Part II

## SECTION B

Q3: (a) A car runs at a speed of 40 km/n during first half of the journey and the speed of 60 km/n the and half of journey what is the average speed of journey a car.

**Sol :**

Formula for average

$$\text{Average} = \frac{\text{Number of observation}}{\text{Sum of observation}} \longrightarrow \text{eq (1)}$$

Speed of a car at first = 40 km/n

Speed of a car at 2nd = 60 km/n

Let put these values in eq-①

$$\text{Average} = \frac{40+60}{2} = \frac{100}{2} = 50$$

So average speed of a car is 50 km/n

(b) If rose is coded as 68$\overset{2}{1}$ chair is coded as 73456, PREACH is coded as 961473, what will be coded for SEARCH?

Sol

If rose is coded as 6281, CHAIR is coded as 73456, PREACH is coded as 961473, then the SEARCH is coded as 214673.

(c) A is the brother of B and B is the sister of C, C is the father of D.

How D is related to A. D being a male member.

Sol:

A is the brother of B
B is the sister of C.
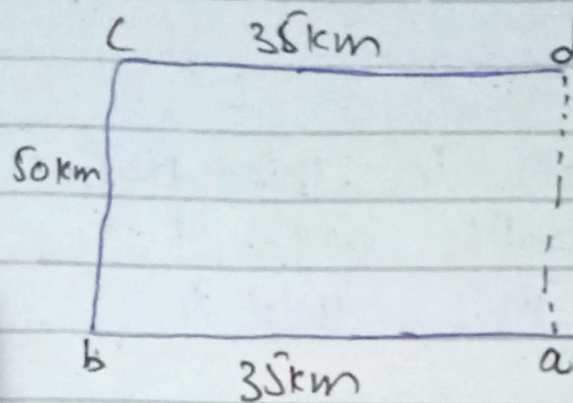C is the father of D

we have to find
How D is related to A

So from the above statement we concluod that

D is the Nephw of A.

b) Kashinda travels 55 km toward the west, takes a right turn and travels 50km more neol. She takes another right turn and travel 35km in thai direction. How far is she from her original position?



we have to find ad?

The distance the trave from a to b = 35km
"     "      "       " b to c = 50km
"     "      "       " c to d = 35km

So according to the above direction we conclude that the distance between a to d is 50km

she is 50cm far from its original position.

**Q6**

(i) **(I)** Three bags contain 3 red, 7 black, and 4 red & 6 blacks respectively. 1 of the bags is selected at random and a ball is drawn from it. If the ball drawn is red find the probability that it is drawn from the third bag.

**Sol**

Esa Total Balls in third bag = 10
Red balls are = 4
Black " " = 6

Now we have to find probability of red balls in third bag.

Formula for the probability

$$\text{Probability} = \frac{\text{Favorable events}}{\text{total occurance of Possible events}} \times 100$$

$$= \frac{4}{10} \times 100 = 40$$
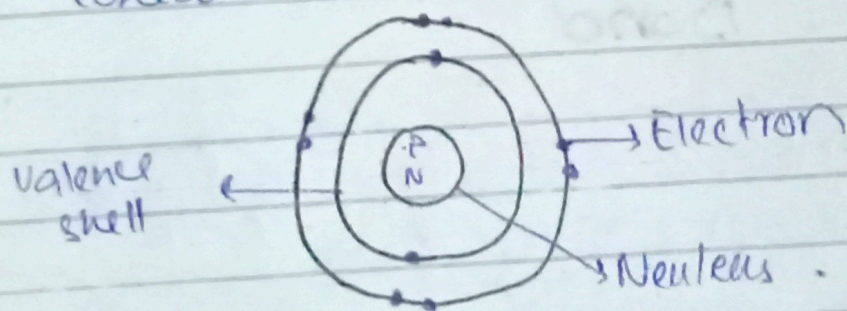
Probability of red balls in third bag is 40.

Part II

Q2(a)

## Atom

Atom is fundament unit of matter all the matters is madeup of atoms. Even the single dot of puncil contains thousands of atoms.

Structure of atom

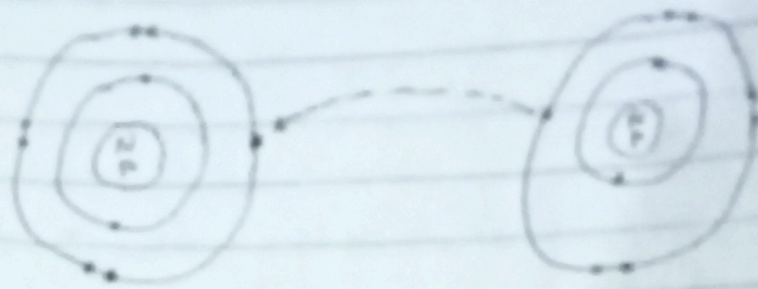Atom has two regions the Nucleus and valence shell. Nucleus contains proton and neutron while shell contains electron.



