# Uncovered Module System (UMS)

## Chapter Name – Cubes & Cubes Roots

## Class- 8th

**Remember & Understanding Based Questions**

**Ques.1)** If the sum of cubes of digits of a number is equal to the number itself, the number is called **Armstrong Number** , then the Armstrong Number is
a) 367 b) 154 c) 153 d) 470

**Ques.2)** State whether the statements are true (T) or false (F).
1. Cube of an odd number is even.
2. Cube of an even number is even.
3. Cube of an odd number is odd.

a) TTF b) TFT c) TTT d) FTT

**Ques.3)** If any prime is not in triplet, then we have to multiply or divide by this _____ to make complete triplets.
a) Prime b) Odd c) Even d) Composite

**Ques.4)** The numbers 1, 8, 27... are _____.
a) Prime numbers b) Cube numbers c) Negative numbers d) Square numbers

**Ques.5)** The smallest number which when multiplied with 7200 will make the product a perfect cube, is
a) 30 b) 15 c) 10 d) 20

**Ques.6)** By which smallest natural number should 128 be divided so that the quotient is a perfect cube?
a) 6 b) 4 c) 3 d) 2

**Ques.7)** Which of the following is not a perfect cube?
a) 10000 b) 1000000 c) 1000 d) 216

**Ques.8)** In the prime factorisation of a perfect cube, every _____ number occurs three times or a multiple of three times.
a) Even b) Odd c) Composite d) Prime

**Ques.9)** The cube root of 729 is?
a) 4 b) 3 c) 5 d) 9

**Ques.9)** What are the numbers that are equal to their cubes?

**Ques.10)** Check whether 1728 is a perfect cube by using prime factorisation.

**Ques.11) State True or False:**

1. All the numbers which end with three zeroes are perfect cubes.
2. 999 is a perfect cube.

**Ques.12) Fill in the blanks:**

1. The inverse operation of cubing a number is finding its _____.
2. There are _____ perfect cubes between 1 and 1000.
3. The least number to be multiplied with 9 to make it a perfect cube is _____.
4. In the prime factorization of a number, $2\times 2\times 2\times 3\times 3\times 3\times 5\times 5$, the least number to be divided to make it a perfect cube is _____.
5. The cube root of a number x is denoted by _____.

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**Analytical Based Questions**

**Ques.1) Assertion (A):** The cube of number 6 is 216 and it is written as $(6)^3 = 216$.
**Reason (R):** A perfect cube is a number, which is obtained by multiplying a natural number thrice.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.2) Assertion (A):** Cube of 1000 will have six zeroes.
**Reason (R):** The number of zeroes present in the digit in its cube these zeroes become thrice.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.3) Assertion (A):** Cubes of numbers ending with digits 1, 4, 5, 6 and 9 end with the same respective digits.
**Reason (R):** The cube of n is written as the sum of n consecutive odd numbers starting from n(n - 1) + 1.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.4) Assertion (A):** The number 157464 is a perfect cube.
**Reason (R):** Cube of a number ending with digit 7 ends with digit 3.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.5) Assertion (A):** 5400 is a perfect cube number.
**Reason (R):** Cube of any negative number is always negative.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.6) Assertion (A):** The unit digit of the cube root of 24389 is 1.
**Reason (R):** We can find the cube root of given number by prime factorisation or estimation method.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.7) Assertion (A):** If the volume of cube is $512cm^3$. The length of each side is 8 cm.
**Reason (R):** To find the cube root of given number first find the prime factorisation of number then we will group them into triplets.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.8) Assertion (A):** Cube root of any number 'a' can be written as $\sqrt[3]{a}$ in which a is called radic and 3 is called the index.
**Reason (R):** The sum of the cubes of first n natural numbers equals to the square of the sum of those numbers.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false. d) A is false but R is true.

**Ques.9) Assertion (A):** Cube root of $\frac{4096}{225}$ is $\frac{16}{5}$.

**Reason (R):** Cube Root of number m,is the number which is multiplied thrice to get m.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false. d) A is false but R is true.

**Ques.10)** Find the smallest number by which 8788 must be divided so that the quotient will be a perfect cube.

a) 4 b) 5 c) 3 d) 6

**Ques.11)** Which one of the following will have cube root ending with 3?

a) 39304 b) 50653 c) 35937 d) 46656

**Ques.12)** Find the smallest number by which 21600 must be multiplied to get a perfect cube.

a) 5 b) 3 c) 10 d) 2

**Ques.13)** Prove that if a number is doubled, then its cube is 8 times the cube of the given number.

**Ques.14)** How many cubes of side 2 cm can be packed in a cubical box with inner side equal to 4 cm.

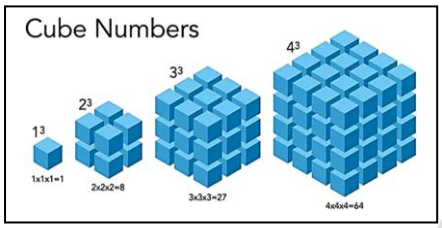
Three numbers are in the ratio 1:2:3 and the sum of their cubes is 4500. Find the numbers.

**Ques.15)** Is 392 a perfect cube? If not, find the smallest natural number by which 392 must be multiplied so that the product is a perfect cube.

**Ques.16)** Find the smallest number by which 256 must be multiplied to obtain a perfect cube.

**Question No. 17 to 20 are based on the given text. Read the text carefully and answer the questions:**

Biju was a student of DPS, Dwarika, Delhi. He was in class VIII. He has a classmate friend Arjun. Arjun was a studious boy, He was fond of studying the number patterns.




1. $1 = 1^3$ (The very first odd number = $1^3$)
2. $3 + 5 = 8 = 2^3$ (Sum of next 2 odd numbers = $2^3$)
3. $7 + 9 + 11 = 27 = 3^3$ (Sum of next 3 odd numbers = $3^3$)
4. $13 + 15 + 17 + 19 = 64 = 4^3$ (Sum of next 4 odd numbers = $4^3$)
5. $21 + 23 + 25 + 27 + 29 = 125 = 5^3$ (Sum of next 5 odd numbers = $5^3$)

**Ques.17)** How many consecutive odd numbers will be needed to obtain the sum as $10^3$

a) 8 b) 9 c) 7 d) 10

**Ques.18)** Which one of the following will not be a perfect cube?

a) 3 + 5 b) 7 + 9 + 11 c) 13 + 15 + 17 + 19 d) 13 + 14 + 15

**Ques.19)** Which one of the following will be a perfect cube?

a) 13 + 15 + 17 + 19 b) 7 + 8 + 9 + 11 c) 3 + 4 + 5 + 6 d) 13 + 14 + 15

**Ques.20)** How many consecutive odd numbers will be needed to obtain the sum as $12^3$ _____.