

GSA Mock 3

MARIA

① What is Solar and Lunar eclipse...?

An eclipse occurs when one heavenly object/body moves into the shadow of another heavenly body. There are two types of eclipse.

Solar Eclipse :-

Lunar Eclipse :-

As moon revolves around the earth and earth revolves around the sun. Sometimes when earth comes between the sun and moon and the sun light cannot reach at the surface of the moon which is normally reflected by the moon's surface. As a result earth's shadow falls on it. This is an eclipse of moon.

Types of Lunar eclipse :-

(i) **Penumbral Lunar eclipse :-**

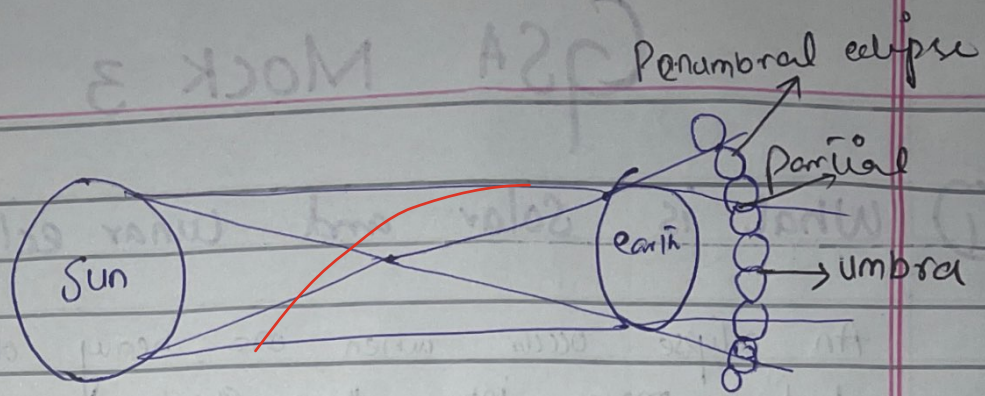
When the moon passes through the penumbra of earth's shadow, it is rarely visible from earth.

(ii) **Partial Lunar eclipse :-**

When part of the moon passes through umbra of earth's shadow then it is termed as partial lunar eclipse.

(iii) **Total Lunar eclipse :-**

When the entire moon passes through the umbral region of earth's shadow moon is totally obscured.



Lunar eclipse.

Solar Eclipse :-

Sometimes when moon which orbit around the earth comes between the earth and sun and the moon block the light of the sun from reaching earth. This cause solar eclipse of sun. This shadow on earth consist of two shadow umbra and penumbra. Solar eclipse occur once every 18 months. unlike lunar, solar eclipse last for a few seconds to minutes it occurs always at the time of new moon.

Types :-

iii) Total solar eclipse :-

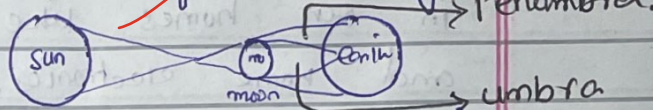
It occurs when the moon totally cover the surface of sun as seen from the earth. Totality can be seen from a very small area on earth. This is about 100 miles to 10,000 miles long. Looking solar eclipse without proper protective eyewear can be harmful for one's eye.

(ii) Partial Solar eclipse:-

This occurs when the Earth, Moon and Sun do not align in a perfectly straight line, and the Moon only partially covers the disc of the Sun.

(iii) Annular Solar Eclipse:-

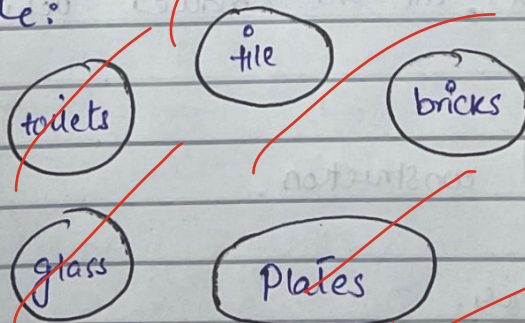
occurs when the Moon appears smaller than the Sun as it passes centrally across the solar disc & and form a bright disc or ring.



Q2:- Differentiate between ceramics and plastics ---- ?

Ceramics:-

Ceramics is an inorganic non-metallic solid made up of clay that have been shaped and then hardened by heating to high temperature. Ceramics are all around us. This category include:



They are found on space shuttles, appliances, automobiles, and enamel coating.

General Properties:-

(i) Ceramics are hard, extremely strong, under

Compression.

- (ii) Ceramics are wear-resistance.
- (iii) Ceramics are oxidation-resistance.

Application:-

- (i) Aerospace:- used in the formation of parts of space shuttle, rockets etc.
- (ii) consumer usage:- ceramic have great usage in our homes like glassware, dinnerware and home electronics.
- (iii) Automobile Industry:- ceramics are widely used in automobile industry for example fuel, catalytic converters, spark, plugs etc.
- (iv) Medical: ceramics are used in medical fields especially in dental and bone filling.
- (v) Military equipments:- structural components for ground, air and naval vehicles.
- (vi) Abrasive.
- (vii) Building and construction.
- (viii) Coatings.
- (ix) Nuclear ceramics.
- (x) Optical ceramics.

Types of Ceramics:-

There are two types or categories of ceramics.

(i) Traditional

- Earthenware
- Brick and tile
- Abrasive
- Cement

(ii) Advance ceramics

Electroceramics

- Capacitors
- Magnetic ceramics
- Optical ceramics

Structural ceramics

- Nuclear
- Bioceramics
- Automotive ceramics

Plastic:-

Plastics are material made up of large organic molecules that can be formed into a variety of products. This is made up of long chain of carbon atoms that gives plastic. The word plastic is derived from a Greek word 'Plasticus' mean (being moulded).

