqrt{3}$
IV. $139-80\sqrt{3}$
V. $74-12\sqrt{30}$

21. Evaluate $\sqrt{220-30\sqrt{35}}$?
$\sqrt{220-30\sqrt{35}}$ मूल्यांकन करें
[A] $5\sqrt{7}-3\sqrt{5}$ [B] $7\sqrt{5}-3\sqrt{7}$
[C] $5\sqrt{5}-3\sqrt{7}$ [D] $3\sqrt{7}-5\sqrt{5}$

22. $\sqrt{6-\sqrt{35}}=?$
[A] $\frac{1}{\sqrt{2}}(\sqrt{7}-\sqrt{5})$ [B] $\frac{1}{\sqrt{2}}(\sqrt{5}-\sqrt{7})$
[C] $\frac{1}{4}(\sqrt{7}-\sqrt{5})$ [D] $\frac{1}{4}(\sqrt{7}+\sqrt{3})$

23. The value of $\sqrt{9-2\sqrt{11-6\sqrt{2}}}$ is closest to:
$\sqrt{9-2\sqrt{11-6\sqrt{2}}}$ का मान किसके निकटतम है?

[A] 2.7 [B] 2.9
[C] 2.4 [D] 2.1

24. If $x = \sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{7 + 4\sqrt{3}}}}, where\ x > 0$, then the value of x is equal to:

यदि $x = \sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{7 + 4\sqrt{3}}}}$, जहां $x > 0$ है, तो x का मान ज्ञात कीजिए।

[A] 2 [B] 3
[C] 4 [D] 1

25. Find the value of $\sqrt[2021]{(2\sqrt{7} - 3\sqrt{3})\sqrt{55 + 12\sqrt{21}}}$?

$\sqrt[2021]{(2\sqrt{7} - 3\sqrt{3})\sqrt{55 + 12\sqrt{21}}}$ का मान ज्ञात किजिए?

[A] –1 [B] 1
[C] 0 [D] 2

26. If $(a + b\sqrt{3})^2 = 52 + 30\sqrt{3}$, where a and b natural numbers, then a+b equals?
यदि $(a + b\sqrt{3})^2 = 52 + 30\sqrt{3}$, जहां a और b प्राकृतिक संख्याएं हैं, तो a+b बराबर है?
(CAT 2024)

[A] 9 [B] 7
[C] 8 [D] 10

27. If $\sqrt{86 - 60\sqrt{2}}$ = a – b $\sqrt{2}$, then what will be the value of $\sqrt{a^2 + b^2}$, correct to one decimal place?
यदि $\sqrt{86 - 60\sqrt{2}}$ = a – b $\sqrt{2}$ है, तो $\sqrt{a^2 + b^2}$, का मान क्या होगा, एक दशमलव स्थान पर सही मान होगा?

[A] 8.4 [B] 7.8
[C] 8.2 [D] 7.2

28. If $x = 97 + 56\sqrt{3}$, then what is the value of $\sqrt[4]{x} + \frac{1}{\sqrt[4]{x}}$?
यदि $x = 97 + 56\sqrt{3}$, तो $\sqrt[4]{x} + \frac{1}{\sqrt[4]{x}}$ का मान क्या है?
(CDS 2023)

[A] 7 [B] 6
[C] 5 [D] 4

29. If $(a + b\sqrt{n})$ is the positive square root of $(29 - 12\sqrt{5})$, where a and b are integers, and n is a natural number, then the maximum possible value of (a+b+n) is?
यदि $(a + b\sqrt{n})$, $(29 - 12\sqrt{5})$ का धनात्मक वर्गमूल है, जहां a और b पूर्णांक हैं, और n एक प्राकृतिक संख्या है, तो (a+b+n) का अधिकतम संभव मान है ?
(CAT 2024)

[A] 4 [B] 6

[C] 18 [D] 22

30. If $\sqrt{10-2\sqrt{21}}+\sqrt{8+2\sqrt{15}}=\sqrt{a}+\sqrt{b}$, where a and b are positive integers, then the value of $\sqrt{ab}$ is closest to:
यदि $\sqrt{10-2\sqrt{21}}+\sqrt{8+2\sqrt{15}}=\sqrt{a}+\sqrt{b}$, जहाँ a और b धनात्मक पूर्णांक हैं, तो $\sqrt{ab}$ का मान निकटतम है:
[A] 5.9 [B] 6.8
[C] 4.6 [D] 7.2

31. The value of $\frac{1}{(9-4\sqrt{5})^2}+\frac{1}{(9+4\sqrt{5})^2}$ is:
$\frac{1}{(9-4\sqrt{5})^2}+\frac{1}{(9+4\sqrt{5})^2}$ का मान ज्ञात करे।
[A] 322 [B] 424
[C] 246 [D] 286

32. If x, y is a rational number and $\frac{5+\sqrt{11}}{3-2\sqrt{11}}=x+y\sqrt{11}$, then find the value of x and y ?
यदि x, y एक परिमेय संख्या है और $\frac{5+\sqrt{11}}{3-2\sqrt{11}}=x+y\sqrt{11}$ है, तो x और y का मान ज्ञात कीजिए?
[A] $x=\frac{-14}{17}, y=\frac{-13}{26}$ [B] $x=\frac{4}{13}, y=\frac{11}{17}$
[C] $x=\frac{-27}{25}, y=\frac{-11}{37}$ [D] $x=\frac{-37}{35}, y=\frac{-13}{35}$

33. The value of $\frac{14}{\sqrt{43+30\sqrt{2}}}$ is closet to:
$\frac{14}{\sqrt{43+30\sqrt{2}}}$ का मान इनमें से किसके निकटतम है-
[A] 1.762 [D] 1.414
[A] 1.823 [D] 1.516

34. $\frac{15}{\sqrt{10}+\sqrt{20}+\sqrt{40}-\sqrt{5}-\sqrt{80}}=?$, If $\sqrt{5}=2.236$ and $\sqrt{10}=3.162$
[A] 5.498 [B] 5.398
[D] 6.398 [D] 3.498