Octet rule in chemical bonding

• In order to attain stability atom's make chemical bonds. Atom attains stability when in the outer most shell contain 8 electrons and this is octet rule. Octet rule is the rule that atoms made bonds in order to complete

8 electrons in the outer most shell

& For Example
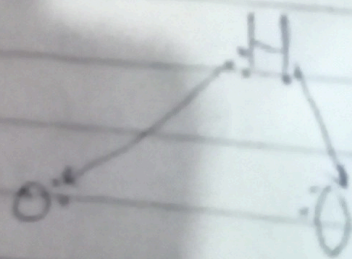


So atoms make bonds to attain stability by the complete transfer of one electron or through the sharing of electron.

# Covalent Bond

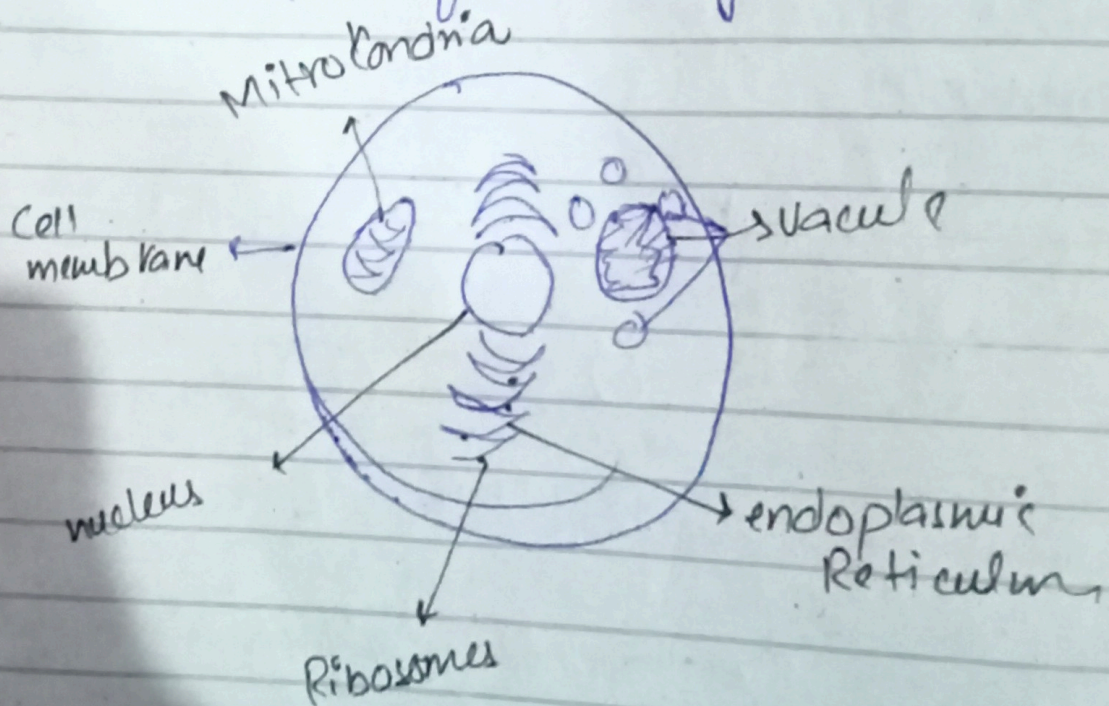Covalent bond is a sharing of one electron or sharing of pair electron between two atom.

For Example

(d) Describe the "cell structure". write down the functions of at least three subcellular Organellies.

Ans

**Cell:** Cell is the basic unit of all living organisms. All living organisms are made up of cells. Some organisms are unicellular while some are multicellular.

Structure of cell

Cell contains subcellular Organellies that works together in order to proper functioning.



Mitrokondria
Cell membrane
nucleus
Ribosomes
vacule
endoplasmic Reticulum

# Function of cell membrane

→ cell membrane is permeble membran it controle or act like a bodyguard membere. It controls the entering of substances to in the cell. It protects the cells from the harmful enery of harmyul substances.

→ It also helpk in gining the proper shape to cell.

# Function of Mithrocandria

→ It is called the power house or energy production in cell.

→ It produce energy that are necessary for the survival and funchiomiy of cell.

# Vacule

It is small in animle cell but large in planu cells it contain water. Its all function is to store water in it.

Q5 (b) - what is artifical Intelligence? write its prons and cons.

## Answer
Artificial Intelligence

The stimulation of human traits in machine that act and behave like a human is known as artifical intelligence.

Example of Artifical Intelligence
- Playing chess game (→ Machine)
- Can Drives a car
- Most primitive example is shop shofia.

Prons of the artificial Intelligence
1- Reduction in Human Error
2- Takes risks instead of Human
3- consumes more in less time
4- Available 24 hours
5- New Inventions and faster Decision.

Cons of AI
1- High cost of creation
2- Making human lazy
3- Unemployment
4- Lack of emotions
5- Lacking creative thinking.

(b) why water molecule is angular in structure?

Answer:

Atom molecules are always in angular structure because the sharing of electrons between the hydron and oxygen atom.

Chemical bond in water molecules

water molecules made covalent bond in order to attain stability. As they share electron, this sharing make the structure of water molecules in angular form.

For example: