NORTHEAST PSC

(Power and Exponent)

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Q.1 The value of $\left(\frac{2}{3}\right)^5 \times \left(\frac{2}{3}\right)^0 \times \left(\frac{2}{3}\right)^{-5} =$

[APSSB Fireman & Mineral Guard 2023]

(A) 1 (B) 0

(C) -1 (D) None of these

Q2. If $3^{1-x} = 27$, then x =

[APSSB Fireman & Mineral Guard 2023]

(A) 1 (B) 2

(C) -2 (D) 0

Q3. The value of $(\sqrt{6} - \sqrt{5})(\sqrt{6} + \sqrt{5})$ is

[APSSB Fireman & Mineral Guard 2023]

(A) $\sqrt{11}$ (B) 11

(C) 1 (D) 0

Q4. The value of $\left(\frac{x}{y}\right)^{\frac{1}{2}} \cdot \left(\frac{y}{x}\right)^{\frac{1}{2}}$ is

[APSSB CGL 2023]

(A) 0 (B) $\frac{1}{4}$

(C) 1 (D) -1

Q5. Evaluate $\sqrt{41 - \sqrt{21 + \sqrt{19 - \sqrt{9}}}}$

[APSSB CGL 2023]

(A) 3 (B) 5

(C) 6 (D) 6.4

Q6. The value of $[10^{150} \div 10^{146}]$ is

[APSSB CGL 2023]

(A) 1000 (B) 10000

(C) 100000 (D) 10^5

Q7. The value of $\left(\frac{64}{27}\right)^{\frac{1}{3}}$ is

[APSSB CHSL 2021]

(A) $\frac{4}{3}$ (B) $\frac{1}{3\sqrt{3}}$

(C) $\frac{3}{4}$ (D) None of these

Q8. The value of $\left[\left(\frac{1}{4}\right)^2 - \left(\frac{1}{4}\right)^3\right] \times 2^5$ is

[APSSB CGL 2023]

(A) 1 (B) 2

(C) $\frac{3}{2}$ (D) 4

Q9. The value of $(3^0 - 4^0) \times 5^2$ is

[APSSB CGL 2022]

(A) 25 (B) 0

(C) 18 (D) -18

Q10. $(64)^{-\frac{2}{3}} \times \left(\frac{1}{4}\right)^{-3}$

(A) 4 (B) $\frac{1}{4}$

(C) 1 (D) 16

Q11. Which of the following number is a perfect Square number?

[APSSB CGL 2022]

(A) 20 (B) 26

(C) 28 (D) 25

Q12. The value of $(-2)^3 + (-3)^3 + 3^5$ =

[APSSB CGL 2022]

(A) 20 (B) 26

(C) 208 (D) 25

Q13. If $x - \sqrt{225} = 18$, then $x =$

[APSSB CGL 2023]

(A) 43 (B) 33

(C) 53 (D) 83

Q14. Value of

$x^{a-b} . x^{b-c} . x^{a-b}$ ($Whare\ x \neq 0$ & $a, b, c \in R$) is

(A) 1 (B) 0

(C) abc (D) $\frac{1}{abc}$

Q15. If $(64)^2 - (36)^2 = 20z$, the value of z is

[APSSB CGL 2023]

(A) 70 (B) 140

(C) 180 (D) None of these

Q16. If $\left(\frac{a}{b}\right)^{x-1} = \left(\frac{b}{a}\right)^{x-3}$, then the value of x is

[APSSB CGL 2023]

(A) $\frac{1}{2}$ (B) 1

(C) 2 (D) $\frac{7}{2}$

Q17. If $2^{n+4} - 2^{n+2} = 3$ then n is equal to

[APSSB CGL 2023]

(A) 0 (B) 2

(C) -1 (D) -2

Q18. If m and n are whole numbers such that $m^n = 121$, then the value of $(m-1)^{n+1}$ is

[APSSB CGL 2023]

(A) 1 (B) 10

(C) 121 (D) 1000

Q19. If $3^{x-y} = 27$ and $3^{x+y} = 243$, then x is equal to

[APSSB CGL 2023]

(A) 0 (B) 2

(C) 4 (D) 6

Q20. If $3^{4x-2} = 9^{3x+1}$ then x =

[APSSB CHSL 2023]

(A) 1 (B) $\frac{1}{2}$

(C) -2 (D) 2

Q21. If $2^{x-1} + 2^{x+1} = 640$, then the value of x is

[APSSB CGL 2022]

(A) 7 (B) 8

(C) 9 (D) 6

Q22. If $3^x = 500$, then the value of 3^{x-2} is

[APSSB CGL 2022]

(A) $\frac{100}{9}$ (B) $\frac{1000}{9}$

(C) $\frac{500}{9}$ (D) $\frac{500}{3}$

Q23. If $4^3 \times 6^4 \times 10^5 = 2^x \times 3^y \times 5^z$, then the value of x + y + z is

[APSSB CGL 2022]

(A) 12 (B) 15

(C) 20 (D) 24

Q25. If $(0.5)^x = \frac{1}{4}$, then x =

[APSSB CHSL 2022]

(A) 2 (B) $\frac{1}{2}$

(C) 4 (D) $\frac{1}{4}$

Q26. Value of $(2^5 \div 2^8) \times 2^{-5}$ is

[APSSB UDC 2019]

(A) 2^{-8} (B) 2^8

(C) 2^6 (D) None of these

Q27. Multiplicative inverse of 5^{-3} is

[APSSB UDC 2019]

(A) 5 (B) 1

(C) 5^3 (D) None of these

Q28. $3^5 \times 3^7 =$

[APSSB UDC 2019]

(A) 3^{35} B) 3^2

(C) 3^{12} (D) 9^{35}

Q29. $(3^{-1} + 5^{-1})^0 =$

[APSSB UDC 2019]

(A) $\frac{8}{15}$ (B) 1

(C) -8 (D) $\frac{-1}{15}$

Q30. $\left(\frac{1}{2}\right)^{-5} =$

[APSSB UDC 2019]

(A) 32 (B) -32

(C) $\frac{1}{32}$ (D) $\frac{-1}{32}$

Q31. Volue of $\left(\sqrt{5}-\sqrt{2}\right)\left(\sqrt{5}+\sqrt{2}\right)$

Is **[APSSB UDC 2019]**

(A) -3 (B) 3

(C) 21 (D) None of these

Q32. Value of m if $4^m \div 4^{-3} = 4^5$ **is**

[APSSB UDC 2019]

(A) 2 (B) -2

(C) 8 (D) None of these