

Test Series : General Science

Topics: Physical and biological Science.

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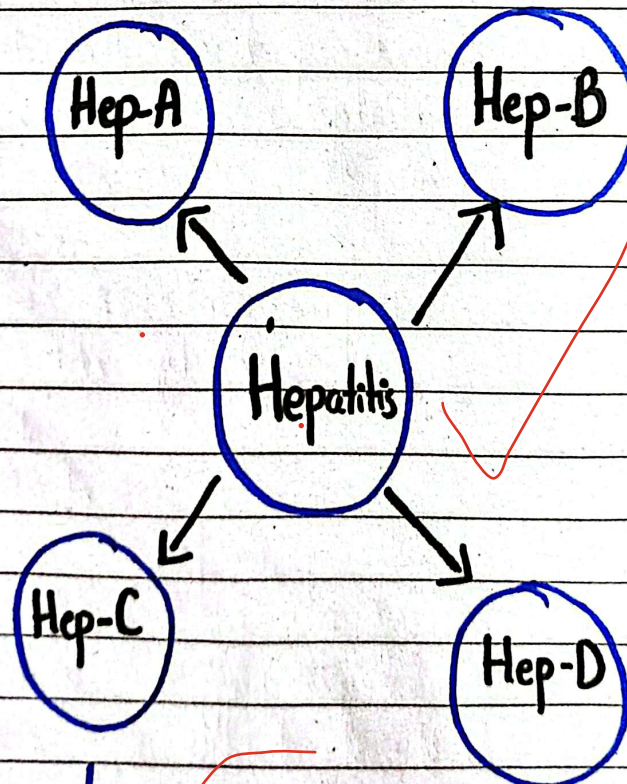
Question #1

Part 1:

- ① What is Hepatitis? Give its symptoms, causes and prevention.

Hepatitis.

Inflammation of liver usually caused by virus or any infectious agent is called as Hepatitis.



Symptoms

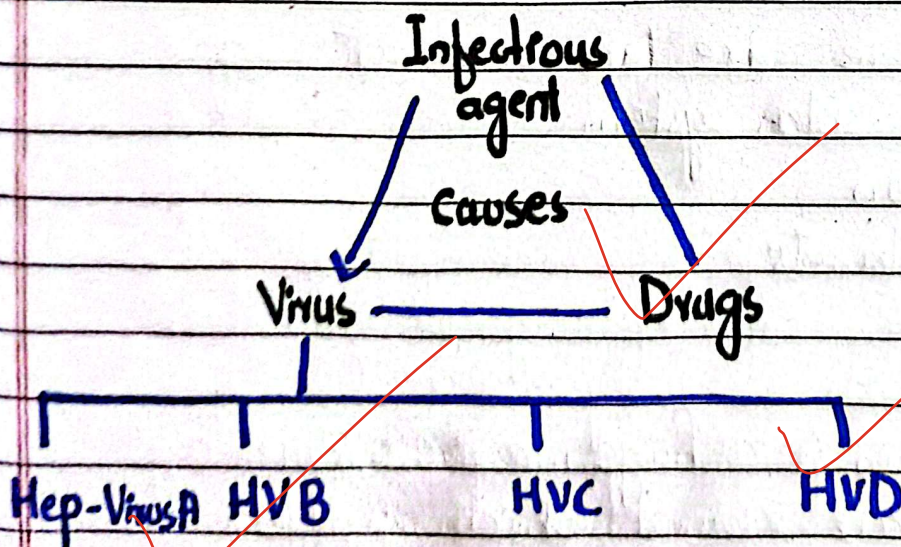
Following are the symptoms of hepatitis.

- ① Fever

- 2) Yellowing of eyes and urine
- 3) Weakness and fatigue
- 4) Diarrhea
- 5) Nausea
- 6) Jaundice
- 8) Abdominal Pain
- 9) Liver cancer or failure of liver in serious cases.

Causes

- ⇒ Infectious agents
- ⇒ Virus
- ⇒ Toxic material or Drugs.
- ⇒ Spread through using razor, syringe of infected person
- ⇒ Blood transfusion of infected person.



Preventions.

