Q.No.	Question
1.	The value of $\sqrt{5+2\sqrt{6}}-\frac{1}{\sqrt{5+2\sqrt{6}}}$ is: (a) $2\sqrt{2}$ (b) $2\sqrt{3}$ (c) $1+\sqrt{5}$ (d) $\sqrt{5}-1$
2.	The simplified form of $\left(16^{3/2}+16^{-3/2}\right)$ is: (a) 0 (b) $\frac{4097}{64}$ (c) 1 (d) $\frac{16}{4097}$
3.	$(16^{0.16}\times 2^{0.36})$ is equal to (a) 2 (b) 16 (c) 32 (d) 64
4.	The value of $\left(\sqrt[3]{3.5}+\sqrt[3]{2.5}\right)\left\{\left(\sqrt[3]{3.5}\right)^2-\sqrt[3]{8.75}+\left(\sqrt[3]{2.5}\right)^2\right\}$ is: (a) 5.375 (b) 1 (c) 6 (d) 5
5.	The value of $\frac{1}{\sqrt{3.25}+\sqrt{2.25}}+\frac{1}{\sqrt{4.25}+\sqrt{3.25}}+\frac{1}{\sqrt{5.25}+\sqrt{4.25}}$ is: (a) 1.00 (b) 1.25 (c) 1.50 (d) 2.25
6.	The simplified form of $\frac{2}{\sqrt{7}+\sqrt{5}}+\frac{7}{\sqrt{12}-\sqrt{5}}-\frac{5}{\sqrt{12}-\sqrt{7}}$ is: (a) 5 (b) 2 (c) 1 (d) 0
7.	$\frac{1}{\sqrt{3}+\sqrt{4}}+\frac{1}{\sqrt{4}+\sqrt{5}}+\frac{1}{\sqrt{5}+\sqrt{6}}+\frac{1}{\sqrt{6}+\sqrt{7}}+\frac{1}{\sqrt{7}+}$ equal to (a) $\sqrt{3}$ (b) $3\sqrt{3}$ (c) $3-\sqrt{3}$ (d) $5-\sqrt{3}$
8.	$\left(3+\frac{1}{\sqrt{3}}+\frac{1}{3+\sqrt{3}}+\frac{1}{\sqrt{3}-3}\right)$ is equal to (a) 1 (b) 3 (c) $3+\sqrt{3}$ (d) $3-\sqrt{3}$
9.	$\sqrt{8-2\sqrt{15}}$ is equal to: (a) $\sqrt{5}+\sqrt{3}$ (b) $5-\sqrt{3}$ (c) $\sqrt{5}-\sqrt{3}$ (d) $3-\sqrt{5}$
10.	Simplify: $\left(\frac{\frac{3}{2+\sqrt{3}}-\frac{2}{2-\sqrt{3}}}{2-5\sqrt{3}}\right)$ (a) $\frac{1}{2}-5\sqrt{3}$ (b) $2-5\sqrt{3}$ (c) 1 (d) 0
11.	$\left(\frac{2+\sqrt{3}}{\sqrt{2}-\sqrt{3}}+\frac{2-\sqrt{3}}{2+\sqrt{3}}+\frac{\sqrt{3}-1}{\sqrt{3}+1}\right)$ simplifies to: (a) $2-\sqrt{3}$ (b) $2+\sqrt{3}$ (c) $16-\sqrt{3}$ (d) $40-\sqrt{3}$
12.	$\left[8-\left(\frac{4^{\frac{9}{4}}\sqrt{2.2^2}}{2\sqrt{2^{-2}}}\right)^{\frac{1}{2}}\right]$ is equal to (a) 32 (b) 8 (c) 1 (d) 0
13.	$\frac{1}{\sqrt{9}-\sqrt{8}}-\frac{1}{\sqrt{8}-\sqrt{7}}+\frac{1}{\sqrt{7}-\sqrt{6}}-\frac{1}{\sqrt{6}-\sqrt{5}}+\frac{1}{\sqrt{5}-}$ is equal to (a) 5 (b) 1 (c) 3 (d) 0
14.	Simplified form of $\left[\left(\sqrt[5]{x^{-3/5}}\right)^{-5/3}\right]^5$ is (a) x^5 (b) x^{-5} (c) x (d) $\frac{1}{x}$
15.	$\left(\sqrt{2}+\sqrt{7-2\sqrt{10}}\right)$ is equal to (a) $\sqrt{2}$ (b) $\sqrt{7}$ (c) $\sqrt{5}$ (d) $2\sqrt{5}$

