

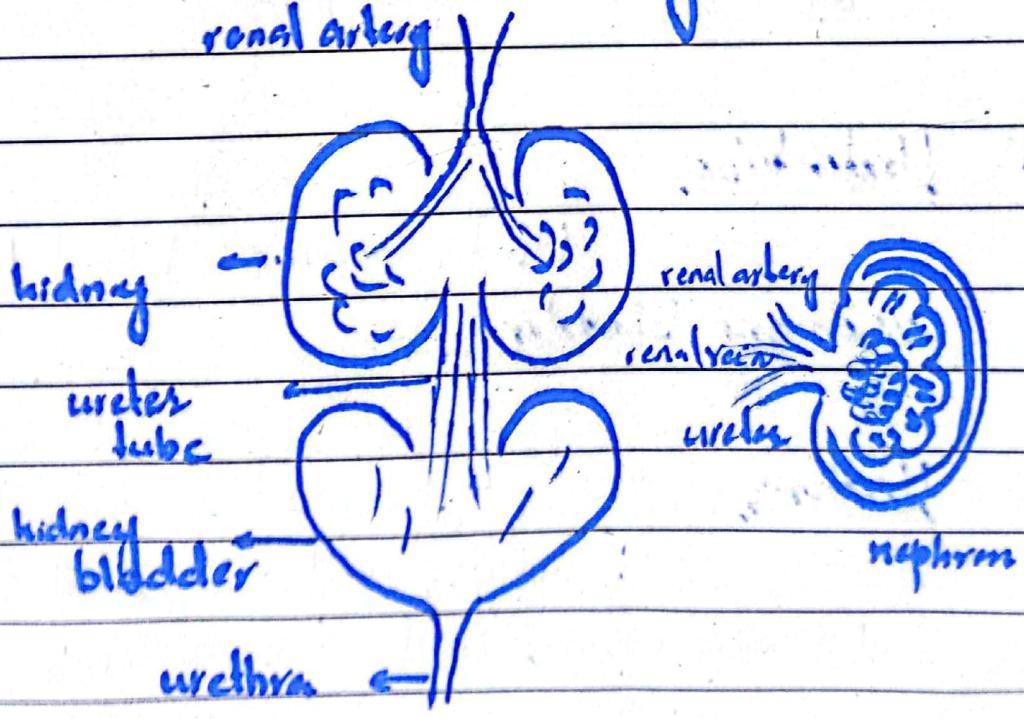
Q4 Describe structure and urine excretion of kidney.

Kidney

"Kidney is a bean shaped organ"

Kidney is a bean shaped organ. In fact, it is a chief organ of urine formation and removal of nitrogenous wastes. Thus, kidney is a vital organ.

Structure of kidney





Role of kidney in urine excretion

Kidney has a vital role in excretion.

"Nephron is a functional unit of kidney."

i) Renal artery

Renal artery carries blood to kidney.

ii) Renal vein

Renal vein filtrate that blood.

iii) Ureter tube

Ureter carries blood to urinary bladder.

iv) Urethra

Finally, urethra expell out that nitrogenous wastes such as



ammonia form of urea.
Thus, above is excretion process described briefly.

Q b) What is the difference between fog and smog? What are causes of smog and its effects on human health? Write short note on any one of the latest technologies to eliminate smog to avoid atmospheric pollution.

Smog

Smog is the atmospheric pollution comprises of smoke and fog.

Smog is the atmospheric pollution. It is formed by the combine reaction of fog and smoke. Thus, smog is hazardous to health.

Fog

'Fog is the moisture in the atmosphere.'

Fog is the moisture in air. It is a condition of atmospheric change.

• Main difference between fog and smog

<u>Comparison</u>	<u>Smog</u>	<u>Fog</u>
i) <u>Meaning</u>	Smog is the atmospheric pollution.	Fog is change in atmospheric condition.
ii) <u>Formation</u>	It is formed by combination of smoke and fog.	It is formed by moisture in air.



Q. (c) Describe dengue disease. Its causes, symptoms and preventions.

Dengue

'Dengue is a fever caused by Aedes Aegyptae.'

Dengue is a disease. In fact, it is the worst-borne fever. It is transmitted through bite of female mosquito, called Aedes Aegyptae.

