Part - II

Section - II
Q. # . 6
(a)

Three candidates recieved votes = 15000, 10000, 8000

Total votes " " = 15000 + 10000 + 8000

= 33000

Wining candidates has votes = 15000

Percentage Formula = $\dfrac{\text{obtained votes}}{\text{Total votes}} \times 100$

= $\dfrac{15000}{33000} \times 100$ = 45.45 %

Hence, the total percentage of the wining candidate's vote is $\boxed{45.45\%}$

Q. # . 6 (b)

The ratio of angles of a triangle are 3 : 4 : 5.

As, w.it is known the total number of angle in a triangle is **180**. Let's 'x'.

Sum of Ratio of angle =

Riatio of angles

3x : 4x : 5x

Sum of these ratio = 3x + 5x + 4x

As, the triangle combine angle is 180

Hence above equation became

3x + 4x + 5x = 180

$$12x = 180$$
$$x = \frac{180}{12}$$
$$x = 15$$

Now put the value of 'x' in each ratio to get angles of the triangle

$$3x = 3(15) = 45$$
$$4x = 4(15) = 60$$
$$5x = 5(15) = 75$$

So, the angles of the triangle are

$$\boxed{45, 60, 75}$$, respectively.

Q.#.6 (c)

A group consist of boys and girls. Each group consists of 4 boys and 6 girls.

Total numbers of girls available = 102

The 102 girls make group = $\frac{102}{6}$ = 17

By knowing the girls, the boys number can be known

$$= 17 \times \text{Boys Total}$$
$$= 17 \times 4 = 68 \Rightarrow \text{Boys} = 68$$

Thus, total boys are 68 ~~which~~ required for such groupings.

Q.#.6. (d)

The ratio of present age of

$$A : B$$
$$6 : 7$$

After 5-years the ratio became

$$A : B$$
$$7 : 8$$

Ages of A and B can be represented as

$6x$ and $7x$ respectively and hereafter 5 years became

$$(6x + 5) : (7x + 5) :: 7 : 8$$

$$\frac{6x + 5}{7x + 5} = \frac{7}{8}$$

$$8(6x + 5) = 7(7x + 5)$$
$$48x + 40 = 49x + 35$$
$$40 - 35 = 49x - 48x$$
$$5 = x$$

Present age of $A = 6(5) = 30$

Present age of $B = 7(5) = 35$

The present age of $A = 30$ years and $B = 35$ years.

Q.#.8 (a)

let's the consecutive three odd numbers are
x, $(x+2)$, $(x+4)$

Sum of three odd conseative numbes = 273

$$x + (x+2) + (x+4) = 273$$
$$3x + 6 = 273$$
$$3x = 273 - 6$$
$$3x = 267$$
$$x = \frac{267}{3}$$
$$x = 89$$

The three consecutive odd numbers are

by put value $x = 89$,

$$x + 2 = 89 + 2 = 91$$
$$x + 4 = 89 + 4 = 93$$

Hence, the sum of three consecutive odd numbers are [89, 91 and 93].

Q.#.8 (b)

1) 4, 16, 36, 64, 100, 144

The difference between second and first number is 12. While the third number is obtained by adding twelve with eight(8), Similarly the sum of (12+8) is twenty which then again add eight to give fourth number. Similar sequence is follow in the series.

2) 30, 29, 27, <u>24</u>, 20, 15

In the following sequence, there is consecutive decrease of ~~numbe~~ natural number from 1, 2, 3, 4 and 5. Thus, a second number get by subtracting one from first number and third number get by subtracting two from second and so on. The remaining series also follow the same sequence

30, 29, 27, <u>24</u>, 20, 15

3) 1, 7, 15, 25, <u>37</u>, 51

This series add by six, third number is by adding six with two, fourth number is by adding eight with two and so on. Thus the missing number 37 is obtained by adding its last number twenty five with twelve.

4) 0, 2, 6, 12, 20, 30, <u>42</u>

The following series is obtained by adding the multiply of two in each number. The second number by adding two, third number by adding four (multiple of two by two) and third number by adding six (multiple of two by three) and so on.

