



SHIKSHA CLASSES

Sub. : Maths

Question Paper

Marks : 20

Std. : VIIIth - S.B.

3. Indices and Cube root

Time : 45 min.

Q.1 : A) Select the most appropriate Alternative. 02

1) What is the value of x, if $4^x = 64$?

- a) 6 b) 3 c) 2 d) 1

2) What is the simplification of $(-1)^4 \times (-1)^{-4}$?

- a) 0 b) -1 c) 1 d) $(-1)^{-16}$

: B) Solve the following. 01

1) Find the cube of 0.02.

Q.2 : A) Solve any one of the following. (Activity) 02

1) Using the law of indices, write proper numbers in the following boxes.

i) $3^5 \times 3^2 = 3^{\square}$

ii) $(3^4)^5 = 3^{\square}$

iii) $5^{-3} = \frac{1}{5^{\square}}$

iv) $5^0 = \square$.

2) Find cube root of the following : 729.

$$729 = 9 \times 9 \times \square$$

$$= 9^{\square}$$

Ans : $\sqrt[3]{729} = \sqrt[3]{9^{\square}} = \square$.

: B) Solve any one of the following. 02

1) Write in the form 'nth root of a' in each of the following numbers :

i) $(512)^{\frac{1}{9}}$ ii) $100^{\frac{1}{19}}$

2) Express the following numbers in index form :

- i) Square root of 256 ii) Cube root of 17.

Q.3 : A) Solve any one of the following. (Activity) 03

1) Using the law of indices, write proper numbers in the following boxes.

i) $5^1 = \square$

ii) $(5 \times 7)^2 = 5^{\square} \times 7^{\square}$

iii) $\left(\frac{5}{7}\right)^3 = \frac{5^{\square}}{7^{\square}}$

iv) $\left(\frac{5}{7}\right)^{-3} = \square^3$.

2) Complete the following table :

Sr. No.	Number	Power of the root	Root of the power
1.	$(45)^{\frac{4}{5}}$		
2.	$(81)^{\frac{6}{7}}$		
3.	$(100)^{\frac{4}{10}}$		

: **B) Solve any one of the following.**

03

1) Find the cube root of -1331.

2) Find $\sqrt[3]{0.125}$.

Q.4 : Solve any one of the following.

04

1) Find m so that $\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{2}{9}\right)^{2m-1}$.

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

Q.5 : Solve any one of the following.

03

1) The volume of a cubical box is 343 cubic metres. Find the length of a side of the box.

2) Evaluate: $\frac{8^{-1} \times 5^3}{2^{-4}}$.

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