16.	$\left[\left\{\left(-\frac{1}{2}\right)^2\right\}^{-2}\right]^{-1}$ is equal to: (a) $\frac{1}{16}$ (b) 16 (c) $-\frac{1}{16}$ (d) – 16
17.	The value of $\sqrt[3]{0.000125}$ is (a) 0.005 (b) 0.05 (c) 0.5 (d) 0.0005
18.	Let $a=\frac{1}{2-\sqrt{3}}+\frac{1}{3-\sqrt{8}}+\frac{1}{4-\sqrt{15}}$. Then we have (a) a < 18 but a ≠ 9 (b) a > 18 (c) a = 18 (d) a = 9
19.	The value of $\frac{1}{\sqrt{2}+1}+\frac{1}{\sqrt{3}+\sqrt{2}}+\frac{1}{\sqrt{4}+\sqrt{3}}+\ldots+\frac{1}{\sqrt{100}+\sqrt{99}}$ is (a) 1 (b) 9 (c) $\sqrt{99}$ (d) $\sqrt{99}-1$
20.	$2+\frac{6}{\sqrt{3}}+\frac{1}{2+\sqrt{3}}+\frac{1}{\sqrt{3}-2}$ equal to (a) $+\left(2\sqrt{3}\right)$ (b) $-\left(2+\sqrt{3}\right)$ (c) 1 (d) 2
21.	If $\frac{4+3\sqrt{3}}{\sqrt{7}+4\sqrt{3}}=A+\sqrt{B}$, then B – A is (a) – 13 (b) $2\sqrt{13}$ (c) 13 (d) $3\sqrt{3}-\sqrt{7}$
22.	Find the simplest value of $2\sqrt{50}+\sqrt{18}-\sqrt{72}$ (given $\sqrt{2}$ = 1.414). (a) 4.242 (b) 9.898 (c) 10.312 (d) 8.484

QUESTIONS BASED ON FINDING THE LARGEST/GREATEST AND LEAST/SMALLEST VALUE

Q.No.	Question
1.	Which of the following is the biggest? $\sqrt[3]{4}$, $\sqrt[4]{6}$, $\sqrt[6]{15}$, and $\sqrt[12]{245}$, (a) $\sqrt[3]{4}$ (b) $\sqrt[4]{6}$ (c) $\sqrt[6]{15}$ (d) $\sqrt[12]{245}$
2.	Arrange the following in descending order: $\sqrt[3]{4}$, $\sqrt{2}$, $\sqrt[6]{3}$, $\sqrt[4]{5}$ (a) $\sqrt[3]{4}>\sqrt[4]{5}>\sqrt{2}>\sqrt[6]{3}$ (b) $\sqrt[4]{5}>\sqrt[3]{4}>\sqrt[6]{3}>\sqrt{2}$ (c) $\sqrt{2}>\sqrt[6]{3}>\sqrt[3]{4}>\sqrt[4]{5}$ (d) $\sqrt[6]{3}>\sqrt[4]{5}>\sqrt[3]{4}>\sqrt{2}$
3.	The smallest of $\sqrt{8}+\sqrt{5}$, $\sqrt{7}+\sqrt{6}$, $\sqrt{10}+\sqrt{3}$ and $\sqrt{11}+2$ is: (a) $\sqrt{8}+\sqrt{5}$ (b) $\sqrt{7}+\sqrt{6}$ (c) $\sqrt{10}+\sqrt{3}$ (d) $\sqrt{11}+\sqrt{2}$
4.	Which is the greatest among $\left(\sqrt{19}-\sqrt{17}\right)$, $\left(\sqrt{13}-\sqrt{11}\right)$, $\left(\sqrt{7}-\sqrt{5}\right)$ and $\left(\sqrt{5}-\right.$ (a) $\sqrt{19}-\sqrt{17}$ (b) $\sqrt{13}-\sqrt{11}$ (c) $\sqrt{7}-\sqrt{5}$ (d) $\sqrt{5}-\sqrt{3}$
5.	The greatest among $\sqrt{7}-\sqrt{5}$, $\sqrt{5}-\sqrt{3}$, $\sqrt{9}-\sqrt{7}$, $\sqrt{11}-\sqrt{9}$ is (a) $\sqrt{7}-\sqrt{5}$ (b) $\sqrt{5}-\sqrt{3}$ (c) $\sqrt{9}-\sqrt{7}$ (d) $\sqrt{11}-\sqrt{9}$
6.	The least one of $2\sqrt{3}$, $2\sqrt[4]{5}$, $\sqrt{8}$ and $3\sqrt{2}$ is (a) $2\sqrt{3}$ (b) $2\sqrt[4]{5}$ (c) $\sqrt{8}$ (d) $3\sqrt{2}$
7.	The greatest number among 2^{60}, 3^{48}, 4^{36} and 5^{24} is (a) 2^{60} (b) 3^{48} (c) 4^{36} (d) 5^{24}

8.	The smallest among $\sqrt[6]{12}, \sqrt[3]{4}, \sqrt[4]{5}, \sqrt{3}$ is (a) $\sqrt[6]{12}$ (b) $\sqrt[3]{4}$ (c) $\sqrt{3}$ (d) $\sqrt[4]{5}$
9.	The greatest among the numbers $\sqrt{0.09}, \sqrt[3]{0.064}$, 0.5 and $\frac{3}{5}$ is (a) $\sqrt{0.09}$ (b) $\sqrt[3]{0.064}$ (c) 0.5 (d) $\frac{3}{5}$
10.	Among the following numbers $\sqrt[6]{12}, \sqrt[3]{4}, \sqrt[4]{5}, \sqrt{3}$ the least one is: (a) $\sqrt[6]{12}$ (b) $\sqrt[3]{4}$ (c) $\sqrt[4]{5}$ (d) $\sqrt{3}$
11.	Out of the numbers 0.3, 0.03, 0.9, 0.09 the number that is nearest to the value of $\sqrt{0.9}$ is (a) 0.3 (b) 0.03 (c) 0.9 (d) 0.09

IF $\sqrt{x}$ = A IS GIVEN (WHERE X = 1, 2, 3…, AND 'A' IS THE CORRECT VALUE OF $\sqrt{x}$), FIND THE VALUE OF GIVEN EQUATION

Q.No.	Question
1.	Given $\sqrt{2}$ = 1.414. The value of $\sqrt{8}+2\sqrt{32}-3\sqrt{128}+4\sqrt{50}$ is (a) 8.484 (b) 8.526 (c) 8.426 (d) 8.876
2.	If $\sqrt{15}$ = 3.88, then what is the value of $\sqrt{\frac{5}{3}}$ (a) $1.29\overline{3}$ (b) 1.2934 (c) 1.29 (d) 1.295
3.	If $\sqrt{3}$ = 1.732, then what is the value of $\frac{4+3\sqrt{3}}{\sqrt{7+4\sqrt{3}}}$ upto three places of decimal? (a) 0.023 (b) 0.464
	(c) 2.464 (d) 3.023
4.	Evaluate: $16\sqrt{\frac{3}{4}}-9\sqrt{\frac{4}{3}}$ if $\sqrt{12}$ = 3.46 (a) 3.46 (b) 10.38 (c) 13.84 (d) 24.22

QUESTIONS BASED ON RATIONALISING OR PRIME FACTOR

Q.No.	Question
1.	A rationalising factor of $\left(\sqrt[3]{9}-\sqrt[3]{3}+1\right)$ is (a) $\sqrt[3]{3}-1$ (b) $\sqrt[3]{3}+1$ (c) $\sqrt[3]{9}+1$ (d) $\sqrt[3]{9}-1$
2.	The total number of prime factors in $4^{10} \times 7^3 \times 16^2 \times 11 \times 10^2$ is (a) 34 (b) 35 (c) 36 (d) 37
3.	The number of prime factors in $6^{333} \times 7^{222} \times 8^{111}$ (a) 1221 (b) 1222 (c) 1111 (d) 1211

QUESTIONS BASED ON SQUARE AND SQUARE ROOT

Q.No.	Question
1.	When $(4+\sqrt{7})$ is presented in the form of perfect square it will be equal to (a) $(2+\sqrt{7})^2$ (b) $\left(\frac{\sqrt{7}}{2}+\frac{1}{2}\right)^2$ (c) $\left\{\frac{1}{\sqrt{2}}(\sqrt{7}+1)\right\}^2$ (d) $\left(\sqrt{3}+\sqrt{4}\right)^2$
2.	The square root of $\left(\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}\right)$ is (a) $\sqrt{3}+\sqrt{2}$ (b) $\sqrt{3}-\sqrt{2}$ (c) $\sqrt{2}\pm\sqrt{3}$ (d) $\sqrt{2}-\sqrt{3}$