35. $\frac{3\sqrt{7}}{\sqrt{5}+\sqrt{2}}-\frac{5\sqrt{5}}{\sqrt{2}+\sqrt{7}}+\frac{2\sqrt{2}}{\sqrt{7}+\sqrt{5}}=?$
[A] 0 [B] 1
[C] 5 [D] 6

36. What is $\frac{1}{\sqrt{10}+\sqrt{9}}+\frac{1}{\sqrt{11}+\sqrt{10}}+\frac{1}{\sqrt{12}+\sqrt{11}}+\ldots\ldots\ldots\ldots\ldots+\frac{1}{\sqrt{196}+\sqrt{195}}$ equal to?
$\frac{1}{\sqrt{10}+\sqrt{9}}+\frac{1}{\sqrt{11}+\sqrt{10}}+\frac{1}{\sqrt{12}+\sqrt{11}}+\ldots\ldots\ldots\ldots\ldots+\frac{1}{\sqrt{196}+\sqrt{195}}$ बराबर क्या है?
(UPSC CDS-2 2024)
[A] 17 [B] 14
[C] 11 [D] 10

37. $\frac{1}{\sqrt{100}-\sqrt{99}}-\frac{1}{\sqrt{99}-\sqrt{98}}+\frac{1}{\sqrt{98}-\sqrt{97}}-\frac{1}{\sqrt{97}-\sqrt{96}}\ldots\ldots\ldots+\frac{1}{\sqrt{2}-1}=?$
[A] 10 [B] 9
[C] 11 [D] 12

38. What is the value of $\frac{1}{5\sqrt{4}+4\sqrt{5}}+\frac{1}{6\sqrt{5}+5\sqrt{6}}+\frac{1}{7\sqrt{6}+6\sqrt{7}}+\frac{1}{8\sqrt{7}+7\sqrt{8}}+\frac{1}{9\sqrt{8}+8\sqrt{9}}$?

$\frac{1}{5\sqrt{4}+4\sqrt{5}}+\frac{1}{6\sqrt{5}+5\sqrt{6}}+\frac{1}{7\sqrt{6}+6\sqrt{7}}+\frac{1}{8\sqrt{7}+7\sqrt{8}}+\frac{1}{9\sqrt{8}+8\sqrt{9}}$ का मान क्या है?

[A] $1/\sqrt{6}$ [B] 1/2
[C] 1 [D] 1/6

39. If $5\sqrt{3}+\sqrt{243}=24.249$, then what will be the value of $\sqrt{192}+15\sqrt{3}$?
यदि $5\sqrt{3}+\sqrt{243}$=24.249, तो $\sqrt{192}+15\sqrt{3}$ का मान क्या होगा?
(UP CONSTABLE RE-EXAM 2024)
[A] 38.84 [B] 37.84
[C] 40.84 [D] 39.84

40. If the value of $\sqrt{40}$ is approximately equal to 6.325, then the value of $\sqrt{\frac{8}{5}}$ is equal to which of the following?
यदि $\sqrt{40}$ का मान 6.325 के लगभग बराबर है, तो $\sqrt{\frac{8}{5}}$ का मान इनमे से किसके बराबर है?
RRB NTPC 2021
[A] 2.828 [B] 0.565
[C] 1.26 [D] 1.625

41. If $\sqrt{7}$ = 2.6457 and $\sqrt{3}$ = 1.732, then find the value of $\frac{1}{\sqrt{7}-\sqrt{3}}$.
यदि $\sqrt{7}$ = 2.6457 और $\sqrt{3}$ = 1.732 हो, तो $\frac{1}{\sqrt{7}-\sqrt{3}}$ का मान ज्ञात कीजिए।
RRB RPF Constable-2019
[A] 1.0944 [B] 1.944
[C] 1.009 [D] 1.0844

42. Evaluate $\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$, given that $\sqrt{6}=2.45$?
$\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ का मूल्यांकन करें, यह देखते हुए कि $\sqrt{6}=2.45$?
[A] 7.7 [B] 9.9
[C] 8.8 [D] 6.6

43. If $x=\sqrt{\left(\frac{5+2\sqrt{6}}{5-2\sqrt{6}}\right)}$, then $x^2(x-10)^2$=?
[A] 1 [B] –1
[C] 2 [D] –2

44. If $\frac{8+2\sqrt{3}}{3\sqrt{3}+5}=a\sqrt{3}-b$, then the value of a + b is equal to:
यदि $\frac{8+2\sqrt{3}}{3\sqrt{3}+5}=a\sqrt{3}-b$ है, तो $a+b$ का मान ज्ञात कीजिए।
[A] 18 [B] 15
[C] 16 [D] 24

45. If $\frac{\sqrt{38-5\sqrt{3}}}{\sqrt{26+7\sqrt{3}}}=\frac{a+b\sqrt{3}}{23}$, $b>0$, *then the value of* $(b-a)$ *is*:
यदि $\frac{\sqrt{38-5\sqrt{3}}}{\sqrt{26+7\sqrt{3}}}=\frac{a+b\sqrt{3}}{23}$, b> 0 हो, तो (b - a) का मान कितना होगा?
[A] 7 [B] 18

[C] 29 [D] 11

46. If $\frac{22\sqrt{2}}{4\sqrt{2}-\sqrt{3+\sqrt{5}}} = a + \sqrt{5}b$, with a, b > 0, then what is the value of (ab):(a+b)?

यदि $\frac{22\sqrt{2}}{4\sqrt{2}-\sqrt{3+\sqrt{5}}} = a + \sqrt{5}b$ है, जहां $a, b > 0$ है, तो (ab):(a+b) का मान क्या होगा?

[A] 8:7 [B] 4:7
[C] 7:8 [D] 7:4

47. If $x=5-\sqrt{21}$, then $\frac{\sqrt{x}}{\sqrt{32-2x}-\sqrt{21}} = ?$

[A] $\frac{1}{2}(\sqrt{3}-\sqrt{7})$ [B] $\frac{1}{\sqrt{2}}(7+\sqrt{3})$
[C] $\frac{1}{\sqrt{2}}(\sqrt{7}-\sqrt{3})$ [D] $\frac{1}{\sqrt{2}}(\sqrt{7}+\sqrt{3})$

48. If $x = 7 + \sqrt{33}$, then find the value of $\frac{\sqrt{80+8x}+4}{\sqrt{6x}}$?

यदि $x = 7 + \sqrt{33}$, तो $\frac{\sqrt{80+8x}+4}{\sqrt{6x}}$ का मान ज्ञात कीजिये?