- => Avoid using drugs
- => Don't use razor of any other person
- => Test before transfusion of blood
- => Don't use used things of any infected person.
- => Use new syringes or other medical equipments in the hospital for the treatment of any patient

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Part 2

- (2) Explain the solar system:

Solar System-

Definition-

A system in which planets revolve around a star i.e. sun in circular path with fixed speed and timing ^{i.e. orbit} is called solar system.

- => It is present on milky way galaxy

Components-

There are two components of solar system :-

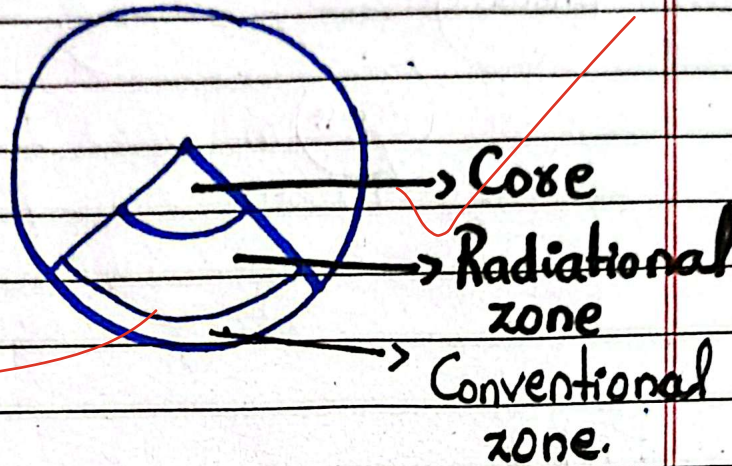
- (1) Sun
- (2) Planets

Sun-

Sun is a huge massive brightening star around which all the planets revolve. It has 3 parts i.e. core, radiative zone and conventional zone.

Nuclear fission or fusion reactions

take place in sun that keep them hot and radiating because large amount of energy is released through these reactions



Planets.

Planets are the large celestial bodies that revolve around the sun. These are made up of gases and water particles.

There are total eight planets that revolve around the sun in fixed orbit with fixed speed.

Following are the planets.

① Mercury - Smallest planet

2. Venus - Hottest planet

Earth

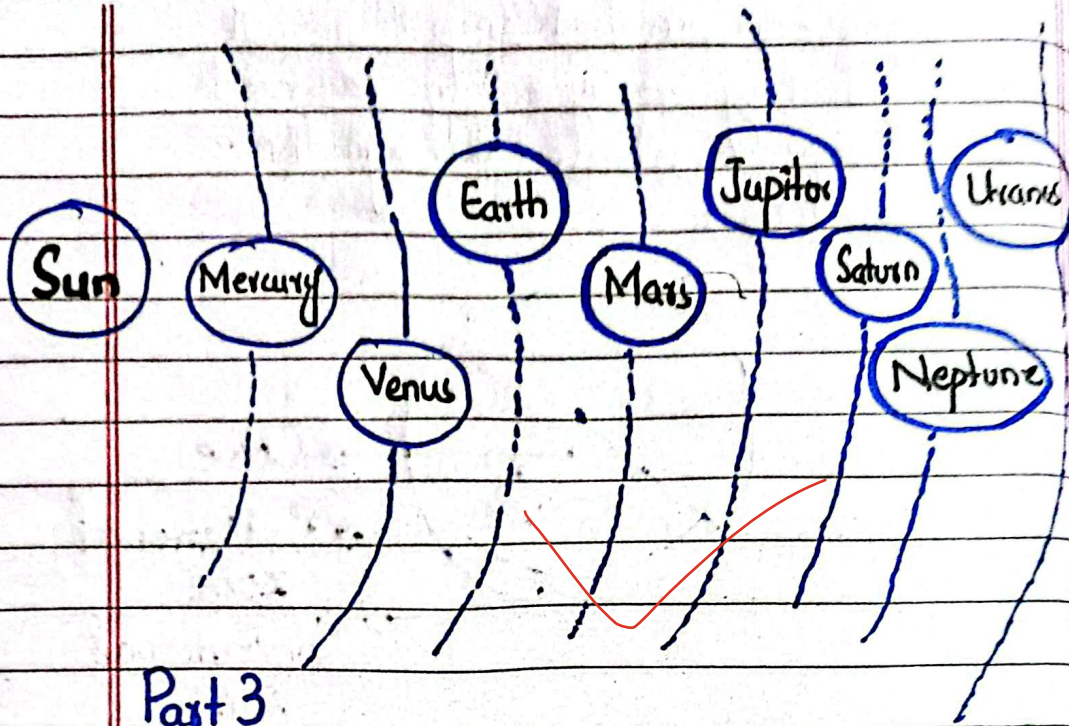
Mars

Jupiter - largest planet

Saturn

Uranus

Neptune.