5) 48, 24, 72, 35, 108; 54

This sequence is following the series by dividing to to on get next. Then by multiplying to get another word- It used alternative divide and multiply to get next words.

Q.#.8   (c)

1) THRSI : SHIRT

The word 'THRSI' is a jumbled word with disorder sequence of a correct word "Shirt". The shirt is use a dress for human which cover upper part of the body. So, the correct word from the given jumbled spelling is SHIRT.

2) GNDREAI : GARDEN

The following jumbled spelling has the correct word 'Garden'. The Garden is a form of horticulture which used for flowering, food and ornament purpose. It also enhance the beauty and decoration of land. Hence, the correct word from the given jumbled spelling is Garden.

3) SCHAMOT : STOMACH

The word "SCHAMOT" is a corre jumble s

spelling of 'stomach'. The stomach's an organ of human body. It is is a part of digestive system which digest the food. In a nutshell, the correct word of jumble given word is 'STOMACH'.

4) ONLNDO = L O N D O N

The misplace group of word "ONLNOD" has his correct word 'london'. london is a city of United Kingdom. It is famous for its beauty, skyscrapper building and so on. Thus the correct word from the given jumble word in london.

5) HIODALY = H O L I D A Y

The correct word from the given misplaced word is "Holiday". This word is usually spoken when a person is free from his regular duty, and enjoy and makes rest on that specific day. In conclusion, the given jumble word is a correct spelling of holiday.

Q. # . 8

(d)

let's the age of Sara $= x$

The age of Sara's mother is six times age of Sara $= 6(x)$.

The age of Sara's brothe is twice as of Sara $= 2(x)$

After three years there age becomes.

Sara $= x + 3$, Sara's mother $= 6x + 3$

Sara's brother $= 2x + 3$

After three years' sum of there ages will be 72. Hence the equation became.

Sara + Sara's mother + Sara's brother = 72

$$(x +3) + (6x +3) +(2x+3) = 72$$
$$9x + 9 = 72$$
$$9x = 72 - 9$$
$$9x = 63$$
$$x = \frac{63}{9} = 7$$

By putting value of $x = 7$, following age determine.

The age of $\boxed{Sara = 7 years}$

The age of $\boxed{Sara's \ mother = 6(7) = 42 \ years}$

The age of $\boxed{Sara's \ brother = 2(7) = 14 \ years}$

Section-I

Q.#.4

(a)

Solid Waste Management

" The process to manage the waste which include municipal, agricultural, industrial, household and commercial in the form of solid is known as Solid waste management (SWM) "

Methods In SWM

The process of solid waste disposal composed of several method. It include to decomposition without pollution of solid waste. The solid waste treated as separately for biological and thermal method. The stages include collection, treamnent, handling and waste disposal. Some method to dispose off the solid waste are listed below.

Biological SWM
- Composting
- Vermi-Composting

Thermal (Temperature) SWM
- Inceniration
- Pyrolysis
- Plasma Gastification

1- Composting

It is the process of decomposition of organic matter. It is mainly composed of remaining of plants, feces

of organisms decay matter and other solid organic matter. These waste dump into a pit in a land where through bacterial process these matter decompose.

2- Vermi-Composting

The vermi-composting is similar as composting. The difference exit in its decaying organism which are worms, in case of vermi-Composting. The vermi-costing need little more caring and more beneficial. But it is less commonly used.

