NOA Final Mock (CSS)

SECTION-B

Q. No. 07

(A) Data Given

40% of a number = $\frac{2}{3}$ of another

Or; $\frac{40}{100}x = \frac{2}{3}y$

Data Required

Ratio of x and y; $\frac{x}{y} = ?$

Solution

From the given data:

$\frac{40}{100}x = \frac{2}{3}y$

40% of a number can be written as 0.40 or $\frac{2}{5}$;

$\frac{2}{5}x = \frac{2}{3}y$

$\frac{x}{y} = \frac{2 \times 5}{3 \times 2}$

$\frac{x}{y} = \frac{10}{6}$

Dos and Don'ts for the General Science & Ability Paper

Hi there, you've prepared well! Remember, knowing the content is one thing, but presenting it in the paper exactly as required is another. Here are a few key points to keep in mind:

1. For a 5-mark part, aim to write at least 2 and at most 3 sides of the answer sheet. Often, a question has two or three parts, and the marks are divided accordingly — so address each part fairly.
2. Manage your time wisely — you have about 35 minutes per full question, which comes down to around 8 minutes for each 5-mark part. Stick to this to avoid rushing later.
3. Make your answers look scientific, not just theoretical. Use flowcharts and diagrams wherever they add clarity.
4. Neatness matters — keep your handwriting clean, avoid cutting or overwriting.
5. Mind your spelling and grammar — while GSA doesn't deduct marks for these, your expression leaves an impression.
6. In the ability portion, explain analytical ability questions in words. For a 5-mark part, show all steps and provide clear explanations.

Good luck for CSS 2026 — you're going to ace it, in sha Allah! 🌟

Date:

$\therefore \quad \boxed{\frac{x}{y} = \frac{5}{3}}$

Thus, the ratio between x and y is 5 : 3.

B) Data Given

Selling price of 14 balls = 720 RS.
Loss on selling 14 balls = cost of 5 balls

Data Required

Cost of one ball = ?

Solution

Let, cost of one ball = x

Then,
Loss incurred on 14 balls = 5x.

We know that;

Selling Price = Cost − Loss ⟶ (1)

For 14 balls;
Cost = 14x
Loss = 5x
SP = 720

Date:

∴ equation 1 becomes;

720 = 17 - 5x

720 = 1 x

x = 720 / 12 = 60

Thus, $x = 60$ RS.

Hence, the cost of one ball is 60 RS.

c) Data Given

A man's age is 24 years plus the age of his son. In 2 years, he will be twice his son's age

Data Required

The present age of the son = ?

Solution

Let the ages of son and father as:

	Son (y)	Father (x)
Current age	$y = ?$	$24 + y = x$
2 years later	$y + 2$	$x + 2 = 2(y+2)$

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Now, we have 2 equations;

For current age of father;

$$x = 24 + y \longrightarrow (1)$$

and,

After 2 years;

$$x + 2 = 2(y + 2)$$

or, $x + 2 = 2y + 4 \longrightarrow (2)$

Substituting the value of 'x' from eq '1' to eq '2';

$$(24 + y) + 2 = 2y + 4$$

$$26 + y = 2y + 4$$

$$2y - y = 26 - 4$$

$$\boxed{y = 22}$$

Thus the current age of son is 22 years.

Verification:

$$x = 24 + y$$

$$x = 24 + 22$$

$$x = 46 \text{ years old.}$$

2 years later;

$$x + 2 = 2(y + 2)$$

$$46 + 2 = 2 \times 24$$

$$\boxed{48 = 48}$$

Both conditions satisfied.

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D) Data Given

No. of pages Rashid types in 1 hour is 32

No. of pages Kamran types in 5 hours is 40

Total no. of pages to type = 110.

Data Required

Total time taken to type 110 pages = ?

Solution

finding the no. of pages each types in one hour;

Rashid

$\Rightarrow \frac{32}{16}$

$\Rightarrow \frac{16}{3}$ pages per hour.

Kamran.

$\Rightarrow \frac{40}{5}$

$\Rightarrow$ 8 pages/hour

Calculating the combined rate at which both type per hour;

$\Rightarrow \frac{16}{3} + 8^{\times 3}$

$\Rightarrow \frac{16 + 24}{3}$

$\Rightarrow 40/3$

Date:

∴ Total time = Total no. of pages / Combined rate of both

$T_{(t)} = 110 \div \frac{40}{3}$

$T_{(t)} = 110 \times \frac{3}{40}$

$T_{(t)} = \frac{33}{4}$

or,

$T_{(t)} = 8.2$ hours.

