IX Class

PRACTICE MATERIAL

I.   **One mark questions:**

1.   Find the value of $\left(\frac{3}{5}\right)^{-3}$

2.   Write 288 in exponential form .

3.   Explain the difference between m^n and n^m

4.   Simplify : $\left(\dfrac{x^{3n+1}.x^{3n-1}}{x^{2n+1}}\right)^2$

5.   Solve : $5^{3x+1} = 25^{x+2}$

6.   If $2^n = 256$ then find the value of 2^{n-3}

7.   Simplify $\dfrac{\left(x^{a+b}\right)^3 \left(x^{b+c}\right)^3 \left(x^{c+a}\right)^3}{\left(x^a x^b x^c\right)^6}$

8.   Find the 5th root of 1024.

9.   Find the value of $\dfrac{100}{\sqrt{125}}\left(\sqrt{5} = 2.236\right)$

10.   Simplify : $a^{x(y-z)}.a^{y(z-x)}.a^{z(x-y)}$

11.   Find the value of $\left(\dfrac{625}{256}\right)^{-3/4}$

12.   If $10^{3n-3} = 1000$ then find the value of 'n'.

13.   Simplify : $\left(x^2 y^{-2/5}\right)^{-4}$

14.   Find the greatest in $(2^3)^2$ and 2^{3^2}

15.   Simplify : $\left[\left(2^{-1}\right)^{-2}\right]^{-3}$

II.   **Choose the correct answer :**

16. $x^{1/2}.x^{3/2}.x^{5/2} = $ [   ]

       a) x^8 b) $x^{9/2}$ c) x^2 d) x^6

17. If $\left(x^{2/3}\right)^{a} = 1$ then a   [   ]

    a) 0   b) 1   c) $\frac{2}{3}$ d) $\frac{3}{2}$

18. $\sqrt[m+n]{x^{m^2-n^2}} =$ [   ]

    a) x^{m+n} b) x^{mn} c) $x^{m/n}$ d) x^{m-n}

19. $\left(d^{3}\right)^{0} =$ [   ]

    a) d   b) 0   c) 1   d) none

20. If $a^{2} = 0.04$ then $a =$ [   ]

    a) 0.2   b) 0.4   c) 0.8   d) 0.002

21. $\sqrt[3]{a^{6}} =$ [   ]

    a) a^{18} b) $a^{1/2}$ c) a^{2} d) None

22. $\dfrac{3^{-5}}{2^{-5}} =$ [   ]

    a) -6^{10} b) 6^{10} c) $\dfrac{243}{32}$ d) $\dfrac{32}{343}$

23. $81^{-3/4} =$ [   ]

    a) $81^{4/3}$ b) $9^{4/3}$ c) 9   d) $\dfrac{1}{27}$

24. $16^{1.25} =$ [   ]

    a) 32   b) 16   c) 8   d) 4

25. Which is smaller? -2^{6}, $(-2)^{6}$ [   ]

    a) $(-2)^{6}$ b) -2^{6} c) cannot say   d) none

26. $64^{0.5} =$ [   ]

    a) 4   b) 16   c) 8   d) 32

III. **Fill in the blanks :**

27. $a^{-3} \times a^{-2x} \times a^{4} =$ _____

28. Simplify $\sqrt[3]{a^{6}b^{-9}} =$ _____

29. $\sqrt{3^{0}} =$ _____

30. Cube root of 343 is _____

31. $\sqrt{-1}$ does not exist in the set of _____

32. $8^{-2/3} =$ _____

33. $32^{-1/5} =$ _____

34. If $2^x = 100$ then $2^{x+3} =$ _____

35. $\left(-1\right)^n =$ _____

36. If a = 4, b= 5 then $\dfrac{a^b}{b^a} =$ _____

37. If $x = \left(a^m\right)^n$, $y = \left(a^n\right)^m$ then the relation between x and y is _____

38. $(1024)^{0.3} =$ _____

39. $\sqrt{3} \times \sqrt{6} \times \sqrt{2} =$ _____

40. If $3^{x+2} = 18$ then $3^x =$ _____

41. If $256^x = \sqrt{2}$ then $x =$ _____