[A] $\sqrt{2}$ [B] 1
[C] 2 [D] 4

49. $\frac{\sqrt{26-15\sqrt{3}}}{5\sqrt{2}-\sqrt{38+5\sqrt{3}}} = ?$

[A] $\sqrt{2}$ [B] $\frac{1}{\sqrt{3}}$
[C] $\sqrt{3}$ [D] $\frac{1}{\sqrt{2}}$

50. Given that $x = 4\sqrt{12} + 5\sqrt{27} - 3\sqrt{75} + \sqrt{300}$ & $y = \frac{(2+\sqrt{3})}{(2-\sqrt{3})}$. If $\frac{x}{y} = a + b\sqrt{3}$, then what is the value of (a+2b)?

दिया गया है कि $x = 4\sqrt{12} + 5\sqrt{27} - 3\sqrt{75} + \sqrt{300}$ & $y = \frac{(2+\sqrt{3})}{(2-\sqrt{3})}$। यदि $\frac{x}{y} = a + b\sqrt{3}$ है, तो (a+2b) का मान क्या है?

[A] 36 [B] 45
[C] 24 [D] 30

51. If $\frac{4}{1+\sqrt{2}+\sqrt{3}} = a + b\sqrt{2} + c\sqrt{3} - d\sqrt{6}$, where a, b, c, d are whole numbers, then the value of a + b + c + d.

यदि $\frac{4}{1+\sqrt{2}+\sqrt{3}}$ = a + b$\sqrt{2}$ + c$\sqrt{3}$ – d$\sqrt{6}$ a, b, c, d पूर्ण संख्याऐं है तो a + b + c + d का मान ज्ञात कीजिए।

[A] 0 [B] 2
[C] 4 [D] 1

52. *The value of* $5\sqrt{3} + 7\sqrt{2} - \sqrt{6} - \frac{23}{\sqrt{2}+\sqrt{3}+\sqrt{6}}$ *is*:

$5\sqrt{3} + 7\sqrt{2} - \sqrt{6} - \frac{23}{\sqrt{2}+\sqrt{3}+\sqrt{6}}$ का मान ज्ञात कीजिए।

[A] 15 [B] 16
[C] 12 [D] 10

53. If $(\sqrt{2} + \sqrt{5} - \sqrt{3})$ × k = –12, then what will be the value of k?

यदि $(\sqrt{2} + \sqrt{5} - \sqrt{3})$ × k = –12, तो k का मान क्या होगा?

[A] $(\sqrt{2}+\sqrt{5}-\sqrt{3})(2+\sqrt{5})$
[B] $(\sqrt{2}+\sqrt{5}+\sqrt{3})(2-\sqrt{5})$
[C] $(\sqrt{2}+\sqrt{5}+\sqrt{3})(2-\sqrt{10})$
[D] $\sqrt{2}+\sqrt{5}+\sqrt{3}$

54. The value of $\frac{2\sqrt{10}}{\sqrt{5}+\sqrt{2}-\sqrt{7}}-\sqrt{\frac{\sqrt{5}-2}{\sqrt{5}+2}}-\frac{3}{\sqrt{7}-2}$ is:

$\frac{2\sqrt{10}}{\sqrt{5}+\sqrt{2}-\sqrt{7}}-\sqrt{\frac{\sqrt{5}-2}{\sqrt{5}+2}}-\frac{3}{\sqrt{7}-2}$ का मान क्या है?

[A] $2\sqrt{5}$ [B] $\sqrt{7}$
[C] $2+\sqrt{2}$ [D] $\sqrt{2}$

55. $(\sqrt{6}+\sqrt{10}-\sqrt{21}-\sqrt{35})(\sqrt{6}-\sqrt{10}+\sqrt{21}-\sqrt{35})=?$

[A] 13 [B] 12
[C] 11 [D] 10

56. Find the value of $\sqrt{1+2019\sqrt{1+2020\sqrt{1+2021\times 2023}}}$.

[A] 2020 [B] 2021
[C] 2023 [D] 2018

$(a+b+c)^2 = a^2+b^2+c^2+2ab+2bc+2ca$
$(a+b-c)^2 = a^2+b^2+c^2+2ab-2bc-2ca$

57. If $\sqrt{15+\sqrt{60}+\sqrt{84}+\sqrt{140}}=\sqrt{a}+\sqrt{b}+\sqrt{c}$, then the value of a+b+c?

[A] 5 [B] 20
[C] 10 [D] 15

58. The expression $\sqrt{10+2(\sqrt{6}-\sqrt{15}-\sqrt{10})}$ is equal to:

$\sqrt{10+2(\sqrt{6}-\sqrt{15}-\sqrt{10})}$ का मान है :

[A] $\sqrt{3}-\sqrt{2}-\sqrt{5}$ [B] $\sqrt{3}-\sqrt{2}+\sqrt{5}$
[C] $\sqrt{2}-\sqrt{3}-\sqrt{5}$ [D] $\sqrt{3}+\sqrt{2}-\sqrt{5}$

59. If $\sqrt{24+4\sqrt{21}-2\sqrt{35}-4\sqrt{15}}+\sqrt{21+8\sqrt{5}}=\sqrt{a}+\sqrt{b}+\sqrt{c}$, then $a^2+b^2+c^2$=?

[A] 449 [B] 330
[C] 705 [D] 593

60. What is the value of $\sqrt{4600+\sqrt{540+\sqrt{1280+\sqrt{250+\sqrt{36}}}}}$

[A] 69 [B] 68
[C] 70 [D] 72

61. Solve $\sqrt{21+\sqrt[3]{59+\sqrt{16+\sqrt[3]{722+\sqrt{49}}}}}$?

[A] 4 [B] 5
[C] 6 [D] 7

62. Simplify the following?
निम्नलिखित को सरल कीजिये?

$$\frac{\sqrt{10+\sqrt{25+\sqrt{108+\sqrt{154+\sqrt{225}}}}}}{\sqrt{16+19.25\times 4^2}}$$

[A] 7/18 [B] 1/9
[C] 2/9 [D] 5/18

63. Let x = $\sqrt[6]{27}-\sqrt{6\frac{3}{4}}$ and y = $\frac{\sqrt{45}+\sqrt{605}+\sqrt{245}}{\sqrt{80}+\sqrt{125}}$, then the value of x^2+y^2 is :

यदि x = $\sqrt[6]{27}-\sqrt{6\frac{3}{4}}$ और y = $\frac{\sqrt{45}+\sqrt{605}+\sqrt{245}}{\sqrt{80}+\sqrt{125}}$ है, तो x^2+y^2 का मान क्या होगा?