Causes of dengue fever

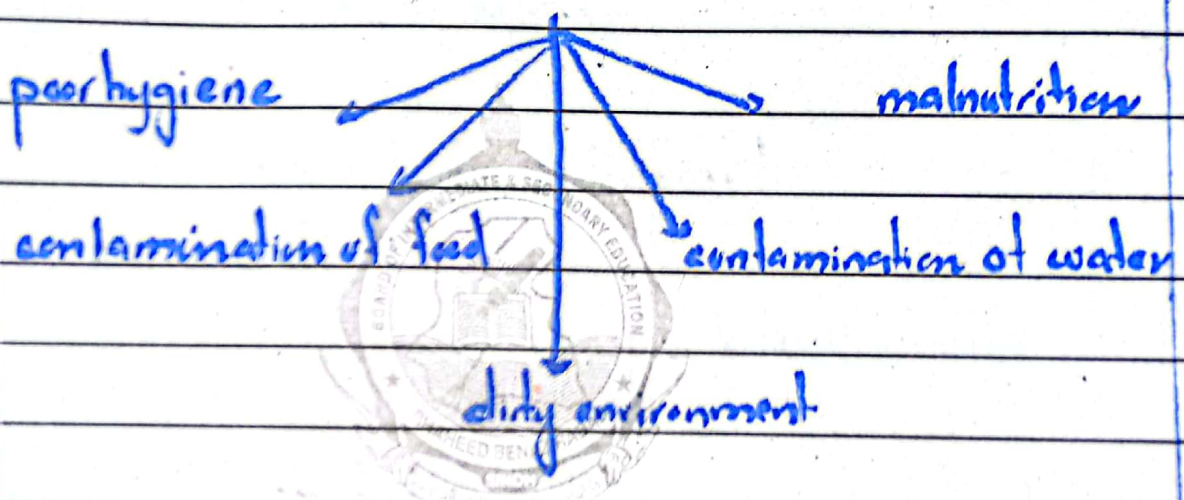
Following are main causes:

- (i) Poor hygiene leads to a chance of dengue virus.
- (ii) Mal-nutrition is also responsible for dengue fever.

iii) Contamination of food and water also spreads dengue in a person.

iv) Dirty environment is also a factor behind dengue.

Causes



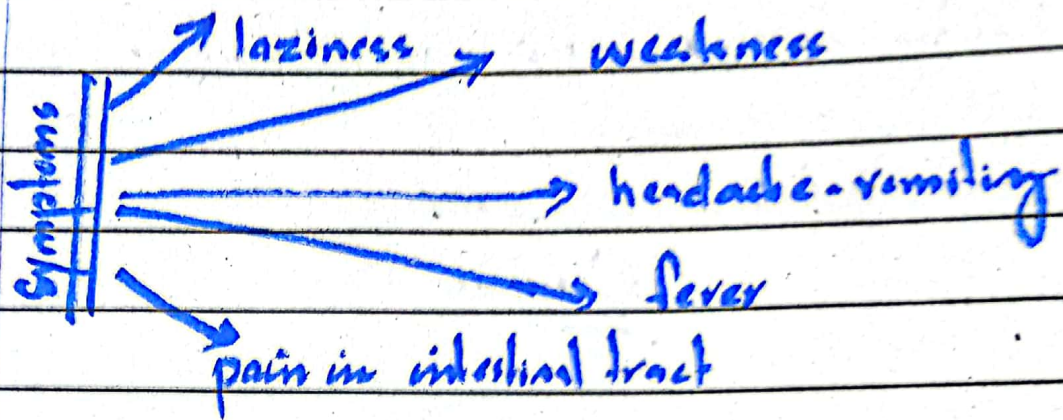
Symptoms of dengue

Following are symptoms:

