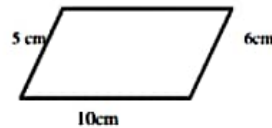d. Distinguish N-type and P-type semiconductors. Semiconductors are the brain of modern electronics. Comment.

Q. No. 3
a. What causes a cyclone? In which part of cyclone winds are the strongest and destructive?
b. What is a black hole and how is it formed?
c. Discuss the rotation and revolution of the earth, and its structural parts.
d. Distinguish ionic and covalent bonds with examples.

Q. No. 4
a. What are the causes of water pollution?
b. What are the goals of the Glasgow climate pact?
c. Give any 5-uses of remote sensing.
d. Discuss any 5-applications of artificial intelligence.

Q. No. 5
a. Give structure and functions of human eye.
b. What is digestive system? What is the role of small intestine in digestion?
c. Write a short note on Vitamins.
d. Describe the functions of pituitary glands.

SECTION-II

Q. No. 6
a. 172 is considered to be magic number for a no-confidence motion for the premier in the national assembly of Pakistan. 172 is what percent of total numbers of NA?
b. A family consists of 2 grandparents, 2 parents and 3 children. Average age of grandparents

Is 67 years, that of parents is 35 years and that of grandchildren is 6 years. What is the average age of the family?
c. What is the area and perimeter of the below figure :

5 cm   6cm
10cm

d. Asghar left a property worth of 4, 80,000, find the share of his widow, three sons, and 4 daughters?

Q. No. 7
a. Yasir is 15 years older than Zia. 5 years ago Yasir was 3 times as old as Zia.Find the present age of Yasir?
b. Find the missing one:
7, 26, ----------, 124
c. If Ú =(1,2,3,4,5,6,7,8)
and A= (2, 3, 5, 7)
Find A Ú A^C

d. Define the following

A. Arithmetic mean	C. EQ	E. Histogram and
B. IQ	D. Range of DATA	pictogram

Q. No. 8
a. A travels 35 km towards the west, takes a right turn and travels 50 km more next, she takes another right turn and travels 35 km in that direction. How far is she from her original position?
b. If A is the husband of B and C is the mother of D and B. How is C related to A?
c. If SUMMER is written as RUNNER, how WINTER will be coded in the same code?
d. 7 persons live in a street, having a house in a line. Consider the following:
1- A lives in the corner's house
2- C is in between E and G
3- There is one house between D and F
4- F is neighbor of G
5- There are two houses between A and G
Who lives in the 2nd corner?

***** We wish you Good Luck for CSS-2022*****

Q6=a= $\dfrac{172}{342} \times 100 = 50.3\%$

Q6b= $\dfrac{67+35+6}{7} = 15.4$

Q6c

$A = l \times b = 10 \times 6 = 60 \, cm^2$

$P = (30) \, cm$

Q6d=

wife= $4,80,000 \times \dfrac{1}{8} = 60,000$

remij = $420,000$

now, 3 Sons + 4 day/ln.

$3+4 = 7$

so, $420,000 \times \dfrac{3}{7}$

Dayter
2,40,000

Q7 a)

$$Zia = x$$
$$Xaviv = 3x$$

5y=ago:
$$Z = x-5$$
$$X = 3x-5$$

today
$$Z = x$$
$$X = x+15$$

so,
$$\boxed{3x - 5 = 15 + (x - 5)}$$

$$2x = 15$$
$$x = 7.5$$

now $= x+15$
$$7.5 + 15$$
$$= 22 \frac{1}{2}$$
$$22.5 \text{ Ans}.$$

7 b)

$$4^3 - 1 = 63$$

$$7, 26, \enspace \textcircled{63} \enspace 124$$

$$2^3 - 1 = 7 \quad \text{and} \quad 3^3 - 1 = 26 \quad \& \text{ so } \quad 5^3 - 1 = 124$$

$$c = A \cup A^c$$

$\longrightarrow$ is it mistake?

$$A^c = U - A = (1, 4, 6, 8)$$

$$U^1 = U - U = \{ \quad \}^c$$

$$A \cup A^c$$

$$2, 3, 5, 7 \} \cup \{ 1, 4, 6, 8 \}$$

$$1, 2, 3, 4, 5, 6, 7, 8 \}$$

Q:8

c- SUMMER — RUNNER

WINTER — VIOUER

an.

⑦:8 d