[A] $\frac{227}{9}$ [B] $\frac{221}{36}$
[C] $\frac{221}{9}$ [D] $\frac{223}{36}$

$\sqrt{a+\sqrt{b}} \pm \sqrt{a-\sqrt{b}}$

64. Find the value of $\sqrt{2+\sqrt{3}}+\sqrt{2-\sqrt{3}}$.
$\sqrt{2+\sqrt{3}}+\sqrt{2-\sqrt{3}}$ का मान ज्ञात कीजिए।

[A] $\sqrt{6}$ [B] $2\sqrt{3}$
[C] $2\sqrt{2}$ [D] 6

65. Simplify $\sqrt{25+10\sqrt{6}}+\sqrt{25-10\sqrt{6}}$?
सरल कीजिये $\sqrt{25+10\sqrt{6}}+\sqrt{25-10\sqrt{6}}$?
RRB JE 2019

[A] $2\sqrt{15}$ [B] $2\sqrt{5}$
[C] $\sqrt{55}$ [D] $\sqrt{50}$

66. If $x=\sqrt{1+\frac{\sqrt{3}}{2}}-\sqrt{1-\frac{\sqrt{3}}{2}}$ then the value of $\frac{\sqrt{3}-x}{\sqrt{3}+x}$ (correct to one decimal place) is?

यदि $x=\sqrt{1+\frac{\sqrt{3}}{2}}-\sqrt{1-\frac{\sqrt{3}}{2}}$ तो $\frac{\sqrt{3}-x}{\sqrt{3}+x}$ का मान क्या होगा (दशमलव के एक स्थान तक सही)?

[A] 0.25 [B] 0.17
[C] 0.19 [D] 0.27

67. $x=\sqrt{2+\frac{\sqrt{7}}{2}}-\sqrt{2-\frac{\sqrt{7}}{2}}$ then find the value of $\frac{3+x}{3-x}$?

$x = \sqrt{2+\frac{\sqrt{7}}{2}} - \sqrt{2-\frac{\sqrt{7}}{2}}$ तो $\frac{3+x}{3-x}$ का मान ज्ञात करें?

[A] 2 [B] 1.5
[C] 1 [D] 0

68. Let x = $\sqrt{35+5\sqrt{13}} - \sqrt{35-5\sqrt{13}}$ and y = $\frac{3-\sqrt{10}}{3+\sqrt{10}}$ If x − y = A+B$\sqrt{10}$, then what is the value of (A-B)?

माना कि x = $\sqrt{35+5\sqrt{13}} - \sqrt{35-5\sqrt{13}}$ और y = $\frac{3-\sqrt{10}}{3+\sqrt{10}}$ है। यदि x − y = A+B$\sqrt{10}$ हो, तो (A - B) का मान कितना होगा?

(ICAR Technician 2023)

[A] 31 [B] 25
[C] 29 [D] 24

69. $\frac{\sqrt{\sqrt{5}+2}+\sqrt{\sqrt{5}-2}}{\sqrt{\sqrt{5}+1}} - \sqrt{3-2\sqrt{2}} = ?$

[A] 1 [B] −1
[C] 2 [D] −2

70. What is the value of $\sqrt[3]{(26+15\sqrt{3})} + \sqrt[3]{(26-15\sqrt{3})} = ?$

[A] 6 [B] 5
[C] 4 [D] 3

$a^3 + b^3 = (a+b)(a^2 - ab + b^2)$

71. Evaluate $64^{1/3} + 25^{1/3} + 40^{1/3}$?

$64^{1/3} + 25^{1/3} + 40^{1/3}$ का मूल्यांकन कीजिये?

[A] $\frac{13}{\sqrt[3]{8}+\sqrt[3]{5}}$ [B] $\frac{3}{\sqrt[3]{8}+\sqrt[3]{5}}$
[C] $\frac{13}{\sqrt[3]{8}-\sqrt[3]{5}}$ [D] $\frac{3}{\sqrt[3]{8}-\sqrt[3]{5}}$

72. What is the value of $\frac{5}{3^{2/3}-6^{1/3}+2^{2/3}}$?

$\frac{5}{3^{2/3}-6^{1/3}+2^{2/3}}$ का मान क्या है?

[A] $3^{1/3} + 2^{1/3}$ [B] $3^{1/3} - 2^{1/3}$
[C] $2^{1/3} - 3^{1/3}$ [D] $3^{2/3} + 2^{2/3}$

73. If $\frac{1}{\sqrt[3]{25}-\sqrt[3]{5}+1} = a\sqrt[3]{25} + b\sqrt[3]{5} + c$, **and a, b, c are rational numbers then 2a+3b+5c =?**

[A] 0 [B] 1
[C] 2 [D] $\frac{4}{3}$

74. If $\frac{1}{\sqrt[3]{25}+\sqrt[3]{15}+\sqrt[3]{9}} = \sqrt[3]{a} - \sqrt[3]{b}$, **then find a+b?**

यदि $\frac{1}{\sqrt[3]{25}+\sqrt[3]{15}+\sqrt[3]{9}} = \sqrt[3]{a} - \sqrt[3]{b}$ है, तो a+b ज्ञात कीजिये?