i) Pain in intestinal tract

ii) high fever - unbroken

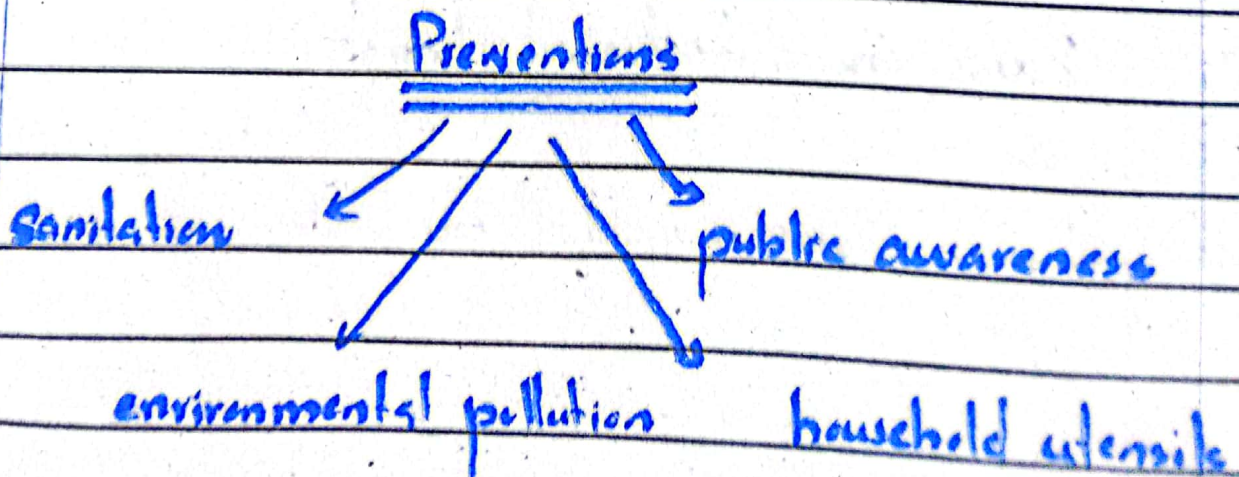
- iii) feels lazy and weak
- iv) headache and vomiting



Preventions of dengue

Following are recommended preventions:

- i) Focusing proper sanitation.
- ii) Enhancing public awareness.
- iii) Avoiding environmental pollution.
- iv) Keeping household utensils clean.



Qd, Describe polygon and its types.

Polygon

"Polygon is a two-dimensional closed figure."

Polygon is a closed figure with two dimensions. It ranges from trigonal to onward. A regular polygon has breadth and length. Therefore, a polygon is a two-dimensional figure.

$n = \text{number of polygon}$

Types of polygon

types:

Following are

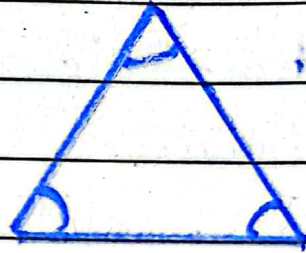
1) Triangle

"A triangle is a



three-dimensional
figure."

A triangle has
three sides and three angles.



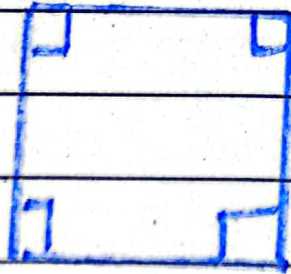
3 sides = 3 angles = 180°

ii)

Square

"A square is a
four-dimensional
figure."

A square has
four sides and four angles.



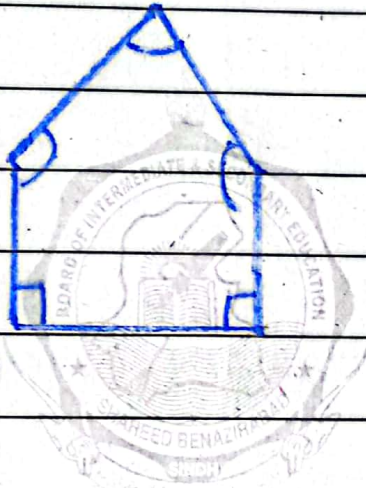
4 sides = 4 angles = 360°

iii)

Pentagon

"A pentagon is a five-dimensional figure."

A pentagon has five sides and five angles.
 $5 \text{ sides} = 5 \text{ angles} = 540^\circ$

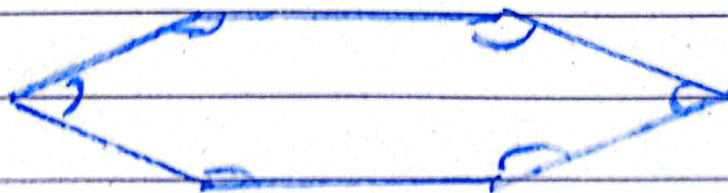


iv)

Hexagon

"A hexagon is a six-dimensional figure."