3- Incineration

In the process of solid waste management, the best method and more expensive method is Incineration. It consist of batches which may be simple or multi-process. The high temperature is used because it is treated as thermally for decaying of matter in solid waste.
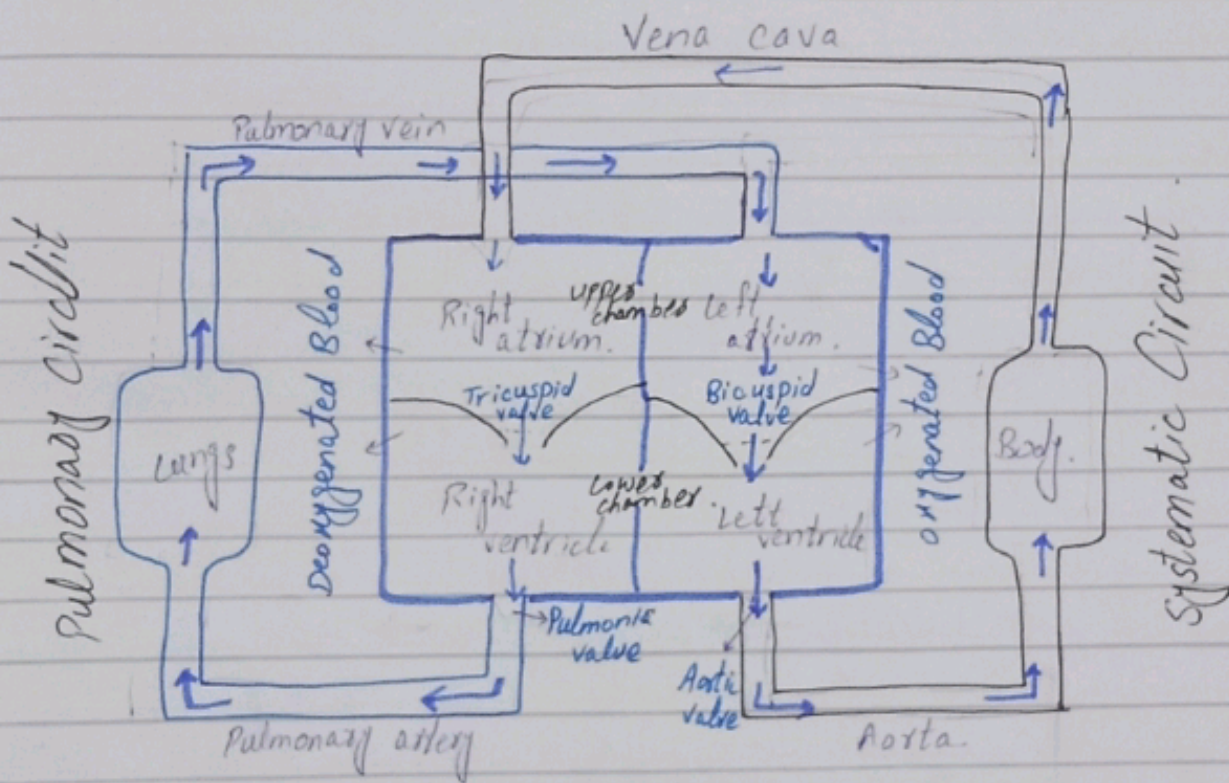