[A] $\sqrt{15}$ [B] 1/4
[C] 1 [D] 8

75. If $\sqrt{5x-6}+\sqrt{5Xx+6}=6$, then x =?

[A] −4 [B] 0
[C] 2 [D] 4

76. If $\frac{x+\sqrt{x^2-1}}{x-\sqrt{x^2-1}}+\frac{x-\sqrt{x^2-1}}{x+\sqrt{x^2-1}}=194$, then x =?

[A] 7/2 [B] 4
[C] 7 [D] 14

77. If $5^{x+1}-5^{x-1}=600$, then what is the value of 10^{2x}?

यदि $5^{x+1}-5^{x-1}=600$ है, तो 10^{2x} का मान क्या है?

[A] 1 [B] 1000
[C] 100000 [D] 1000000

78. If $2^x+3^y=17\ \&\ 2^{x+2}-3^{y+1}=5$, then-

यदि $2^x+3^y=17\ \&\ 2^{x+2}-3^{y+1}=5$ है, तो-

[A] x=1, y=3 [B] x=3, y=3
[C] x=3, y=2 [D] x=1, y=2

79. If $27^x+27^{\left[x-\left(\frac{1}{3}\right)\right]}=972$, then what is the value of x?

यदि $27^x+27^{\left[x-\left(\frac{1}{3}\right)\right]}=972$ है तो x का मान क्या है?

[A] 2 [B] 3
[C] 4 [D] 5

80. $9^{x-\frac{1}{2}}-2^{2x-2}=4^x-3^{2x-3}$, then x is

[A] $\frac{3}{2}$ [B] $\frac{2}{5}$
[C] $\frac{3}{4}$ [D] $\frac{4}{9}$

81. If $9^x3^y=2187$ and $2^{3x}2^{2y}-4^{xy}=0$, then x+y=?

[A] 4 [B] 3
[C] 5 [D] 7

82. If $5^x-3^y=13438$ and $5^{x-1}+3^{y+1}=9686$, then x + y equals

[A] 11 [B] 12
[C] 13 [D] 14

83. The value of $\frac{\sqrt{0.6912}+\sqrt{0.5292}}{\sqrt{0.6912}-\sqrt{0.5292}}$ is:

$\frac{\sqrt{0.6912}+\sqrt{0.5292}}{\sqrt{0.6912}-\sqrt{0.5292}}$ का मान है-

[A] 1.5 [B] 0.9
[C] 15 [D] 9

84. What is the value of $\frac{\sqrt{29.16}}{\sqrt{1.1664}}+\frac{\sqrt{0.2916}}{\sqrt{116.64}}+\frac{\sqrt{0.0036}}{\sqrt{0.36}}=?$

$\frac{\sqrt{29.16}}{\sqrt{1.1664}}+\frac{\sqrt{0.2916}}{\sqrt{116.64}}+\frac{\sqrt{0.0036}}{\sqrt{0.36}}$ का मान क्या है?

[A] 26/5 [B] 27/5
[C] 103/20 [D] 101/20

85. Let $0<x<1$. Then the correct inequality is
यदि $0<x<1$ तो सही सम्बन्ध कौन सा है
[A] $x<\sqrt{x}<x^2$ [B] $\sqrt{x}<x<x^2$
[C] $x^2<x<\sqrt{x}$ [D] $\sqrt{x}<x^2<x$

86. If $x^{y+z}=1$, $y^{x+z}=1024$ and $Z^{x+y}=729$ (x, y and Z are natural numbers), then what is the value of $(Z+1)^{y+x+1}$?
यदि $x^{y+z}=1$, $y^{x+z}=1024$ तथा $Z^{x+y}=729$ (x, y तथा Z प्राकृतिक संख्याएँ हैं), तो $(Z+1)^{y+x+1}$ का मान क्या है?
[A] 6561 [B] 10000
[C] 4096 [D] 14641

87. If $4^{x_1}=5, 5^{x_2}=6, 6^{x_3}=7, \ldots\ldots\ldots 127^{x_{124}}=128$, then find $x_1x_2x_3\ldots\ldots x_{124}$?
यदि $4^{x_1}=5, 5^{x_2}=6, 6^{x_3}=7, \ldots\ldots\ldots 127^{x_{124}}=128$ है, तो $x_1x_2x_3\ldots\ldots x_{124}$ ज्ञात कीजिये?
[A] 2 [B] 5/2
[C] 3 [D] 7/2

88. Evaluate $\left(\frac{4}{(\sqrt{5}+1)\left(\sqrt[4]{5}+1\right)\left(\sqrt[8]{5}+1\right)\left(\sqrt[16]{5}+1\right)}+1\right)^{48}$?
$\left(\frac{4}{(\sqrt{5}+1)\left(\sqrt[4]{5}+1\right)\left(\sqrt[8]{5}+1\right)\left(\sqrt[16]{5}+1\right)}+1\right)^{48}$ का मूल्यांकन करें
[A] 25 [B] 125
[C] 5 [D] 625

89. Simplify $\frac{\sqrt{15}+\sqrt{35}+\sqrt{21}+5}{\sqrt{3}+2\sqrt{5}+\sqrt{7}}$?
$\frac{\sqrt{15}+\sqrt{35}+\sqrt{21}+5}{\sqrt{3}+2\sqrt{5}+\sqrt{7}}$ हल कीजिये?
[A] $\frac{\sqrt{7}+\sqrt{3}}{2}$ [B] $\frac{\sqrt{7}-\sqrt{3}}{2}$
[C] $\frac{\sqrt{7}+\sqrt{3}}{3}$ [D] $\frac{\sqrt{7}+\sqrt{3}}{4}$

90. If $x=(4096)^{7+4\sqrt{3}}$, then which of the following equals 64 ?
यदि $x=(4096)^{7+4\sqrt{3}}$, तो निम्न में से कौन 64 के बराबर है?
[A] $\frac{x^7}{x^{2\sqrt{3}}}$ [B] $\frac{x^7}{x^{4\sqrt{3}}}$
[C] $\frac{x^{\frac{7}{2}}}{x^{2\sqrt{3}}}$ [D] $\frac{x^{\frac{7}{2}}}{x^{\frac{4}{\sqrt{3}}}}$

91. If $2^x-2^y=\frac{31}{6}$ and $4^x-4^y=\frac{341}{12}$ then $(x-y)$=?
[A] 3 [B] 4
[C] 5 [D] 6

92. What is $\sqrt{1+\frac{1}{1^2}+\frac{1}{2^2}}+\sqrt{1+\frac{1}{2^2}+\frac{1}{3^2}}+\ldots+\sqrt{1+\frac{1}{2007^2}+\frac{1}{2008^2}}$ equal to ?
[A] $2008-\frac{1}{2008}$ [B] $2007-\frac{1}{2007}$
[C] $2007-\frac{1}{2008}$ [D] $2008-\frac{1}{2009}$

93. $\sqrt{12\sqrt{12\sqrt{12\sqrt{12\ldots\infty}}}}$ =?