Part 3

How gaseous exchange takes place in the human body?

Gaseous Exchange

Definition.

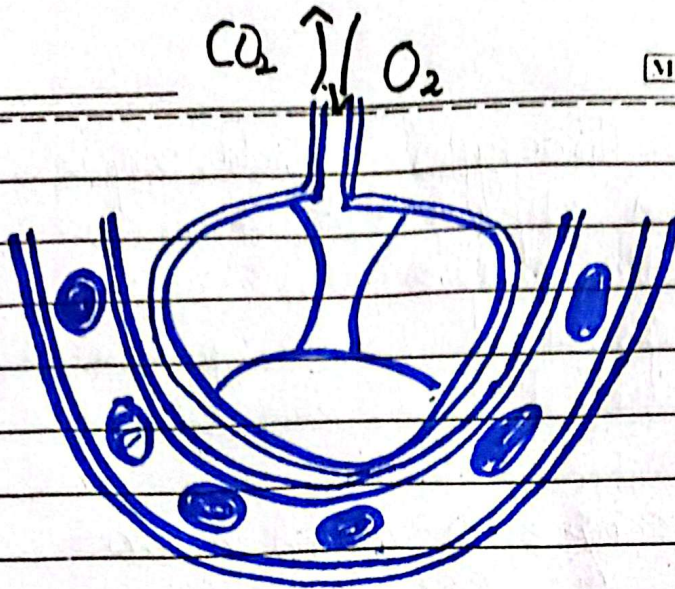
The process of exchange of oxygen and carbon dioxide from air into body is called gaseous exchange.

Process of gaseous exchange.

The gaseous exchange takes place in alveoli of lungs. The air enters into the body and reached into lungs through respiratory tract. This oxygen is absorbed into blood and the carbon dioxide that is present in lungs, released through process of respiration, escaped out from lungs and into air.

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Alveoli - Process of Gaseous Exchange

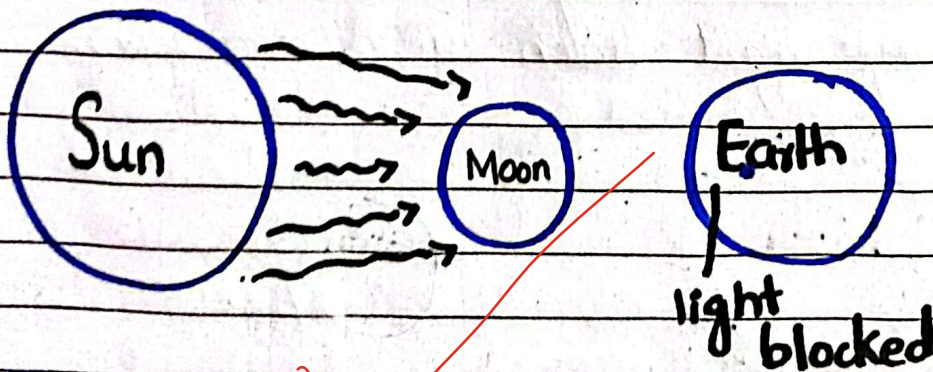
Part: 4

Define solar and lunar eclipses and explain their types.

Solar Eclipse

Definition

The process in which moon comes in between sun and earth result in blockade of light from the sun reaching into earth is called solar eclipse.