③:-

Food contamination:-

Food contamination means the presence of harmful chemical or microorganism in food that make it unsafe to eat. It can occur during production, processing, storage or preparation.

Types:

- 1) Biological contamination
- 2) Chemical contamination
- 3) Physical contamination
- 4) Cross - contamination
- 5) Allergenic contamination

Food Adulteration:-

Food adulteration is an act of intentionally

debasing the quality of food offered for sale either by admixture or substitution of inferior substances by the removal of some valuable ingredients.

Types:-

- (1) Economic Adulteration
- (2) Microbiological adulteration
- (3) Intentional contamination
- (4) Incidental contamination
- (5) Filler and foreign matter.

① 5:-

Imbalance diet ?

A diet that cannot contain the right amount of nutrients that are essential for the proper growth of body such as vitamins, fat, lipids, carbohydrates and minerals in proper proportions. It can mean either eating too much or little than normal which affects normal body functioning and health.

Consequences of un-balanced diet:-

- (1) Malnutrition :- lack of essential nutrients leads to fatigue and poor immunity
- (2) Obesity :- Excess intake of fats and sugar cause weight gain and related diseases
- (3) Heart diseases :- High intake of fats and cholesterol increases the risk of heart diseases.
- (4) Weak immune system :- Body becomes more prone to

infections and diseases : poor growth and development : in children, it leads to stunted growth and poor brain development.

Question No 2

1) What is chemical bonding?

Chemical bonds refers to the strong electrostatic force of attraction between the atoms or in the structure.

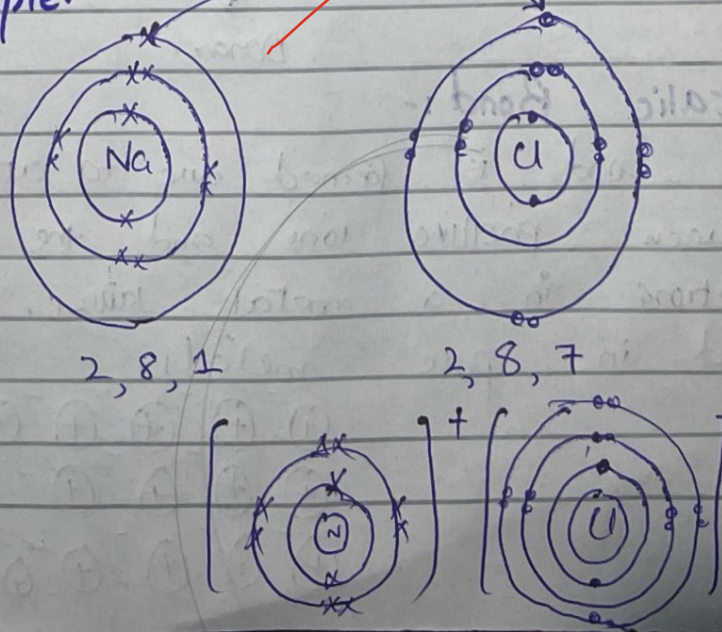
Atoms form chemical bond in order to make their outer electronic shell more stable or to attain the electronic configuration of nearest noble gas.

Types of chemical bonds:-

1+ Ionic Bond :-

Ionic bond is formed when one atom loses and other atom gain them in order to attain the electronic configuration of nearest noble gas.

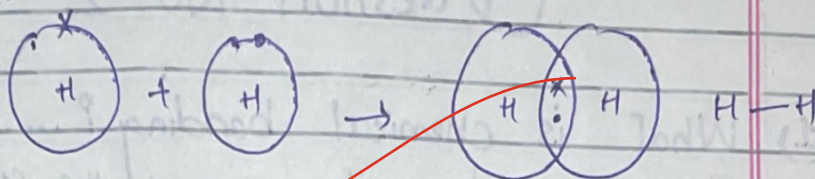
Example:-



2) Covalent bond:

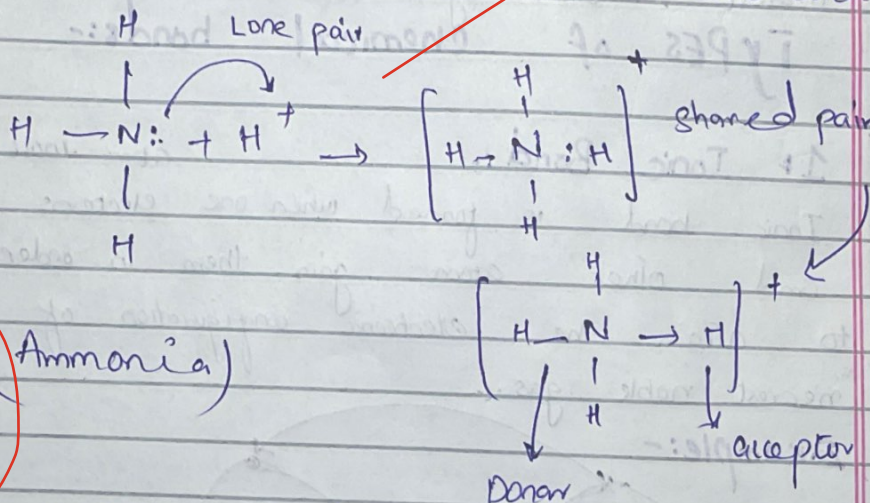
When two non-metals atoms combine, they share one or more pairs of electron. A shared pair of electrons is called covalent bond.

Example:-



3) coordinate covalent bond:-

When shared pair of electron comes from one atom and not one each from the two atoms involved in the bonding then it is called as coordinate covalent bond.



(Ammonia)

4) Metallic Bond:-

This bond is formed due to attraction between positive ions and the mobile electrons in a metal lattice. It is formed in pure metals.