A hexagon has six sides and six angles.
 $6 \text{ sides} = 6 \text{ angles} = 720^\circ$

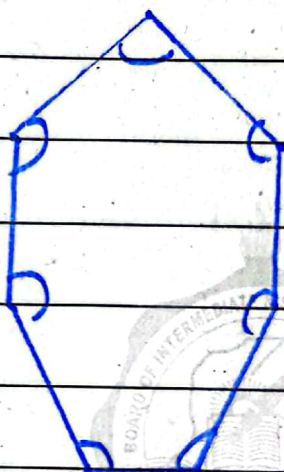


v)

Heptagon

" A heptagon has seven dimensions

A heptagon is a seven dimensional figure with seven sides and seven angles.



$$7 \text{ sides} = 7 \text{ angles} = 900^\circ$$

Therefore, all are types of hept. polygon.

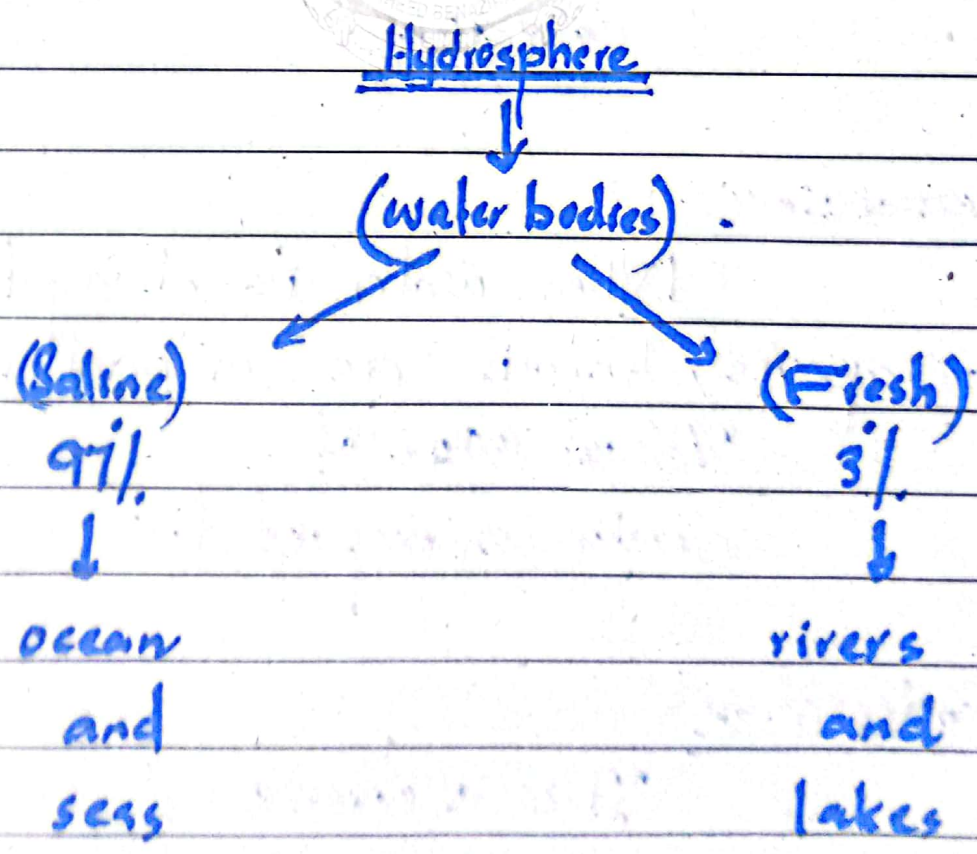
Q1) Describe hydrological cycle.

Definition of hydrosphere

"Hydrosphere is a 'watered' part of the earth."

