

**(SECTION – B)**

- Q. 6. (a)** If the sum of four numbers is 105. When 03 is added to a number, twice of another number, five times of third number and fourth number become equal to each other. What are these numbers in ascending order? (5)
- (b)** Find out the correct word from the given jumbled spellings. (5)  
**(i)** UCTREUTRS      **(ii)** LOVONAC      **(iii)** CIHPROSTATAC  
**(iv)** YNTIAUMH      **(v)** NNTHORER
- (c)** Find the missing numbers in the series below (5)  
**(i)** 121, 11, 81, 9, ?, 7      **(ii)** 100, 50, 25, ?, 6.25      **(iii)** 4, 9, 64, 125, 1296, ?  
**(iv)** 2, 5, 12, 24, 48, ?      **(v)** 44, 22, 66, 33, 132, ?
- (d)** If the sum of three digit number is 15 and sum of 10<sup>th</sup> and unit digit is 12. The difference of unit digit from 10<sup>th</sup> digit is equal to 02. What is the three digit number? (5) **(20)**

Let the four numbers be (a), (b), (c), and (d).  
Given condition.

$$a + b + c + d = 105 \quad \text{--- (I)}$$

$a + 3 = 2b = 5c = d$ .  $\rightarrow$  Condition given in question.

$$a + 3 = 2b \Rightarrow b = \frac{a+3}{2} \quad \text{--- (II)}$$

$$a + 3 = 5c \Rightarrow c = \frac{a+3}{5} \quad \text{--- (III)}$$

$$a + 3 = d \Rightarrow d = a + 3 \quad \text{--- (IV)}$$

Substituting these values in eqn. I

$$a + \frac{a+3}{2} + \frac{a+3}{5} + a + 3 = 105$$

$$\frac{10a + 5a + 15 + 2a + 6 + 10a + 30}{10}$$

$$\frac{27a + 51}{10} = 105$$

$$27a = 105 \times 10 - 51$$

$$27a = 999$$

$$a = 37$$

$$b = \frac{a+3}{2} = \frac{37+3}{2} = 20$$

$$c = \frac{a+3}{5} = \frac{37+3}{5} = 8$$

$$d = a+3 = 37+3 = 40$$

Ascending order = 8, 20, 37, 40

$$40 + 37 + 20 + 8 = 105$$

Q: Find the correct word

UCTREUTRS = STRUCTURES

LOVONAC = VOLCANO

CHPROSTATIC = PROCRAS TATIC

YNTIAUMH ⇒ HUMANITY

NNTHOPER ⇒ NORTHERN

(5)

11. 121, 11, 81, 9, ?, 7

Answer:

121, 11, 81, 9, 49, 7

- Explain the underlying logic in the form of a statement

100, 50, 25, ?, 6.25

Answer: 100, 50, 25,  $12\frac{5}{2}$ , 6.25

4, 9, 64, 125, 1296, ?

Answer: 4, 9, 64, 125, 1296, 2261

2, 5, 12, 24, 48, ?

Answer: 2, 5, 12, 24, 48, 96

44, 22, 66, 33, 132, ?

Answer: 44, 22, 66, 33, 66

let the three numbers be

$$a + b + c = 15$$

Equation ①

let the tenth digit be  $d$   
and unit digit is  $e$ .

$$d + e = 12$$

$$e - d = 02$$

let hundreds digit =  $h$

tenth digit =  $t$

unit digit =  $u$

$$h + t + u = 15 \quad \text{--- Equation ①}$$

According to Question

$$t + u = 12$$

Equation ②

$$u - t = 02$$

Equation ③

Equation 2 + Equation 3

$$u + t = 12$$

$$\begin{array}{r} t + u - t = 02 \\ \oplus \quad \oplus \quad \quad \oplus \\ \hline \end{array}$$

$$2u = 14$$

$$v = 7.$$

put  $v$  in Equation 2.

$$t + v = 12$$

$$t + 7 = 12$$

$$t = 12 - 7$$

$$t = 5.$$

Put  $v$  and  $t$  in equation 1

$$5 + 7 + h = 15$$

$$h = 15 - 12$$

$$h = 3$$

The third digit number is 3.