Solid waste incineration
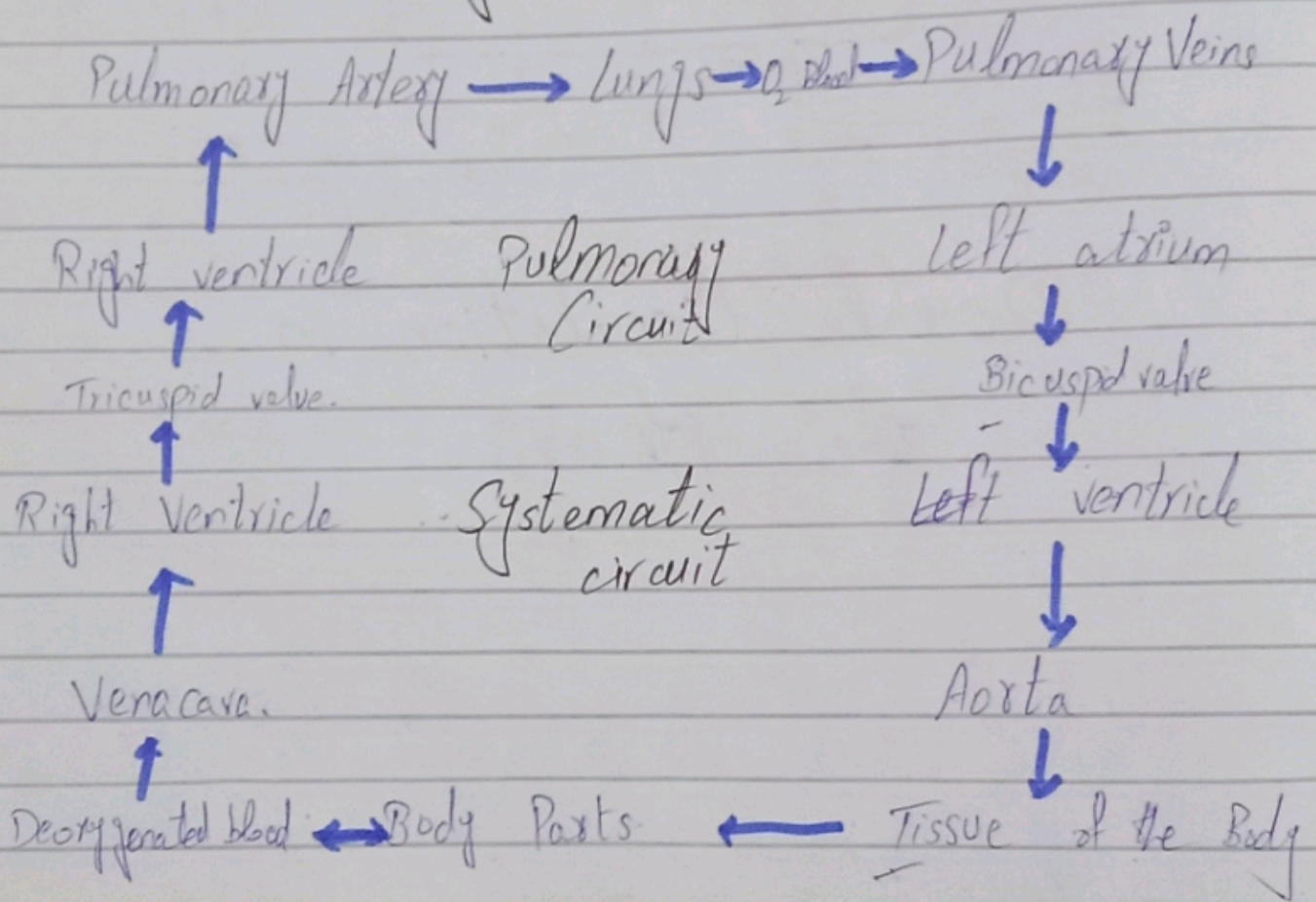
Q. # 4 - (b)
BLOOD
DOUBLE CIRCULATION

The Human heart is an Pumping organ which pump the blood by using double circulateor. It is a mechanism in which blood circulates twice through the heart in one complete cycle (Systolic-Diastolic). The pulmonary and systematic circulation are two pathways in which blood flows in it.

Double Circulation in the Heart

Blood Flowing in the Double Circulation Pathway

Pulmonary Artery $\longrightarrow$ Lungs $\rightarrow$ O$_2$ Blood $\longrightarrow$ Pulmonary Veins

Right ventricle   Pulmonary Circuit   Left atrium

Tricuspid valve.   Bicuspid valve

Right Ventricle   Systematic circuit   Left ventricle

Vena cava.   Aorta

Deoxygenated blood $\longleftrightarrow$ Body Parts $\longleftarrow$ Tissue of the Body

Cardiac Cycle : Complete Double Circulation

One complete double circulate pathway in the heartbeak makes up a cardiac cycle. It consist of the systolic and diastolic system which occurs through the contraction and relation of the semi-lunar valve, respectively. This is the complete double circulation adopted by the human body for the circulation of blood.
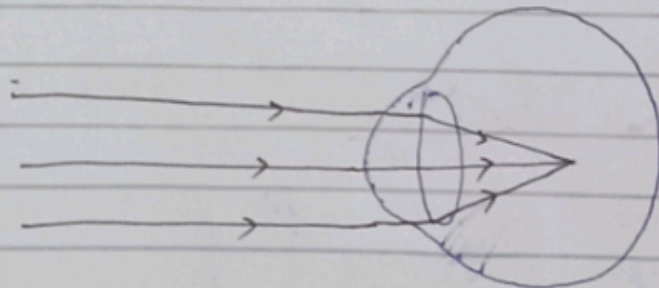
Q. #.4 (c)