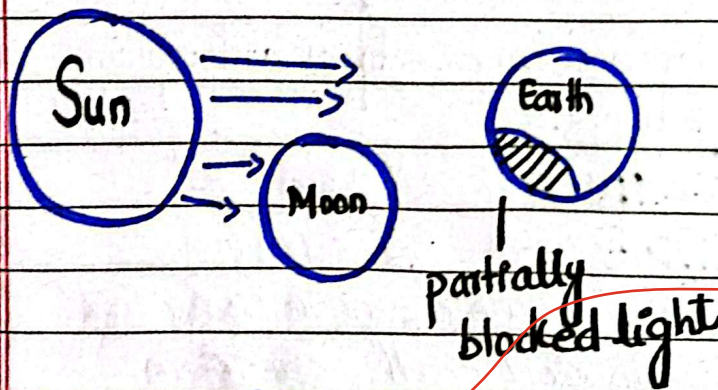
Types of Solar Eclipse

There are three types of solar eclipse

- (1) Partial solar eclipse
- 2) Annular solar eclipse
- 3) Total eclipse

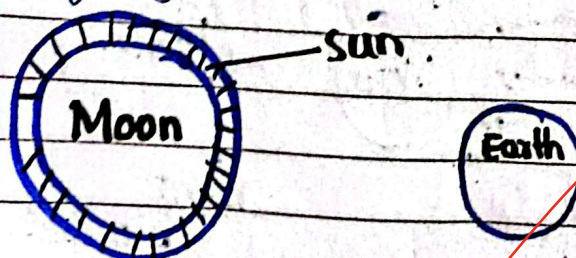
Partial Solar Eclipse

A solar eclipse in which moon partially blocked light of sun to reach in the earth.



Annular Solar Eclipse

A solar eclipse in which moon came ~~raty~~ in between sun and earth in such a way that the layer of light shown around the moon.



Total Solar Eclipse

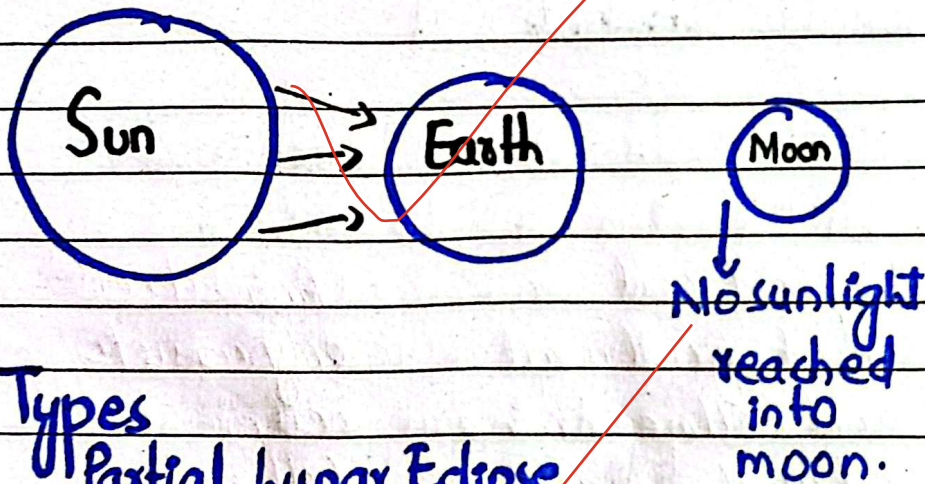
A solar eclipse in which moon totally blocked the ^{sun} light from reaching

into the earth.

Lunar Eclipse

Definition

The process in which earth came in between sun and moon result in no light of moon reached into earth because moon reflect light of the sun. is called as lunar eclipse.

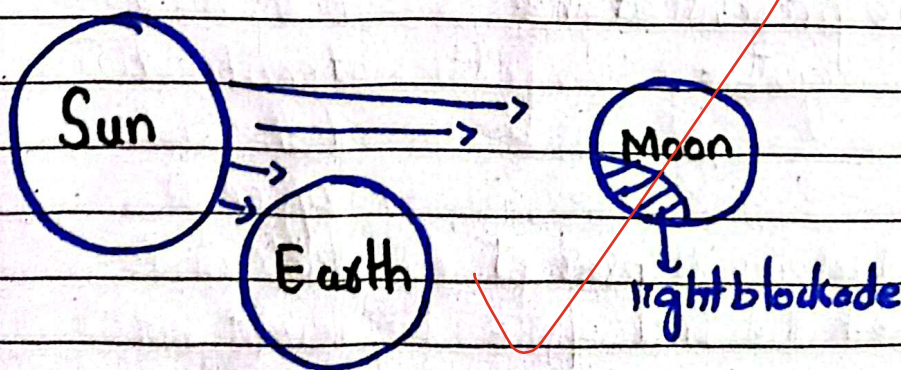


Types

①

Partial lunar Eclipse

The type of lunar eclipse in which earth not completely blocked the light of moon is called Partial lunar eclipse.