Hence, Rashid and Kamran can type 110 pages in 8.2 hours while working on different computers.

Q. NO. 08

A) Data Given

No. of houses = 05

A, B, C, D, E in a row

(i) 'A' to right of 'B'

(ii) 'E' to left of 'C'.

(iii) 'E' to right of 'A'

(iv) 'B' to right of 'D'

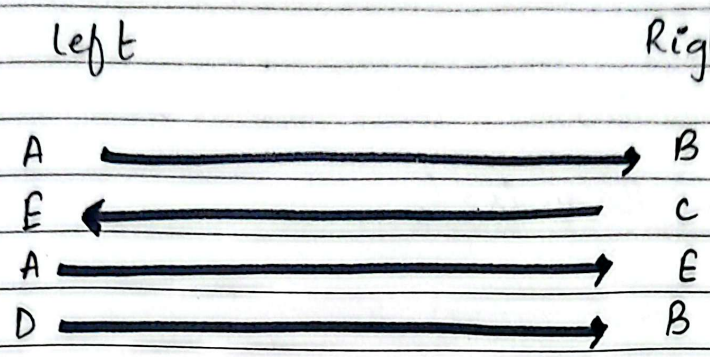
Data Required

House in the middle = ?

Date:

Solution

From the given data, following can be illustrated;



From the above data:

D A (B) E C

The above sequence satisfies the conditions given; hence the house in the middle is 'B'.

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6) Data Given

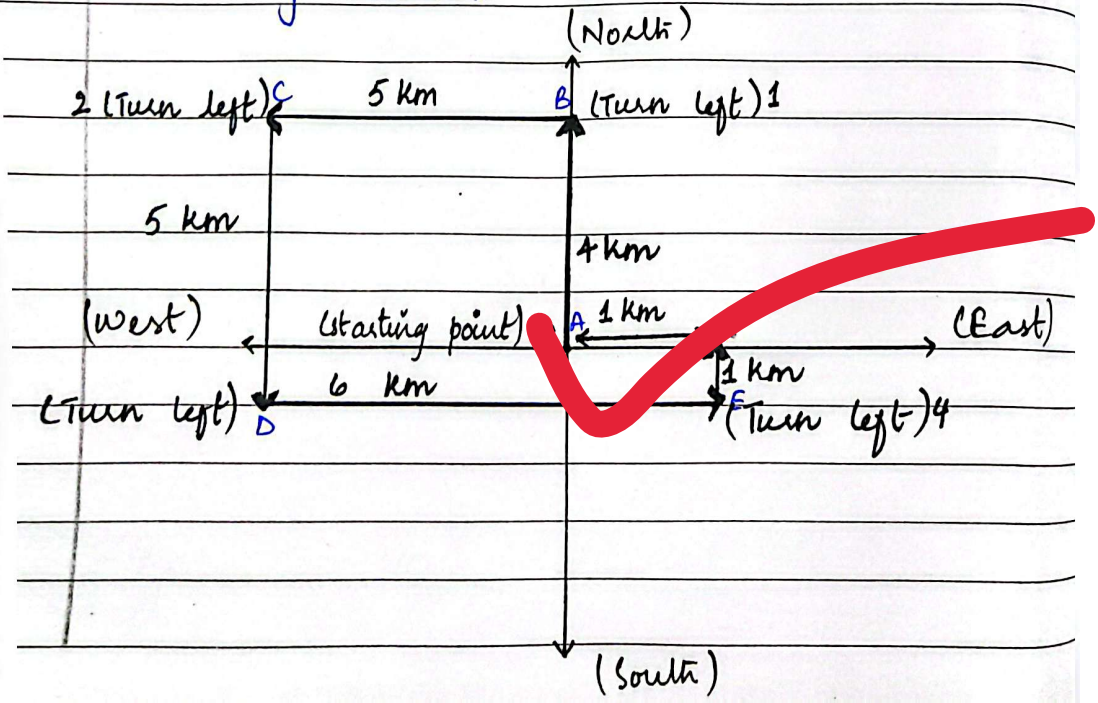
(i) Running from a point to north = 4km.
(ii) Turn to left = 5 km.
(iii) Turn to left = 5 km.
(iv) Turn to left = 6 km.
(v) Turn to left = 1 km.

Data Required

(i) Kms away from starting point = ?
(ii) Direction of running on finishing = ?
(iii) Direction after 2nd turn = ?
(iv) Direction to run to reach starting point = ?

Solution

From the given data, lets draw the running route;



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(i) The distance from starting point to finishing point is distance from 'A' to 'F' i.e: '1 km'.

(ii) The direction of running while finishing will be from 'E' to 'C' i.e: North'.

(iii) After taking the second left turn ie: moving from 'C' to 'D' my direction will be 'South'.

(iv) From finishing point, I will have to run '1 km' in 'West' ie: from 'F' to 'A' or to my 'left' to reach the starting point.

C) Data Given

Acronyms:

(i) THRSI
(ii) AOTC
(iii) EOUBSL
(iv) KTRIS
(v) RETAEINS.

Required Data.

(i) Odd one out = ?

Date:

Solution:

Solving the acronyms, we get the following rearrangements;

(i) SHIRT

(ii) COAT

(iii) BLOUSE

(iv) SKIRT Odd one

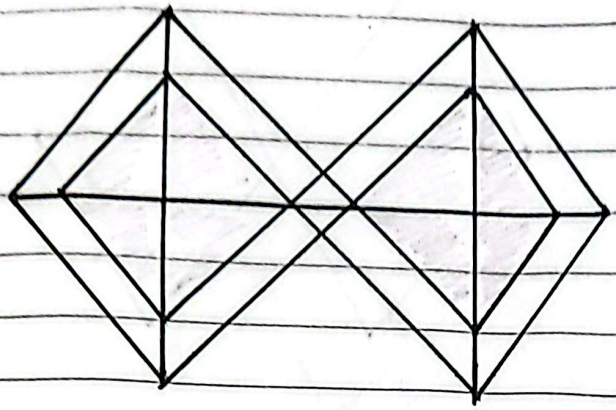
(v) SWEATER

The skirt is the odd one.

Reasoning: All the acronyms after rearrangement yield the name of a piece of clothing used as a 'top' whereas, 'skirt' is used as bottoms.

Date:

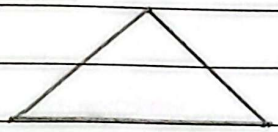
1) Data Given



Required Data

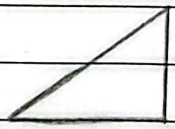
Number of triangles in the given diagram = ?

Solution

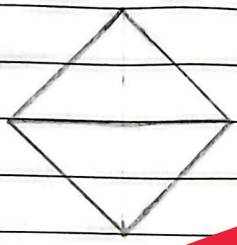


8 of these big triangles

8 of these big triangles



8 of these in each diamond shape.



2 of these triangles at the ... of the two diamond

Thus, total no. ... 8 + 8 + 8 + 8 + 2

= 34 ... les

Date: _____

SECTION- A

Q. NO. 02

A) Structure of The Universe According To The Big Bang Theory

The Big Bang theory states that the universe began about 13.8 billion years ago from an extremely hot, dense, and tiny point called a singularity.

The Big Bang

A massive explosion, called the Big Bang, caused the universe to start expanding in all directions. Initially, only energy existed, but as the universe cooled, matter started to form.

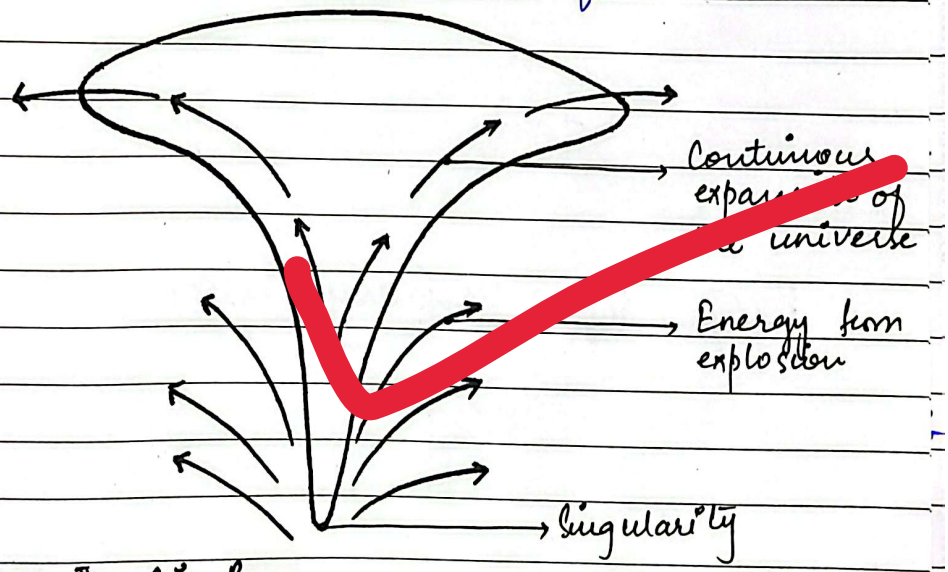


figure: The Big Bang

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Cooling Of The Universe

As the universe cooled, sub-atomic particles formed. These sub-atomic particles mainly included atoms of hydrogen and helium.

Over time, matter grouped together due to gravity and led to the formation of stars, galaxies, solar system, and other celestial bodies.

The Continuous Expansion

As the Big Bang theory states, the universe is still expanding and will continue to expand until it reaches an ultimate end.

B) The Urinary System

The urinary system is a system of organs that remove wastes, maintain water balance, and regulates salts in the body.

Parts Of Urinary System

The urinary system is a feature of the species of Kingdom Animalia.

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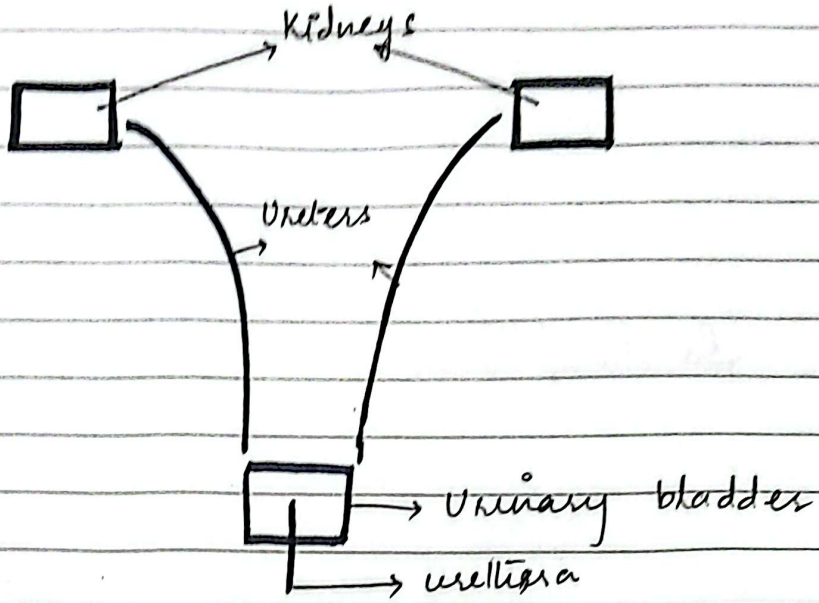
It mainly consists of the following parts.



figurative representation of the urinary system.

Nephron

The nephron is the structural and functional unit of the kidneys.

Working Of The Nephron

1 → Filtration

2 → Reabsorption

3 → Secretion

4 → Urine formation

Date:

Bowman's Capsule

The unfiltered blood enters the glomerulus in the Bowman's capsule. Here, the waste materials, water, and salts are filtered into the Bowman's capsule.

Reabsorption

The useful substances including salts, water, and glucose are reabsorbed through the proximal and distal convoluted tubules.

Secretions

Extra wastes and ions are added to the filtrate.

Urine formation

After the process has been completed, the formed urine is collected in the collecting duct and moves to the bladder where it stays till it is released from the urethra.

Date: _____

Q) Un-Balanced Diet and Its Affects On Healthy Living

An unbalanced diet refers to the diet that lacks essential nutrients or contains them in excess, such as proteins, vitamins, minerals, fats, and carbohydrates.

Effects Of Un-balanced Diet On Healthy Living

An un-balanced diet can have far reaching impacts on the healthy living of individuals and animals.

Malnutrition

Prolong consumption of un-balanced food can lead to malnutrition. It is characterized by lack and deficiency of important nutrients in one's system.

Weak Immunity

Un-balanced diet can deprive one of the basic needs to boost immunity. It can weaken the defense mechanism of organisms significantly.

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Deficiency Disorders

An un-balanced diet can lead to deficiency disorders such as anemia and rickets.

Obesity and Underweight

Prolong consumption of diet rich in fats can lead to obesity whereas, lack of essential nutrients can lead to underweight.

Energy Production

Lack of essential nutrients from the diet can hinder the energy production in the body. This can lead to severe fatigue and laziness.

D) Structure And functions Of Cell Components

Cell - Wall

Cell - wall is a rigid outer covering usually found in plant cells. It is made up of cellulose and pectin compounds.

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Functions of Cell-Wall

- It provides shape and protection to plant cells.
- It prevents cells from bursting.
- It provides mechanical support to plant cells.
- It facilitates the transportation of nutrients in the cells.

Cell-Membrane

It is a thin, flexible, living membrane. It acts as an outer covering in animal cells whereas, is present underneath the cell-wall in the plant cells. It is made up of lipids and proteins.

Functions of Cell-Membrane

- It controls the movement of substances in and out.
- It helps in maintaining internal balance in cells.
- It protects the cell from outside.

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Cytoplasm

Cytoplasm is a jelly-like substance present between the nucleus and membranes of the cell. It contains cell-organelles.

Functions of Cytoplasm

- It is the site of metabolic reactions in cells.
- It supports the cell organelles.
- It helps in the transportation of the material.

Mitochondria

Mitochondria is a double-membrane structure present in both plant and animal cells. It has inner folded membrane-like structures called 'cristae'.

Functions of Cytoplasm

- It produces energy necessary for functions of the cells (ATP).
- It helps in cellular respiration.
- It is called powerhouse of the cell.

Date: _____

Q. NO. 03

A) How Global Warming Can Be Reversed

Global warming refers to continuous rise of the earth's average temperature due to accumulation of infrared radiations in the earth's atmosphere and artificial green-house effect.

However, there are certain measures that can be taken to reverse the harmful effects of the phenomenon.

Use Of Renewable Energy

Combustion of fossil fuels for energy production is a leading cause of global warming. It can be mitigated by transitioning to renewable energy sources such as, solar, wind, etc.

Afforestation and Reforestation

Forests are the natural purifiers of atmosphere. Afforestation and reforesta-

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tion can actually mitigate the impacts of global warming.

Reduction Of Industrial Emissions

The industrial emissions are a leading cause of global warming. The harmful gases accumulate in the environment and disrupt the atmospheric balance while damaging the ozone layer. Its reduction and proper disposal can mitigate the crisis.

Proper Waste Management

Managing proper disposal of the wastes and recycling can reduce the harmful effects of the increasing global warming.

International Cooperation

International platforms and agreements like the COP of UNFCCC and the Paris Agreement can greatly take measures to mitigate the crisis on the global level.

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B) Ceramics: Properties and Applications

Ceramics refer to the inorganic, non-metallic materials made by heating minerals, like clay, at high temperatures in kiln.

Properties of Ceramics

Ceramics are hard and brittle in structure.

They have high melting points.

They are poor/bad conductors of heat and electricity.

They are resistant to corrosion and chemicals.

Due to their high melting points, ceramics show heat resistant behavior.

Applications of Ceramics

Since they are heat resistants, ceramic

Date:

are used in making pots, tiles, brick, and crockery. Their brittle and tough nature makes them convenient for use.

Since they are poor conductors of heat and electricity, they are used as insulators in appliances, e.g: hair straightness.

Their hard and brittle nature makes them especially useful in dental implants and bone replacements.

Ceramics also have applications in space and aerospace industries.

C) Optic Fibers

Optic fibre refers to the thin, flexibles strand of glass or plastic used to transmit information in the form of light signals over long distances.

Working Of The Optical Fibre

Conversion of signals: Electric signals enter the fibre and are converted to light signals.

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Total Internal Reflection: After entering into the fiber, light travels through it by total internal reflection. The fibre core keeps reflecting the light without any loss.

Restoration of Electric signals: At the receiving end, light signals are again converted to electric signals.

Uses: Optic fibre has broad uses in internet, telephone, and cable communication.

Mobile Phone

A mobile phone refers to a wireless communication device that allows users to send and receive voice, text, and data through radio signals.

Working of Mobile Phone

The microphone converts the voice into electrical signals.

These electrical signals are converted into radio waves.