MYOPIA

Myopia and short sightedness are related terms which is used a disease. In myopia, the distant object can be seen as blurred and difficulty to recognize objects. The short sightedness occur in early childhood mainly because of contact with Led, mobile screen, deep study and so on.
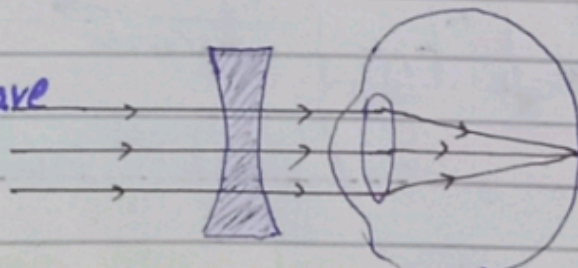
Solution to deal with myopia:

The short sightedness can be treated by using concave mirr lens. The concave lens focus on retina when light falls on it. The detection and clearity of blurred vision of eyesight for distant object can be clearly visible by using concave mirror.

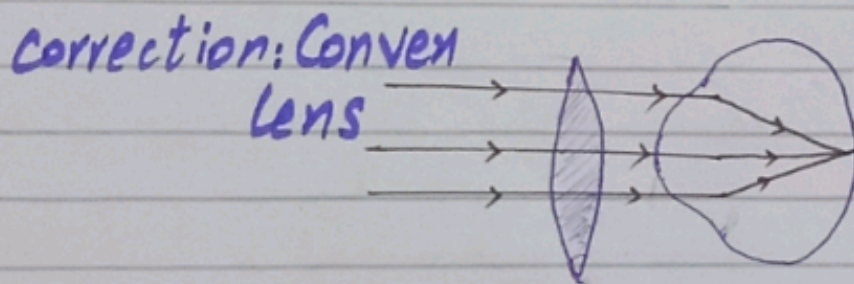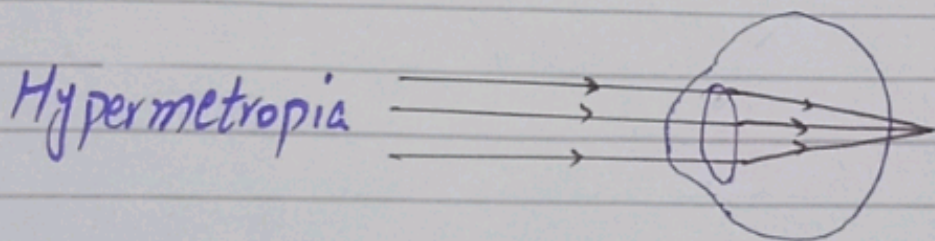Myopia

Correction: Concave lens.

