QUESTION#6 (Part A)

Average of all 11 numbers = 63

Average of first 6 numbers = 60

Average of last six number = 65

$$\boxed{Average = \frac{sum\ of\ numbers}{Total\ number}} \to ①$$

using eq ①

$$63 = \frac{sum\ of\ 11\ numbers}{11}$$

sum of 11 numbers = $63 \times 11 = \boxed{693} \to ②$

$$\begin{array}{r} 63 \\ 11 \\ \hline 63 \\ 63\ \times \\ \hline 6\ 9\ 3 \end{array}$$

from eq ②

$$\boxed{\begin{array}{l} sum\ of\ 11\ number = sum\ of\ first\ 5\ numbers \\ \qquad + x + sum\ of\ last\ 5 \\ \qquad numbers \end{array}} \to eq ③$$

again using eq ①

sum of 6 numbers (first) $= 6 \times 60$

$$= \boxed{360} \to ④$$

$$\begin{array}{r} 60 \\ 6 \\ \hline 36\ 0 \end{array}$$

sum of last six numbers = 65

$$\boxed{} \to ⑤$$

$$\begin{array}{r} 65 \\ 6 \\ \hline 39\ 0 \end{array}$$

So Sum of first 6 numbers can be written

as (let $x = 6^{th}$ number)

sum of first 6 number = first 5 numbers

$$+ (x)$$

⑧ ← [$360 - x =$ sum of first 5 numbers]

Now similarly,

sum of last six numbers is $= x + \Lambda$

~~sum of last 5 numbers~~

⑦ ← [$390 - x =$ sum of last 5 numbers]

Putting values from eq ⑧ & ⑦ into eq

③

sum of 11 numbers = sum of first 5

~~Yes, it's correct~~ number +

+ last 5 number

$$693 = 360 - x + x + 390 - x$$

$$693 = 360 + 390 - x$$

$$693 = 750 = -x$$

$$-x = -750 + 693$$

$$-x = +693 - 750$$

$$\boxed{x = 57} \rightarrow ⑩$$

The number x, which is the sixth number
has the value of 57.

$$
\begin{array}{r}
① \quad 360 \\
+ \; 390 \\
\hline
750
\end{array}
$$

$$
\begin{array}{r}
750 \\
- \; 693 \\
\hline
057
\end{array}
$$

What are main causes of floods? How floods of 2022 were different from super floods of 2010? Explain role of NDMA in this regard.

d. Differentiate star & planet. How a star becomes a black hole?

Q. No. 5

a. Explain with examples the relationship between cells, tissues and organs.

b. Explain the differences in structure & function between a cell wall and a cell membrane.

c. What is meant by transpiration? Explain in detail the significance of leaf structure in the process of transpiration.

d. What is meant by the term double circulation? Briefly describe how the heart is adapted to keep blood flowing in a double circulation.

SECTION-II

Q. No. 6

a. Average of 11 numbers is 63, that of 1st 6 numbers is 60 & last 6 numbers is 65. Find the 6th number.

b. Identify the series

i. 4, 18, _____, 100, 180, 294

ii. 48, 24, 72, 36, 108, _____

c. Find the correct word from the given words:

i. SRHEA

ii. AIVIRGNE