2) Annular Lunar Eclipse

The type of eclipse in which earth totally blocked the light reaching to moon, while revolving around the sun. It occurs one time in year.

Question #2

- ① Differentiate in between plant and animal cell:

Difference between Plant and Animal cell

Plant Cell

Animal Cell

- | | | |
|----|---|---|
| 1- | The plant cell consist of cell wall and cell membrane. Cell wall is made up of cellulose. | Animal cell only consist of cell membrane. Cell wall is absent. |
| 2- | A large vacuole is present at the centre. | Vacuole is not present at centre but at the side of cell. |
| 3- | Nucleus is present at the side of cell. | Nucleus is present at the centre of cell. |

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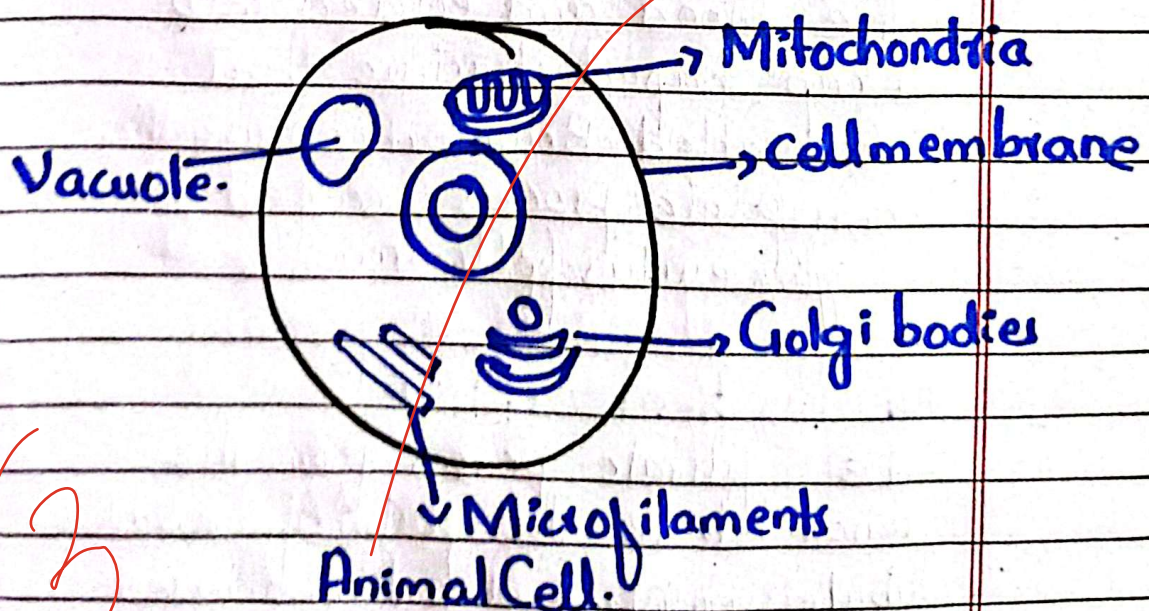
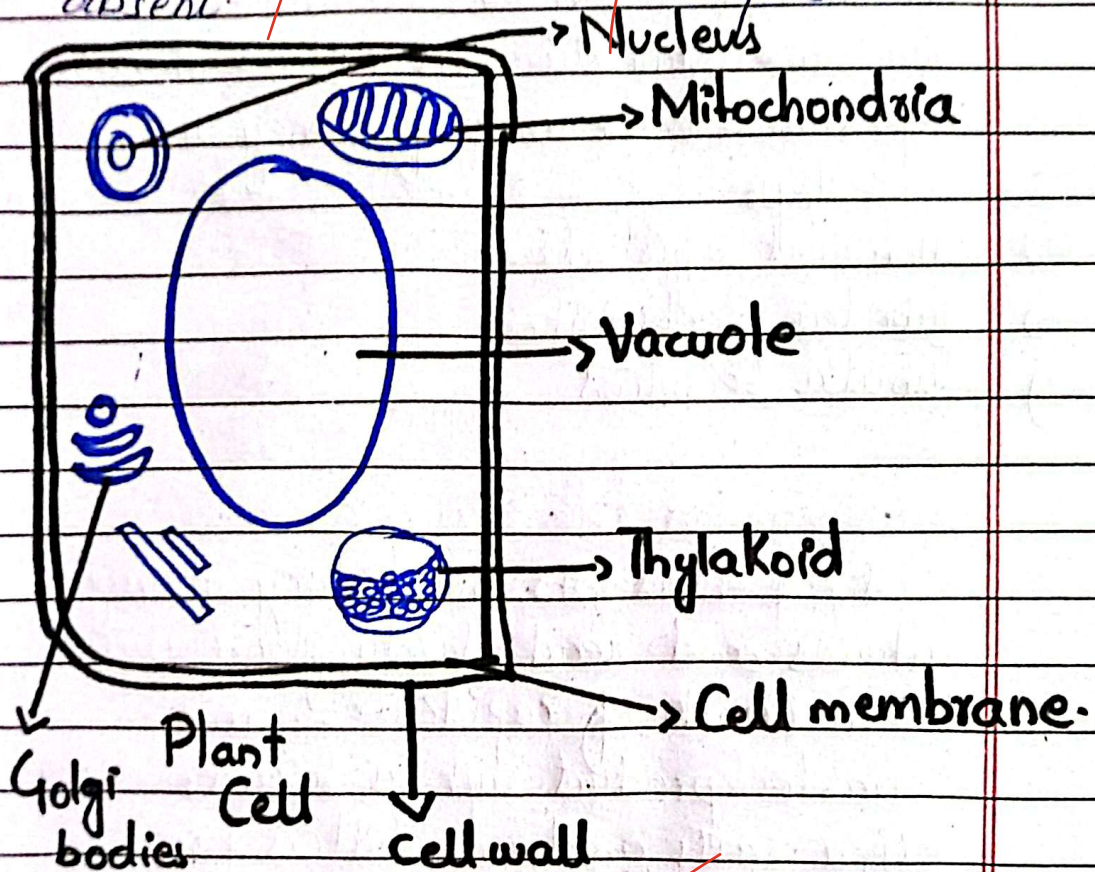
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It consist of
plastids and
thylakoids