Hy peropia

Hyperopia is a disease of long eye sightedness. This disease occurs in aduld. Old ages and sometimes in jongs. In hypermetropia, the far object can be seen as blurred and visibility of far object reduced. It create difficulty in vision of far objects.
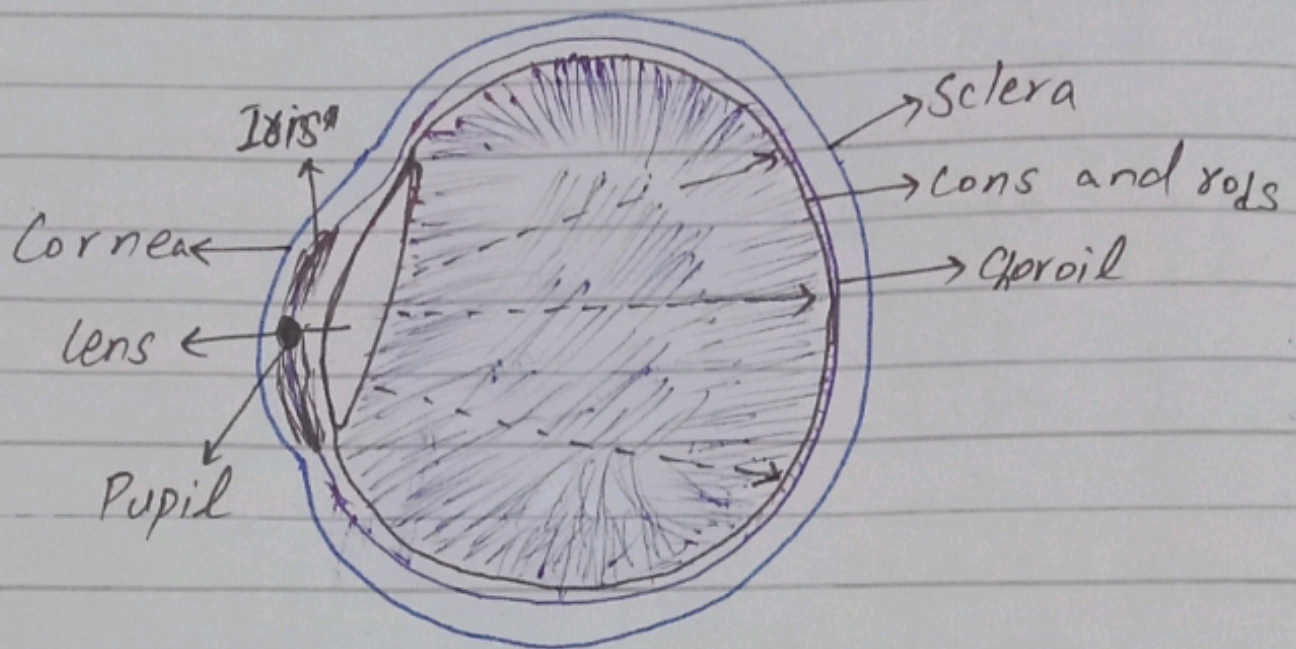
How Hyperopia can be treated?

The hyperomyopia can be treated by using convex lens. The conven lens make object by focusing light on retina. It became visibility clear making distant objects appear in the focus by using convex lens.

Hypermetropia

correction: Conven lens

Enlist majort of Human Eye

The human eye is a complex organ of vision in all vertebrate and invertebrate vision. It can see only three colour of the visible light. But its complexity and mixture of colour make it a blessing for human beings.

The list of eye parts are follows.
Sclera
Choroid
Lens
Retina
Iris
Pupil
Rods and Cons:
Lens

Q.#.4 (d)

Uses of Microwave

Microwaves aris a form of electromagnetic ways which are used in various and have low energy and high wavelength with ~~higher~~ lower frequency.

The microwaves are used in various forms. Some are discussed below.

It is used in microwave oven. In microwave oven, the radiation works with particles to get things warm.

These rays are key component of radar system. This system detect, monitor and analyze by microwave.

Due to higher frequency, the remote sensing technologies are operated by using these rays.

Hence, the communication system is also working by using microwave r rays.

Uses of Ultraviolet

Ultraviolet rays are a form of electromagnetic waves which have high energy and low wavelength.

Some uses of UV- rays are including.

UV rays are used for flourescent. These rays have range near visible light. Thus these are used to making flourescent in daily life.

For curing ink and stain, UV rays are commonly use. The writing and decoration purpose of human being is fulfilled by Ultraviolet rays.

It is also used in killing microorganism. The bacteria which are harmful for human beings, organisms and living things can be killed by using ultraviolet rays.

Uses of X-Rays

X-rays are a form of electromagnetic ways which have higher energy.
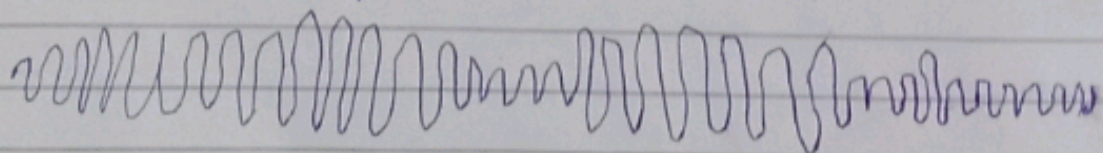
Some uses of x-rays is enlisted below.