The part of earth that is covered with water, known as hydrosphere. It is consisted of water bodies-

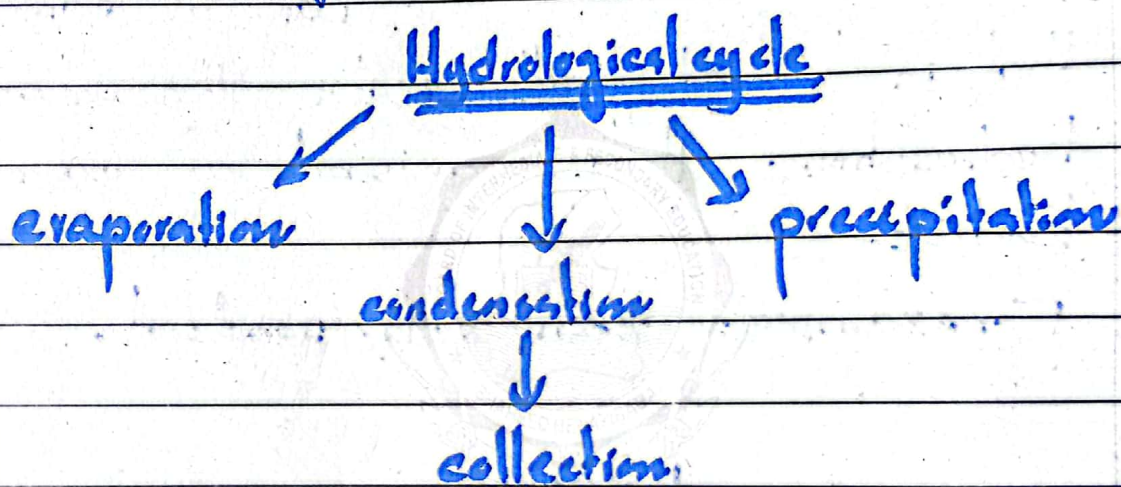
For example: ocean, seas, ponds etc



Hydrological cycle

'A process of water purification, called hydrological cycle.'

Following are steps of cycle:



i) Evaporation

When water is changed into vapours, known as 'evaporation'.

'About 90% of water is evaporated.'

ii) Condensation

'It is a reverse

process of vaporization

In this stage, water takes its original position.

vapors → water

dense ←



clouds

Thus, clouds form from water.

