|  | Q- Find the value:  $${(1728)}^\frac{-2}{3}$$  A) $$\frac{1}{144}$$  B) 144  C) $$ -\frac{1}{144}$$  D) $$\frac{1}{12}$$  E) None of these  Answer: A  Solution:  $$\sqrt[3]{1728}=12$$  $$\therefore\ {(12)}^{{-3}^{(\frac{2}{3})}} = {(12)}^{-3\times\frac{2}{3}}={12}^{-2}$$  $$\therefore\ a^{-n}=\frac{1}{a^n}$$  $$\therefore\ {12}^{-2}=\frac{1}{{12}^2}=\frac{1}{144}$$ | Surds & Indices | Quantitative Aptitude | Quants Calculative | Medium |
| --- | --- | --- | --- | --- | --- |
|  | Q- Find the value of:  $$7^{-25}-7^{-26}$$  A) $$6\times7^{-26}$$  B) $$6\times7^{-25}$$  C) $$7\times7^{-25}$$  D) $$7\times7^{-26}$$  E) None of these  Answer: A  Solution:  $$7^{-25}-7^{-26}=\ \frac{1}{7^{25}}-\ \frac{1}{7^{26}}=\frac{7-1}{7^{26}}=6\times7^{-26}$$ | Surds & Indices | Quantitative Aptitude | Quants Calculative | Medium |
|  | Directions: Checking Equation Upload  Q- Simplify:  $${(256)}^\frac{3}{4}$$  A) 16  B) 12  C) 256  D) 64  E) NA  Answer: D  Solution:  $${(256)}^\frac{3}{4}={(4^4)}^\frac{3}{4}=4^3=64$$  Q- Find the value of:  $$8^{112}\div8^{110}$$  A) 72  B) 64  C) 81  D) 49  E) NA  Answer: B  Solution:  $$\frac{a^m}{a^n}=a^{m-n}\$$  $$\therefore\frac{8^{112}}{8^{110}}=8^{112-110}=8^2=64\$$  Q- Find the value of x if:  $$\left(\frac{p}{q}\right)^{x-1}=\left(\frac{q}{p}\right)^{x-3}$$  A) 3  B) 2  C) 1  D) -2  E) All of the above  Answer: B  Solution:  $$\left(\frac{p}{q}\right)^{x-1}=\left(\frac{q}{p}\right)^{x-3}$$  $$\left(\frac{p}{q}\right)^{x-1}=\left(\frac{p}{q}\right)^{-\left(x-3\right)}=\left(\frac{p}{q}\right)^{\left(3-x\right)}$$  $$\therefore x-1=3-x 🡪 x=2$$ | Surds & Indices | Quantitative Aptitude | Quants Calculative | Easy |
|  | Q- If  $$4^x+4^{x+1}=80$$  then the value of  $$x^x$$  is:  A) 16  B) 9  C) 25  D) None of these  E) 4  Answer: E  Solution:  $$4^x+4^{x+1}=80$$  $${\therefore4}^x(1+4)=80$$  $${\therefore4}^x\times5=80$$  $${\therefore4}^x=16$$  $${\therefore4}^x=\ 4^2 🡪 x=2$$  $${\therefore x}^x=\ 2^2=4$$ | Surds & Indices | Quantitative Aptitude | Quants Calculative | Medium |
|  | Q- If  $$4^x+4^{x+1}=80$$  then the value of  $$x^x$$  is:  A) 16  B) 9  C) 25  D) None of these  E) 4  Answer: E  Solution:  $$4^x+4^{x+1}=80$$  $${\therefore4}^x(1+4)=80$$  $${\therefore4}^x\times5=80$$  $${\therefore4}^x=16$$  $${\therefore4}^x=\ 4^2 🡪 x=2$$  $${\therefore x}^x=\ 2^2=4$$ | Surds & Indices | Quantitative Aptitude | Quants Calculative | Medium |
|  | Q- Find the value of x if:  $$\left(\frac{p}{q}\right)^{x-1}=\left(\frac{q}{p}\right)^{x-3}$$  A) 3  B) 2  C) 1  D) -2  E) All of the above  Answer: B  Solution:  $$\left(\frac{p}{q}\right)^{x-1}=\left(\frac{q}{p}\right)^{x-3}$$  $$\left(\frac{p}{q}\right)^{x-1}=\left(\frac{p}{q}\right)^{-\left(x-3\right)}=\left(\frac{p}{q}\right)^{\left(3-x\right)}$$  $$\therefore x-1=3-x 🡪 x=2$$ | Surds & Indices | Quantitative Aptitude | Quants Calculative | Medium |
|  | Q- Find the value of:  $$8^{112}\div8^{110}$$  A) 72  B) 64  C) 81  D) 49  E) NA  Answer: B  Solution:  $$\frac{a^m}{a^n}=a^{m-n}\$$  $$\therefore\frac{8^{112}}{8^{110}}=8^{112-110}=8^2=64\$$ | Surds & Indices | Quantitative Aptitude | Quants Calculative | Medium |