It has higher energy so it is used in imaging of different body parts, organs and sketching it.

It is also used as in a detecting machings. Through the use of x-rays the disfunctioning, damaging, and cognition of disable cells and organs can be detected.

← _____ Energy + Frequency

* Gamma * X-ray * UV * Vis * IR * Micro * Radio

wavelength increasing →

EMR

Q.# 3 (d)

RAM
(Random Access Memory)

1- Volatile Memory:

Ram is a random access memory. It is a volatile storage memory. It can store data temporarily. When computer is turned off the data in RAM will be automatically deleted. Hence, RAM can store data until it run. After switch off, all store dat and information not remain in computer.

2- Read and Writable Data

In RAM data can be write at any time and when once the data is use it remain until switch off. But in this data can be read and write many time.

3- Storage and Smaller Size:

The data and information store in Random access memory is smaller so, it is available in MBs. It is also available cheaply.

5. Hardware file types:

The storage of data occur with the help of hardware The chip files is used in RAM.

ROM
(Read Only Memory)

1- Non-Volatile memory.

Rom is a non-volatile memory which can store and manage data permanently. Once the data stored, it will remain in computer a although computer is switched off. Read only memory cannot deleted data when once save it. For store and manage data permanently ROM is used.

2- Only Read Data:

In ROM, as name show the data is already fix. Only reading of the added information is available. Many time read the data and information can be read although computer switched off.

3- Large storage capacity:

The storage capacity of ROM is larger than RAM. It can store files in GBs. Thus the capacity and the capability of a computer depend on its size of ROM.
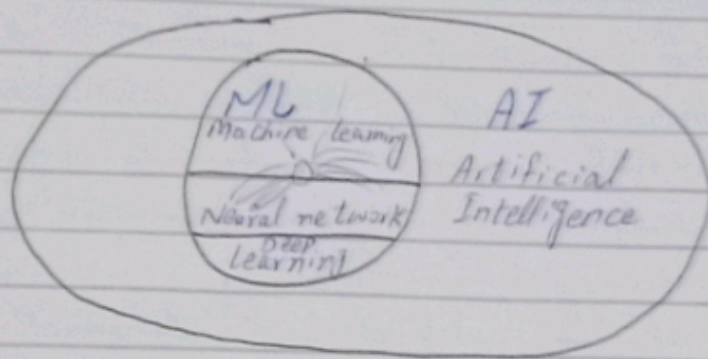
4- Hardware file:

The hardware of read only memory it may be of in form of optical fiber of in form of magnetic drives. It compose of satars and tracks which can store data in GBs.

Q. # 3 (c)

1

AI (Artificial Intelligence)

"Artificial intelligence is a form of com intelligence which combine computer science and robust the intelligence by using different machine"

ML
Machine learning

Neural network
Deep learning

AI
Artificial
Intelligence

Machine Learning: A Subpart of AI

"The culture of learning by technological machine using neural network and deep learning which result as development of machine like human brain (learn and develop) is known as the Machine learning."

Working of ML: Like Human Brain

Machine learning (ML) is a part of Artificial intelligence. It is a modern form of AI and the most developed. It can learn data and information by intellectual link to inputs. It works like living human brain.

Examples of ML: which

Some examples of machine learning includes the image recognition, facial recognition, E-mail recognition. Spam-filtration and accuracy in life activities. These are common examples which help the human life with digital technology.

How ML revolutionized the World?

The world is now enter into an era which is digitalize by the using of artificial intelligence. The work of deep learning with neural network in Machine learning has revolutionned the world. The neural technology works manipulate, store and learn from previous data is a huge blessings for human.

By intellectual contact of ML with the present face, finger, Biometri, Spam, e-mail and other form helps its to store them

and revisualize, relearn for future prospects.