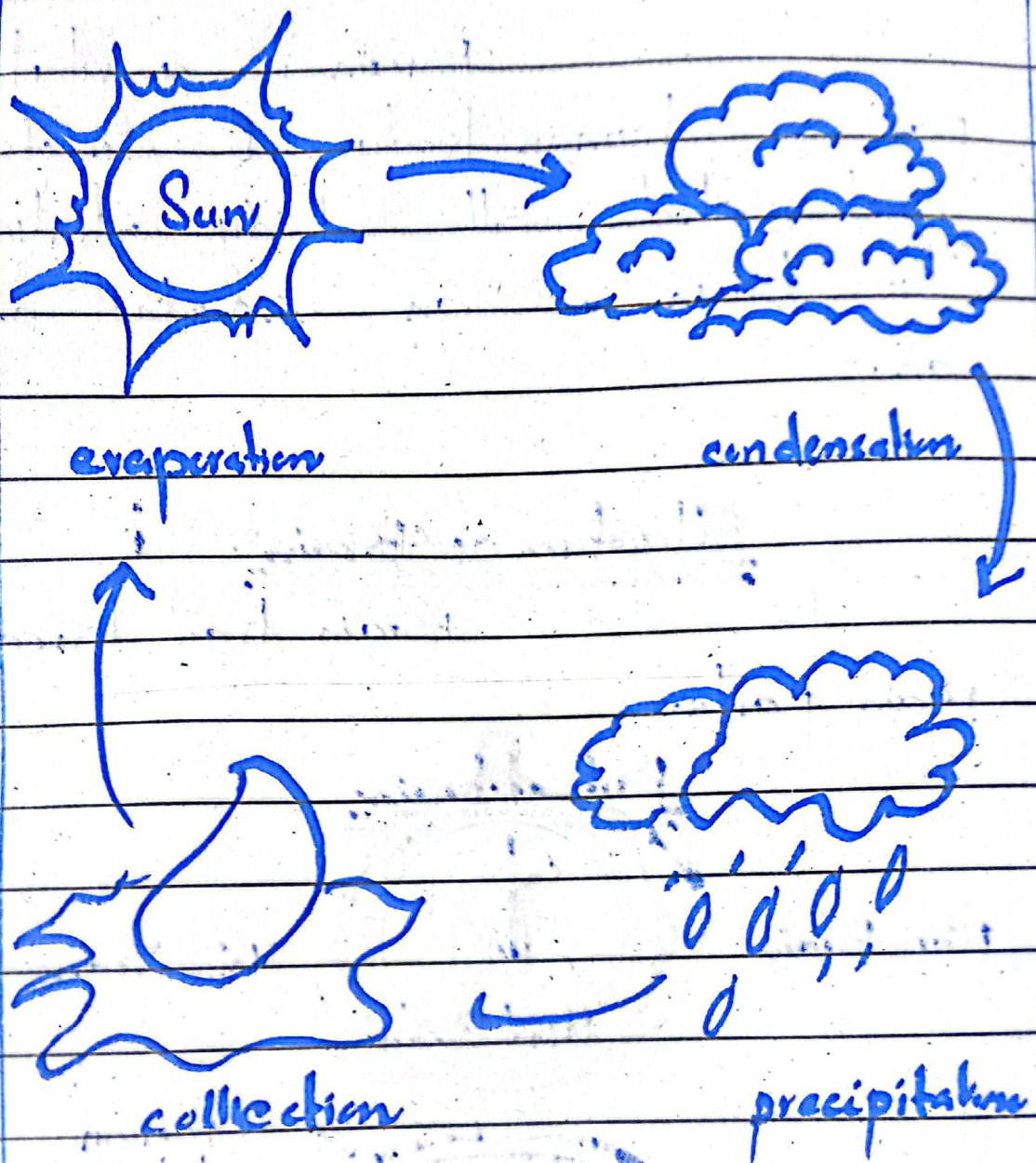
iii) Precipitation

"Water is precipitated in the form of rain."

When clouds become dense, it rains down.

iv) Collection

"Water is collected into rivers, lakes, ponds etc."



Water cycle

Q6) Describe structure of brain

Brain

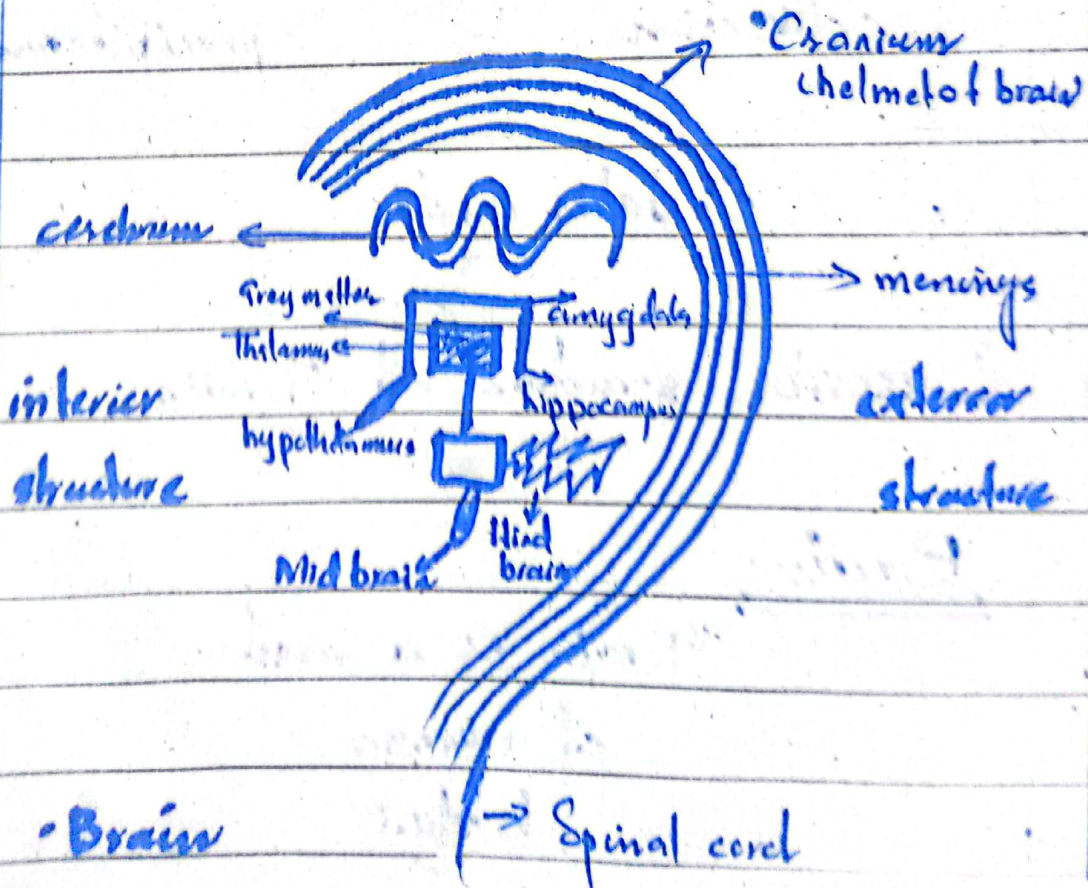
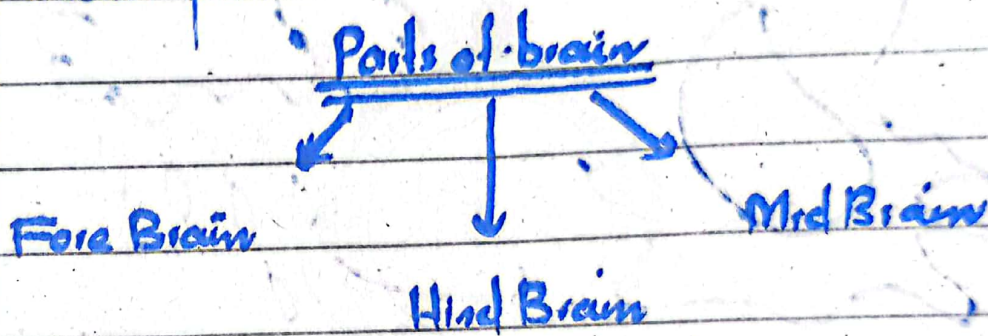
"Brain is a master of human body."