[A] 8 [B] 12
[C] 36 [D] 6

94. If $\sqrt{7\sqrt{7\sqrt{7\sqrt{7\ldots\infty}}}} = 343^{y-1}$ then y=?

[A] $\frac{4}{3}$ [B] $\frac{3}{2}$
[C] $\frac{5}{4}$ [D] 1

95. $\sqrt[3]{64\sqrt[3]{64\sqrt[3]{64\ldots\ldots\ldots}}}$ =?

[A] 4 [B] 8
[C] 16 [D] $4\sqrt{2}$

96. $\sqrt[4]{0.512\sqrt[4]{0.512\sqrt[4]{0.512\ldots\ldots\ldots\infty}}}$

[A] 0.16 [B] 0.8
[C] 0.12 [D] 0.08

97. Find $\sqrt{12\sqrt{12\sqrt{12\sqrt{12\sqrt{12\sqrt{12}}}}}}$ =?

[A] $12^{\frac{32}{31}}$ [B] $12^{\frac{64}{63}}$
[C] $12^{\frac{31}{32}}$ [D] $12^{\frac{63}{64}}$

98. If $\sqrt[3]{11\sqrt[3]{11\sqrt[3]{11\sqrt[3]{11\sqrt[3]{11}}}}} = 121^{k}$ then k=?

[A] $\frac{121}{486}$ [B] $\frac{121}{243}$
[C] $\frac{111}{81}$ [D] $\frac{121}{243}$

99. If $x^m = \sqrt[14]{x\sqrt{x\sqrt{x}}}$, then what is the value of m?

यदि $x^m = \sqrt[14]{x\sqrt{x\sqrt{x}}}$ है तो m का मान क्या है?

[A] $\frac{1}{8}$ [B] $\frac{1}{4}$
[C] $\frac{3}{4}$ [D] $\frac{7}{4}$

100. $\sqrt{27 \div \sqrt{27 \div \sqrt{27 \div \sqrt{27\ldots\ldots\ldots\infty}}}}$ =?

[A] 3 [B] $3\sqrt{3}$
[C] $\sqrt{3}$ [D] 9

101. If $\sqrt{P}^{\sqrt{P}^{\sqrt{P}^{\sqrt{P}^{\sqrt{P}\ldots\ldots\infty}}}} = \frac{1}{5}$, then find P?

[A] 625 [B] 5^{-10}
[C] 5^{-5} [D] 0.04

102. $\sqrt[m]{a\sqrt[n]{b\sqrt[m]{a\sqrt[n]{b\sqrt[m]{a\sqrt[n]{b}}}}}}$ ... ... ∞ can be written as?

[A] $\sqrt[mn-1]{a^n b}$ [B] $\sqrt[mn]{ab}$
[C] $\sqrt[mn-1]{b^n a}$ [D] $\sqrt[mn+1]{a^n b}$

103. Find $\sqrt{2\times\sqrt[3]{4\times\sqrt{2\times\sqrt[3]{4\times\sqrt{2\times\sqrt[3]{4}}}}}}$ ... ... ∞ =?

[A] $\sqrt{2}$ [B] 2
[C] 4 [D] $4\sqrt{2}$

104. Let x = $\sqrt{272+\sqrt{272+\sqrt{272+\sqrt{272+\cdots to\ infinity}}}}$; then x equals

[A] 16 [B] $4\sqrt{13}$
[C] 17 [D] 4.35

105. What is the value of 2 + $\sqrt{2+\sqrt{2+\sqrt{2+}}}$ ... ...?

2 + $\sqrt{2+\sqrt{2+\sqrt{2+}}}$ ... ... का मान क्या है?

[A] 1 [B] 2
[C] 3 [D] 4

106. $\sqrt{0.56+\sqrt{0.56+}}$ ... ... ∞ =?

[A] 1.4 [B] 1.2
[C] 1.3 [D] 1.1

107. $\sqrt{\frac{15}{4}+\sqrt{\frac{15}{4}+\sqrt{\frac{15}{4}+}}}$ ... ... ∞=?

[A] 1.5 [B] 2.5
[C] 3 [D] 2.75

108. $\sqrt{31+\sqrt{31+\sqrt{31+\sqrt{31+}}}}$ ... ... ∞ =?

[A] $5\sqrt{5}-1.5$ [B] $2.5\sqrt{5}+0.5$

[C] $\frac{5\sqrt{5}-1}{2}$ [D] $\frac{2\sqrt{31}+1}{2}$

109. Let x= $\sqrt{42-\sqrt{42-\sqrt{42-\sqrt{42-\cdots to\ infinity}}}}$; then x equals

[A] 6 [B] 7
[C] Between 6 and 7 [D] Greater than 7

110. If A= $\sqrt{10-\sqrt{10-\sqrt{10-\sqrt{10}\ldots\ldots\ldots\infty}}}$ then which of the following is true?

यदि A= $\sqrt{10-\sqrt{10-\sqrt{10-\sqrt{10}\ldots\ldots\ldots\infty}}}$ तो निम्नलिखित में से कौन सा सत्य है?

[A] A=2.5 [B] 2.5<A<3
[C] $\frac{\sqrt{41}-3}{2}$ [D] greater than 3

111. $\frac{\sqrt{210+\sqrt{210+\sqrt{210+\cdots}}}}{\sqrt{156-\sqrt{156-\sqrt{156-\cdots}}}}$ = ?

