

## Section A

14  
19  
196

MCQ:  $1 \times 3 = 3$

Q1: The digit at units place of number  $59^2$  is —  
a) 1    b) 3    c) 9    d) 7.Q2: Value of  $\sqrt[3]{216} + \sqrt{196}$  is: 20 (22, 18, 16, 20)Q3: For which of following numbers the unit digits of their cube is same as that of unit digit of number.  
(171, 764, 39, All of these).Fill in the blanks:  $(1 \times 3 = 3)$      $1^3 + 2^3 + 3^3 = 1 + 8 + 27$ Q4: Sum of Cubes of first three natural numbers is 36.Q5: If a number has 3 or 7 at its unit's place, then its square ends with digit 9.Q6: Perfect Square between 270 & 300 is  $(17)^2 = 289$ .True or False:  $(1 \times 2 = 3)$ Q7: A cube can end with exactly two zeroes. False.Q8: Sum of first  $n$  odd natural numbers is  $n^2$ . True.Q9: Taxicab numbers are 1729, 13382. False.Section B ( $3 \times 7 = 21$ )Q10: What number will you multiply by  $1323$  to make it a cube number.  
 $\rightarrow 3^3 \times 7^2$   
728Q11: Find the smallest square number that is divisible by each of following numbers: 4, 9 & 10.  $\rightarrow 18 \times 5 = 900$ Q12: Find the smallest number by which 9408 must be multiplied so that the product is a perfect square.  
 $\rightarrow 2^6 \times 7^2 \times 3$ Q13: a) How many numbers lies b/w squares of 18 and 19.  
 $\rightarrow 2 \times 18 = 36$ 20

b) Show that 156 is not perfect square.  $\rightarrow 2^2 \times 3^1 \times 13^1$

Q-14:- a) If  $x^2 = 144$ , find all possible values of  $x$ .  $\rightarrow \pm 12$

b) Cube of any odd number is even (T/F).  $\rightarrow$  false

Q-15:- a) Find 100th odd number  $\rightarrow 2n-1 = 2 \times 100 - 1 = 199$

b) Define Cube numbers. which are first 8 cube numbers.  $\rightarrow 1, 8, 27, 64, 125, 216, 343, 512$

Q-16: a) find cube root of  $6 \times 36 \times 216 = 6 \times 6 \times 6 \times 6 \times 6 \times 6$ .  $\rightarrow 6 \times 6 = 36$

b) find value of  $100^2 - 99^2 \rightarrow 10000 - 9801 = 199$

c) find square of 12.5  $\rightarrow 156.25$

$$\begin{array}{r} 3 \overline{) 1323} \\ \underline{34} \phant{4} \\ 31 \phant{4} \phant{7} \\ \underline{74} \phant{7} \\ 77 \\ \underline{77} \\ 0 \end{array}$$

$$\begin{array}{r} 2 \overline{) 4910} \\ \underline{29} \phant{5} \\ 20 \phant{5} \\ \underline{20} \phant{5} \\ 0 \end{array}$$

LCM = 180  
 $18 \times 5 = 90$

$$\begin{array}{r} 2 \overline{) 9408} \\ \underline{24} \phant{7} \phant{0} \phant{4} \\ 22 \phant{3} \phant{5} \phant{2} \\ \underline{21} \phant{1} \phant{7} \phant{6} \\ 25 \phant{8} \phant{8} \\ \underline{22} \phant{9} \phant{4} \\ 31 \phant{4} \phant{7} \\ \underline{71} \phant{4} \phant{7} \\ 77 \\ \underline{77} \\ 0 \end{array}$$

$$\begin{array}{r} 24 \overline{) 156} \\ \underline{27} \phant{8} \\ 33 \phant{9} \\ \underline{13} \phant{1} \phant{3} \\ 0 \end{array}$$

$$(3)^3 = 27$$

$$\begin{array}{r} 99 \\ 99 \\ \hline 9801 \end{array} \quad \begin{array}{r} 17 \\ 81 \\ 98 \\ \hline 170 \end{array} \quad \begin{array}{r} 12 \\ 13 \\ \hline 156 \end{array}$$

$$\begin{array}{r} 99 \\ 99 \\ \hline 9801 \end{array} \quad \begin{array}{r} 17 \\ 81 \\ 98 \\ \hline 170 \end{array}$$

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