Brain is a 'vital' part of human body. It directs and controls all body activities. Thus, brain is an important organ.

Structure of 'Brain'

Brain has three

main parts:

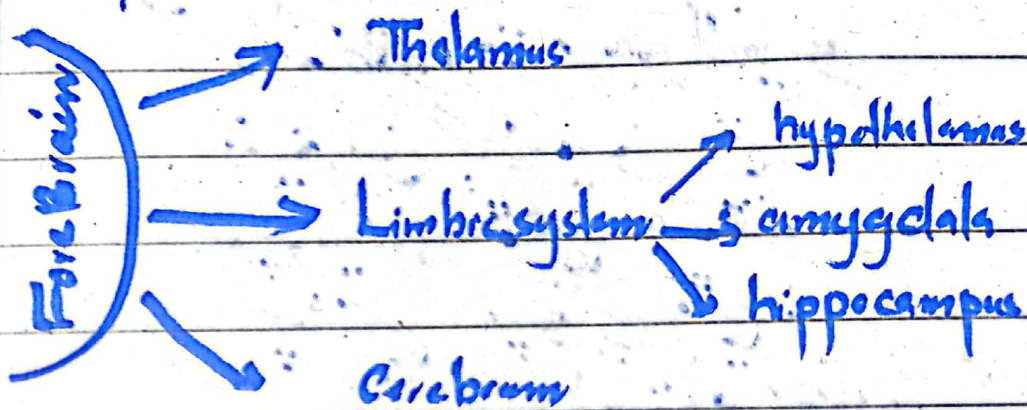


i)

Fore brain

"Fore brain is the frontal part of brain."

Fore brain consists of three sub-parts:



Thalamus	hunger - thirst
Limbic system	hypothalamus hunger - thirst
	amygdala emotions
	hippocampus memory
Cerebrum	intelligence

"Cerebrum is the largest part of brain."

ii)

Mid brain

"Mid brain is a bridge between fore brain and hind brain."

Mid brain is a connector between fore brain and hind brain.

"It helps in reflex movement of eye."

iii)

Hind brain

"Hind brain is a back part of brain."

Like fore brain, hind brain also consists of three parts:

Hind Brain

medulla oblongata	breathing, respiration
pons	sleeping
cerebellum	body coordination

Thus, above is the detailed structure

ure of human brain.