[A] 1 [B] 1.33
[C] 1.25 [D] 1.5

112. If a= $\sqrt{13+\sqrt{13+\sqrt{13+\sqrt{13}\ldots\ldots\ldots\infty}}}$ and b= $\sqrt{13-\sqrt{13-\sqrt{13-\sqrt{13}\ldots\infty}}}$, then which option is true?

यदि a= $\sqrt{13+\sqrt{13+\sqrt{13+\sqrt{13}\ldots\ldots\ldots\infty}}}$ और b= $\sqrt{13-\sqrt{13-\sqrt{13-\sqrt{13}\ldots\infty}}}$, तो कौन सा विकल्प सत्य है?

[A] a + b + 1=0 [B] a – b – 1=0
[C] a – b + 1=0 [D] a – b + 1=0

113. $\left(\sqrt{17+\sqrt{17+\ \ldots\ldots\ldots\infty}}\right)-\left(\sqrt{17-\sqrt{17-\ \ldots\ldots\ldots\infty}}\right)$

[A] 1 [B] 2
[C] 3 [D] None

114. If a and b are two consecutive natural numbers such that a<b, then find the value of $\sqrt{ab+\sqrt{ab+\sqrt{ab+\ \ldots\ldots\ldots\infty}}}$?

यदि a और b दो क्रमागत प्राकृत संख्याएँ हैं जहाँ a<b, तो $\sqrt{ab+\sqrt{ab+\sqrt{ab+\ \ldots\ldots\ldots\infty}}}$ का मान ज्ञात कीजिए?

[A] ab [C] a
[C] b [D] a+b

115. $\frac{\sqrt{30-\sqrt{30-\sqrt{30-\cdots\ldots\infty}}}+\sqrt{30+\sqrt{30+\sqrt{30+\cdots\ldots\ldots\infty}}}}{\sqrt{30\sqrt{30\sqrt{30\ldots\ldots\infty}}}}$=?

[A] 11/30 [B] 11/20
[C] 11/10 [D] none

116. Find $\sqrt{154+3\sqrt{154+3\sqrt{154+3\sqrt{154+\cdots\infty}}}}$ =?

[A] 13 [B] 14
[D] 11 [D] $\frac{\sqrt{613}+9}{2}$

117. Find $\sqrt{3+4\sqrt{3+4\sqrt{3+4\sqrt{3+\cdots\infty}}}}$ =?

[A] $\sqrt{7}+2$ [B] $2\sqrt{7}-3$
[D] $2\sqrt{7}$ [D] $4+\sqrt{7}$

118. $\sqrt{750-5\sqrt{750-5\sqrt{750\ldots\ldots\ldots\infty}}}$=?

[A] 20 [B] 25
[C] 30 [D] 10

119. Let x= $\sqrt{4+\sqrt{4-\sqrt{4+\sqrt{4-\cdots to\ infinity}}}}$; then x equals

[A] 3 [B] $\sqrt{13}$
[C] $\frac{\sqrt{13}-1}{2}$ [D] $\frac{\sqrt{13}+1}{2}$

120. Let x= $\sqrt{13-\sqrt{13+\sqrt{13-\sqrt{13+\ \ldots\ldots\ldots\infty}}}}$; then x equals

[A] 3 [B] $\sqrt{21}$
[C] 2 [D] $\frac{\sqrt{19}+1}{2}$

121. Find $\sqrt[3]{210+\sqrt[3]{210+\sqrt[3]{210+\ \ldots\ldots\ldots}}}$?

[A] 5 [B] 6
[C] 6.5 [D] 7

122. If $m=\cfrac{1}{2+\cfrac{1}{3+\cfrac{1}{2+\cfrac{1}{3+\ldots\ldots}}}}$, then find m?

यदि $m=\cfrac{1}{2+\cfrac{1}{3+\cfrac{1}{2+\cfrac{1}{3+\ldots\ldots}}}}$ है, तो m ज्ञात कीजिये?

[A] $\frac{\sqrt{15}-3}{2}$ [B] $\frac{\sqrt{15}+3}{2}$
[C] $\frac{\sqrt{13}+3}{2}$ [D] $\frac{\sqrt{13}-3}{2}$

123. If $x^{x^{2022}} = 2022$, then find x?
यदि $x^{x^{2022}} = 2022$ है, तो x ज्ञात कीजिये?
[A] $\sqrt[2021]{2022}$ [B] $\sqrt[2022]{2022}$
[C] $\sqrt[2020]{2022}$ [D] None

124. Which among $2^{1/2}, 3^{1/3}, 4^{1/4}, 6^{1/6}$ and $12^{1/12}$ is the largest?
$2^{1/2}, 3^{1/3}, 4^{1/4}, 6^{1/6}$ और $12^{1/12}$ में से कौन सा सबसे बड़ा है?
[A] $2^{1/2}$ [B] $3^{1/3}$
[C] $4^{1/4}$ [D] $6^{1/6}$
[E] $12^{1/12}$

125. Value is greater than $\sqrt[3]{12}$?
दिया गया कौन से मान $\sqrt[3]{12}$ से अधिक है?
[A] $\sqrt[12]{33214}$ [B] $\sqrt[5]{60}$
[C] $\sqrt[6]{121}$ [D] $\sqrt[9]{1500}$

126. The greatest number among 2^{72},5^{36}, 11^{24} and 3^{60} is
2^{72},5^{36}, 11^{24} और 3^{60} में सबसे बड़ी संख्या है
[A] 2^{72} [B] 5^{36}
[C] 11^{24} [D] 3^{60}

127. The smallest of $(\sqrt{8}+\sqrt{5})$, $(\sqrt{7}+\sqrt{6})$, $(\sqrt{10}+\sqrt{3})$, and $(\sqrt{11}+\sqrt{2})$ is:
$(\sqrt{8}+\sqrt{5})$, $(\sqrt{7}+\sqrt{6})$, $(\sqrt{10}+\sqrt{3})$, और $(\sqrt{11}+\sqrt{2})$ में से सबसे छोटा मान है:
[A] $(\sqrt{8}+\sqrt{5})$ [B] $(\sqrt{7}+\sqrt{6})$
[C] $(\sqrt{10}+\sqrt{3})$ [D] $(\sqrt{11}+\sqrt{2})$