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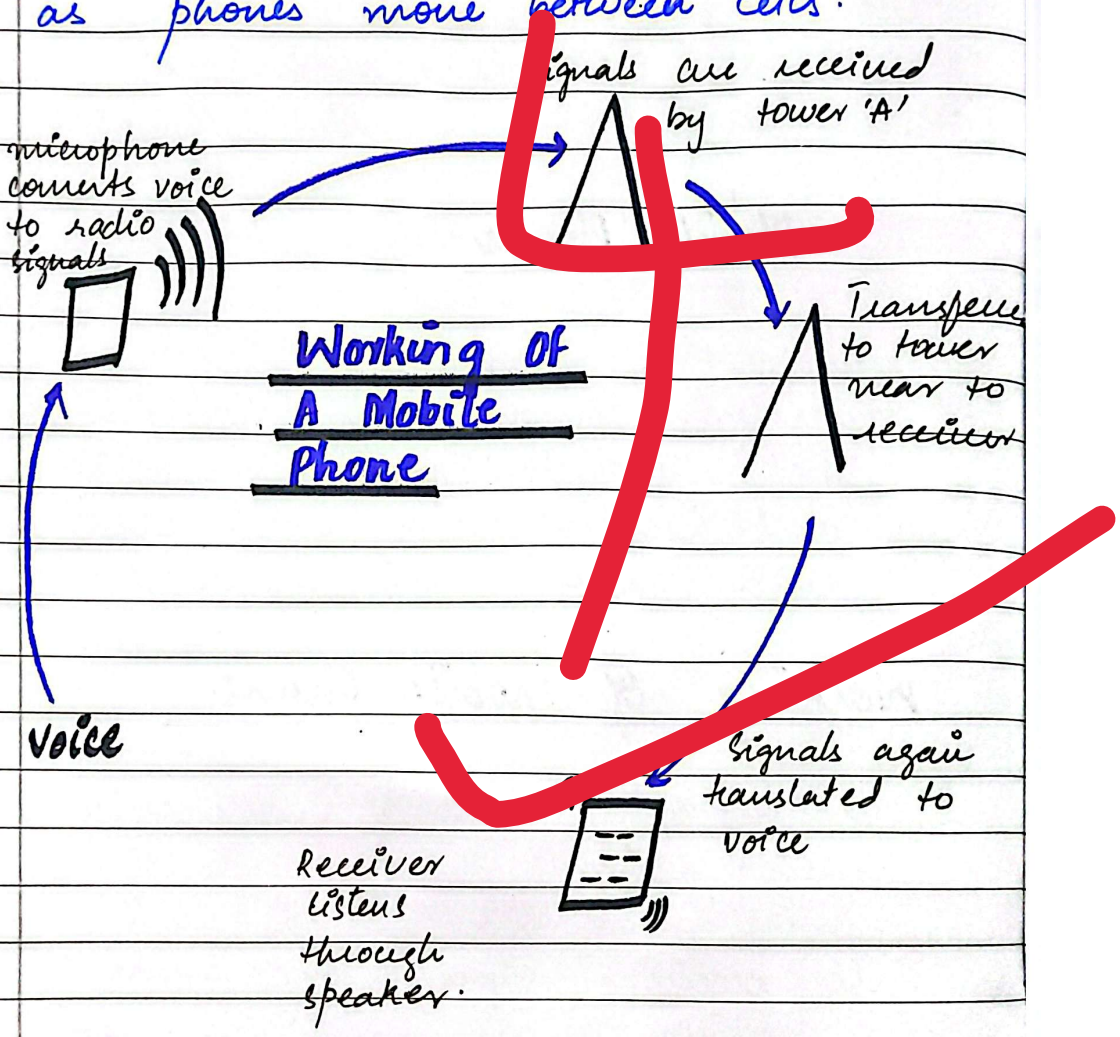
These radio waves are sent to the nearest cell towers.

The the network (tower) transfers the signals to the receiver's phone

The speaker turns signals back into sound.

The continuous connection is maintain as phones move between cells.



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D)

Food Additives

Food additives refer to the substances that are added to improve flavor, color, texture, or appearance of the food.

Examples include: food colors, flavor enhancer.

Food Preservatives

Food preservatives refer to the substances used to prevent spoilage of food and to increase the shelf life of the food.

Examples includes Salt, Sugar, Sodium Benzonate

Food Adulteration

It refers to the addition of harmful or inferior substances to food mostly to make it cost effective and increase flavor.

Examples include: water in milk, chalk to flour

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Food Contamination

It refers to the presence of harmful substances, chemicals, or microorganisms in the food.

Examples include: Bacteria in uncovered food, pesticide residues on vegetables and fruits.