(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^{th} and unit digit is 12. The difference of unit digit from 10^{th} 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.

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

$a+3 = 2b = 5c = d$ → condition given in question.

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

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

$$a+3 = d \Rightarrow d = a+3. \quad -(IV)$$

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

$\boxed{40 + 37 + 20 + 8 = 105}$

② Find the corred word

UCTREUTRS = STRUCTURES

LOVONAC = VOLCANO

CIHPROSTATC = PROCRASTATIC

YNTIAUMH ⇒ HUMANITY

NNTHORER ⇒ NORTHERN

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

Answer:
121, 11, 81, 9, 49, 7

100, 50, 25, ?, 6.25

Answer: 100, 50, 25, 12.5, 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 number 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 $=u$

$h+t+u=15.$ — Equation ①

According to Question

$t+u=12$ Equation ②

$u-t=02$ Equation ③

Equation 2 + Equation 3

$u+t=12$

$+u-t=02$

$2u=14$

$\therefore u = 7.$

put u in Equation 2.

$$t + u = 12$$

$$t + 7 = 12$$

$$t = 12 - 7$$

$$t = 5.$$

Put u and t in equation 1

$$5 + 7 + h = 15$$

$$h = 15 - 12$$

$$h = 3$$

The third digit number is 3.