Qc) Describe central tendency and its types.
Central tendency

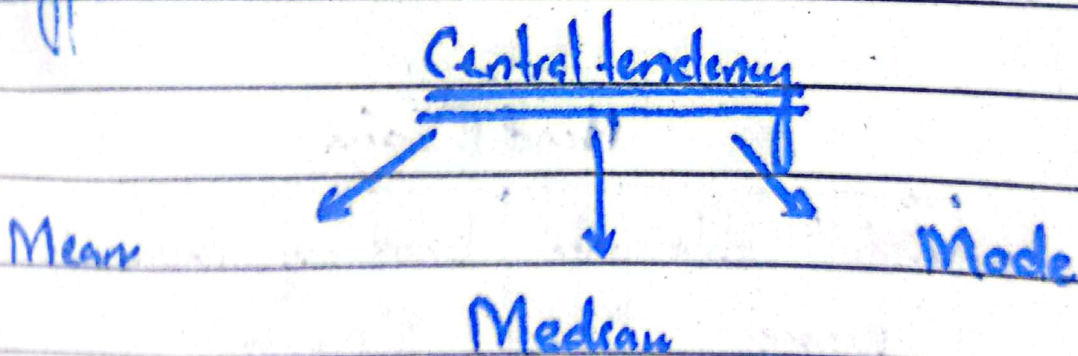
"Central tendency is
a central distribution"

Central tendency is a measure of centered value of distribution. In fact, it is a mid value or central value of total sum. Thus, central tendency is a central measure.

Types of central tendency

Following are

types:



i) Mean or average

"Mean is also called
as average value."

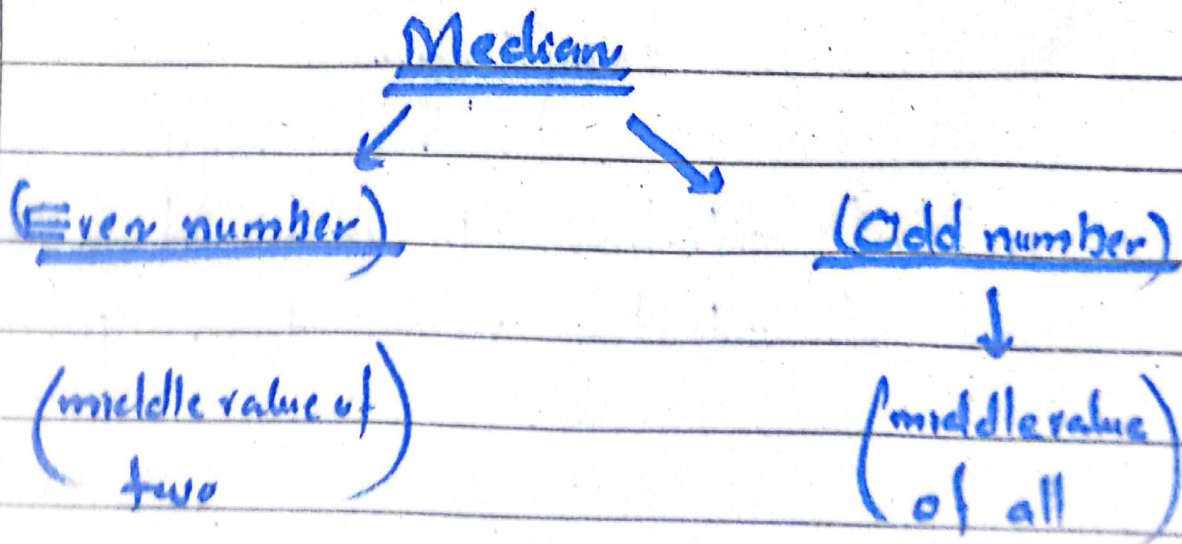
Mean is an average value of central tendency.
According to formula,

$$\text{Mean} = \frac{\text{Total sum of numbers}}{\text{Total numbers}}$$

ii) Median

"Median is a mid
of two value."

Median is a middle value between two tendencies.



iii)

Mode

'Mode is the most repeated value.'

The most repeated value of central tendency, known as mode.

Qd) Define sampling. Also compare probabilities and non-probabilities.

Sampling

'A process of selecting value from population, called sampling.'

Sampling is an act of selection. In fact, it is an act of selecting values from population.

• Comparison between probabilities
and
non-probabilities

<u>Comparison</u>	<u>Probabilities</u>	<u>Non-probabilities</u>
Meaning	Probability is an act of selection from a larger population.	Non-probability is an individual selection.
Alternatively known	It is known as random process.	It is known as non-random process.
Selection	It is randomly selection.	It is arbitrarily selection.
Research	It is inclusive.	It is exploratory.
Result	It is biasness.	It is unbiasedness.