3.	The square root of $14 + 6\sqrt{5}$ is (a) $2+\sqrt{5}$ (b) $3+\sqrt{5}$ (c) $5+\sqrt{3}$ (d) $3+2\sqrt{5}$

QUESTIONS BASED ON POSITIVE AND NEGATIVE EXPONENT

Q.No.	Question
1.	Simplify : $\left[\sqrt[3]{\sqrt[6]{5^9}}\right]^4 \left[\sqrt[3]{\sqrt[6]{5^9}}\right]^4$ (a) 5^2 (b) 5^4 (c) 5^8 (d) 5^{12}
2.	If $3^{x+8} = 27^{2x+1}$, the value of x is: (a) 7 (b) 3 (c) –2 (d) 1
3.	$(36)^{\frac{1}{6}}$ is equal to: (a) 1 (b) 6 (c) $\sqrt{6}$ (d) $\sqrt[3]{6}$
4.	$(4)^{0.5} \times (0.5)^4$ is equal to: (a) 1 (b) 4 (c) $\frac{1}{8}$ (d) $\frac{1}{32}$
5.	If $(2000)^{10} = 1.024 \times 10^k$, then the value of k is (a) 33 (b) 30 (c) 34 (d) 31
6.	If $3^{x+y} = 81$ and $81^{x-y} = 3$, then the value of x is (a) 42 (b) $\frac{15}{8}$ (c) $\frac{17}{8}$ (d) 39
7.	If $a = 7 - 4\sqrt{3}$, the value of $a^{\frac{1}{2}} + a^{-\frac{1}{2}}$ is (a) $3\sqrt{3}$ (b) 4 (c) 7 (d) $2\sqrt{3}$

QUESTION LIKE $\sqrt{x+\sqrt{x+\sqrt{x+--}}}$ AND $\sqrt{x\sqrt{x\sqrt{x\sqrt{x----}}}}$

Q.No.	Question
1.	$\sqrt{1+\sqrt{1+\sqrt{1+\ldots\ldots}}}$ (a) equal 1 (b) lies between 0 and 1 (c) lies between 1 and 2 (d) is greater than 2
2.	$\sqrt{2+\sqrt{2+\sqrt{2+\ldots..}}}$ is equal to (a) $\sqrt{2}$ (b) $2\sqrt{2}$ (c) 2 (d) 3
3.	$\sqrt{12+\sqrt{12+\sqrt{12+\ldots.}}}$ is equal to (a) 3 (b) 4 (c) 6 (d) 2
4.	$\sqrt{3\sqrt{3\sqrt{3\ldots..}}}$ is equal to (a) $\sqrt{3}$ (b) 3 (c) $2\sqrt{3}$ (d) $3\sqrt{3}$
5.	Find the value of $\sqrt{30+\sqrt{30+\sqrt{30+\ldots..}}}$ (a) 5 (b) $3\sqrt{10}$ (c) 6 (d) 7
6.	The value of $\sqrt{2\sqrt[3]{4\sqrt{2\sqrt[3]{4\sqrt{2\sqrt[3]{4}}}}}}\ldots\ldots$ is (a) 2 (b) 2^2 (c) 2^3 (d) 2^5

7.	The value of $\sqrt{40+\sqrt{9\sqrt{81}}}$ is (a) $\sqrt{111}$ (b) 9 (c) 7 (d) 11

6.	The number, which multiplied with $\left(\sqrt{3}+\sqrt{2}\right)$ gives $\left(\sqrt{12}+\sqrt{18}\right)$, is (a) $3\sqrt{2}-2\sqrt{3}$ (b) $3\sqrt{2}+2\sqrt{3}$ (c) $\sqrt{6}$ (d) $2\sqrt{3}-3\sqrt{2}$

MISCELLANEOUS QUESTIONS

Q.No.	Question
1.	By how much does $5\sqrt{7}-2\sqrt{5}$ exceed $3\sqrt{7}-4\sqrt{5}$? (a) $5\left(\sqrt{7}+\sqrt{5}\right)$ (b) $\sqrt{7}+\sqrt{5}$ (c) $2\left(\sqrt{7}+\sqrt{5}\right)$ (d) $7\left(\sqrt{2}+\sqrt{5}\right)$
2.	If $x=\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$ and $y=\frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}+\sqrt{3}}$ then (x + y) equals: (a) 8 (b) 16 (c) $2\sqrt{15}$ (d) $2\left(\sqrt{5}+\sqrt{3}\right)$
3.	If $a=\frac{\sqrt{3}}{2}$, then the value of $\sqrt{1+a}+\sqrt{1-a}$ is (a) $\sqrt{3}$ (b) $\frac{\sqrt{3}}{2}$ (c) $2+\sqrt{3}$ (d) $2-\sqrt{3}$
4.	By how much does $\left(\sqrt{12}+\sqrt{18}\right)$ exceed $\left(2\sqrt{3}+2\sqrt{2}\right)$? (a) 2 (b) $\sqrt{3}$ (c) $\sqrt{2}$ (d) 3
5.	If $x+\frac{1}{x}=-2$ then the value of $x^{2n+1}+\frac{1}{x^{2n+1}}$ where n is a positive integer, is (a) 0 (b) 2 (c) –2 (d) –5