Microtubules and
microfilaments are
absent.

Plastids and
thylakoids are
absent

Microtubules and
microfilaments
are present.



Part 2

- How urine formation takes place in the human body?

Urine formed in the kidney of the human body.

Process of formation of Urine.

The urine formation takes place through nephrons — basic unit of kidney, in 3 steps.

- ① Glomerular filtration
- 2) Tubular Reabsorption
- 3) Tubular Secretion

Glomerular Filtration

Blood enters into the kidney through arteries and reached into glomerulus — i.e. network of capillaries. The waste product such as toxins, extra salt and ions filters from the blood and entered into a cup-shaped structure that is called Bowman capsule. This complete process is called glomerulus filtration.

Tubular Reabsorption

The filtrate passes from the renal tubule. The parts of renal tubule consist of distal convoluted tubule and loops of Henle. The

products that are beneficial from body re-enter into the blood vessels. This process is called tubular reabsorption that help to prevent loss of useful ions, nutrients and salts.

Tubular Secretion

In this step, the waste material from blood again filtered into the tubules. This waste product consist of salts, water, and wasteful toxic chemicals and ions that is called urine.

Excretion of Urine.

The urine from kidney ⁱⁿ reached the sac like structure called urinary bladder and store in it. It release through urethra from body when person go to toilet.

Part:3

Define ceramics and give their types and application.

Ceramics.. Definition.

Ceramics are the non-metallic compounds made up of clay and other natural minerals.

Types of Ceramics.

There are two types of ceramics.

- ① Traditional Ceramics
- ② Modern Ceramics.

Traditional Ceramics.

Traditional ceramics are made up of natural synthetics like clays, silica
eg Bricks, Kiln

Advanced Ceramics.

Advanced ceramics are made up of pure and synthetic material like aluminium or silicon.

eg. electronic components, semi-conductors

Applications

Household

Ceramics are used in houses such as glasswares, utensils of clay crockery. These are durable and aesthetically pleasing.

Construction

Ceramics are used in construction such as bricks, Kilns

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Advanced use.

Ceramics are used in aerospace,
rockets, semiconductors, electric
vehicles and optical fibres.