128. The smallest of, $(\sqrt{69}+2\sqrt{7})$, $(\sqrt{61}+6)$, $(5\sqrt{3}+\sqrt{22})$, and $(\sqrt{58}+\sqrt{39})$ is:
$(\sqrt{69}+2\sqrt{7})$, $(\sqrt{61}+6)$, $(5\sqrt{3}+\sqrt{22})$, और $(\sqrt{58}+\sqrt{39})$ में से सबसे छोटा है:
[A] $(\sqrt{61}+6)$ [B] $(\sqrt{69}+2\sqrt{7})$
[C] $(5\sqrt{3}+\sqrt{22})$ [D] $(\sqrt{58}+\sqrt{39})$

129. Which is the greatest among $(\sqrt{19}+\sqrt{31})$, $(\sqrt{23}+3\sqrt{3})$, $(\sqrt{17}+\sqrt{33})$, 10?
$(\sqrt{19}+\sqrt{31})$, $(\sqrt{23}+3\sqrt{3})$, $(\sqrt{17}+\sqrt{33})$, 10 निम्नलिखित में से कौन सी संख्या सबसे बड़ी है?
[A] $(\sqrt{17}+\sqrt{33})$ [B] $(\sqrt{23}+3\sqrt{3})$
[C] 10 [D] $(\sqrt{19}+\sqrt{31})$

130. Which is the greatest among $(\sqrt{24}+\sqrt{10})$, $(\sqrt{30}+\sqrt{8})$, $(\sqrt{15}+4)$, $(\sqrt{12}+\sqrt{20})$?
$(\sqrt{24}+\sqrt{10})$, $(\sqrt{30}+\sqrt{8})$, $(\sqrt{15}+4)$, $(\sqrt{12}+\sqrt{20})$ निम्नलिखित में से कौन सी संख्या सबसे सबसे बड़ी है?
[A] $(\sqrt{24}+\sqrt{10})$ [B] $(\sqrt{30}+\sqrt{8})$
[C] $(\sqrt{15}+4)$ [D] $(\sqrt{12}+\sqrt{20})$

131. Which is the greatest among $(\sqrt{17}-\sqrt{14})$, $(\sqrt{19}-4)$, $(\sqrt{22}-\sqrt{19})$, $(\sqrt{13}-\sqrt{10})$?
$(\sqrt{17}-\sqrt{14})$, $(\sqrt{19}-4)$, $(\sqrt{22}-\sqrt{19})$, $(\sqrt{13}-\sqrt{10})$ में से सबसे बड़ा कौन सा है?
[A] $(\sqrt{17}-\sqrt{14})$ [B] $(\sqrt{19}-4)$

[C] $(\sqrt{22}-\sqrt{19})$ [D] $(\sqrt{13}-\sqrt{10})$

132. Which one among the following is the smallest?
निम्नलिखित में से कौन सी संख्या सबसे छोटी है?

[A] $\sqrt{201}-\sqrt{199}$ [B] $\sqrt{101}-\sqrt{99}$
[C] $\sqrt{301}-\sqrt{299}$ [D] $\sqrt{401}-\sqrt{399}$

133. Which of the following is TRUE?
निम्नलिखित में से कौन सा सत्य है?

I. $\sqrt[3]{11} > \sqrt{7} > \sqrt[4]{45}$
II. $\sqrt{7} > \sqrt[3]{11} > \sqrt[4]{45}$
III. $\sqrt{7} > \sqrt[4]{45} > \sqrt[3]{11}$
IV. $\sqrt[4]{45} > \sqrt{7} > \sqrt[3]{11}$

Options:

[A] Only I/केवल I [B] Only II/केवल II
[C] Only III/केवल III [D] Only IV/केवल IV

134. Which of the following is TRUE?
निम्नलिखित में से कौन सा सत्य है?

I. $\frac{1}{\sqrt[3]{12}} > \frac{1}{\sqrt[4]{29}} > \frac{1}{\sqrt{5}}$ II. $\frac{1}{\sqrt[4]{29}} > \frac{1}{\sqrt[3]{12}} > \frac{1}{\sqrt{5}}$
III. $\frac{1}{\sqrt{5}} > \frac{1}{\sqrt[3]{12}} > \frac{1}{\sqrt[4]{29}}$ IV. $\frac{1}{\sqrt{5}} > \frac{1}{\sqrt[4]{29}} > \frac{1}{\sqrt[3]{12}}$

Options:

[A] Only I/केवल I [B] Only II/केवल II
[C] Only III/केवल III [D] Only IV/केवल IV

135. If n is a natural number, then n(n+1) (n+2) (n+3)+1 is always:
यदि n एक प्राकृतिक संख्या है, तो n(n+1) (n+2) (n+3)+1 हमेशा होगा:

[A] A perfect square/एक पूर्ण वर्ग
[B] Not a perfect square/पूर्ण वर्ग नहीं
[C] A prime number/एक अभाज्य संख्या
[D] An even number/बराबर संख्या

136. What should be added in the product of four consecutive odd numbers that it becomes a perfect square?
चार लगातार विषम संख्याओं के गुणनफल में क्या जोड़ा जाए कि वह पूर्ण वर्ग बन जाए?

[A] 12 [B] 14
[C] 15 [D] 16

137. $\sqrt{423 \times 424 \times 425 \times 426 + 1}$ *is?*

[A] Rational number/परिमेय संख्या
[B] Irrational number/अपरिमेय संख्या
[C] Rational integer/परिमेय पूर्णांक
[D] None/कोई नहीं

138. If $(x-2a)(x-5a)(x-8a)(x-11a)+ka^4$ *is a perfect square then* $k=?$

यदि (x-2a) (x-5a) (x-8a) (x-11a) + ka^4 एक पूर्ण वर्ग है तो k= ?

[A] 49 [B] 81

[C] 64 [D] 72