

Section - II.

Q.8 C) Find out the correct word from the given jumbled spellings.

i) GNDREA

GARDEN

ii) SCHAMOT

STOMACH

iii) ONLNDO

LONDON

iv) HIODALY

HOLIDAY

d) Sara's mother is 6 times older than Sara, whereas her brother Ali is twice as old as Sara. In three years' time the sum of their ages will be 72. How old are Sara, Ali and their mother now?

Data:

Age of Sara's mother = 6 times that of Sara
or $6x$.

Age of Sara = x .

Age of Sara's brother = $2x$

Sol:-

Suppose the age of Sara is x , her mother's is $6x$ and her brother's is $2x$.

= In three years time their age will

$$= 6x + 3$$

$$= 2x + 3$$

$$= x + 3$$

In three years, time sum of their age is 72, 30,

$$(6x + 3) + (2x + 3) + (x + 3) = 72$$

$$9x + 9 = 72$$

$$9x = 72 - 9$$

$$9x = 63$$

$$x = 7$$

If x (Sara's age is 7), then her mother is 6 times older than her her mother's age will be

$$7 \times 6 = 42$$

Her brother is twice as old as she is hence his age would be

$$6 \times 2 = 12$$

So, the present age of Sara, Mother is brother is 7, 42, 12 respectively.

9) The sum of three consecutive odd numbers is 273. What are the odd numbers?

Data:

The sum of three consecutive odd numbers = 273.

To find:

Three consecutive odd numbers.

Sol:

The ^{odd} numbers that are consecutive whose sum is 273 are

$$89 + 91 + 93 = 273$$

b) Find the missing number in the given series.

i) 4, 16, 36, 64, ?, 144.

In these above the numbers are squares of consecutive even numbers. Hence the missing number is 100 which is square of 10.

= 4, 16, 36, 64, 100, 144.

ii) 30, 29, 27, ?, 20, 15.

In the above series 1, 2, 3, 4, 5 numbers are being deducted in the successive number. Hence the missing number is 24.

= 30, 29, 27, 24, 20, 15.

iii) $1, 7, 15, 25, ?, 51$.

iv) $0, 2, 6, 12, 20, 30, ?$

In this series consecutive even numbers are being added in the succeeding numbers. So, the missing number is 42.

$0, 2, 6, 12, 20, 30, 42$.

Q. NO. 6

Three candidates contested elections in a constituency of Islamabad and received votes 15000, 10,000 and 8000 respectively. What is the percentage of total votes of winning candidate?

Data:

Votes of first candidate = 15000

Votes of second candidate = 10000

Votes of third candidate = 8000

To find:

Percentage of votes gained by winning candidate

Sol:

$$\text{Formula} = \frac{x \times 100}{\text{Total amount}} = \%$$

= the winning candidate got 15000 votes

$$\text{So, } \frac{15000 \times 100}{33000} = \boxed{45.05\%}$$

winning candidate's percentage is 45.05.

c) In a sports meet, groups of boys and girls are to be formed. Each group consists of 4 boys and 6 girls. How many boys are required, if 102 girls are available for such grouping.

Dats

Ratio of ~~girls to boys~~
Ratio of boys to girls is
 $4:6$

Girls are 102.

Sol:

If there are 102 girls

then no of boys will
be 67.32

Section - 1

Q. NO. 5.

a) What are the different methods of food preservation?

Food Preservation:

Food Preservation is a method that is employed to protect food from the bacterial, fungal and rancid attacks.

Methods of food Preservation:

Various methods are used for the preservation of food. Some of the methods are listed below:

1- Heat

Heating is used to kill bacteria from attacking food. Bacteria's optimum temperature for growth is 16-63°C.

Beyond 63°C they are killed.

Above 100% their spores become inactive. So, intense heat is given to food for its preservation.

2 - Cold:

On some areas cold temperatures are given to microorganisms to dismantle their reproductive systems.

3 - Smoke

Smoke is used to kill microorganisms. As smoke also contains heat so, it hinders the growth of microorganisms.

4 - Drying

Microorganisms contain 80-90% water, when ~~the~~ food is dried they find no water for their survival.

5) Salting

Salting is one of effective methods of food preservation.

6) **Sugar** when food is placed in sugary solution, water moves from hypotonic cell solution to hypertonic sugary solution. in this way food becomes devoid of water makes unfavorable condition for bacteria.

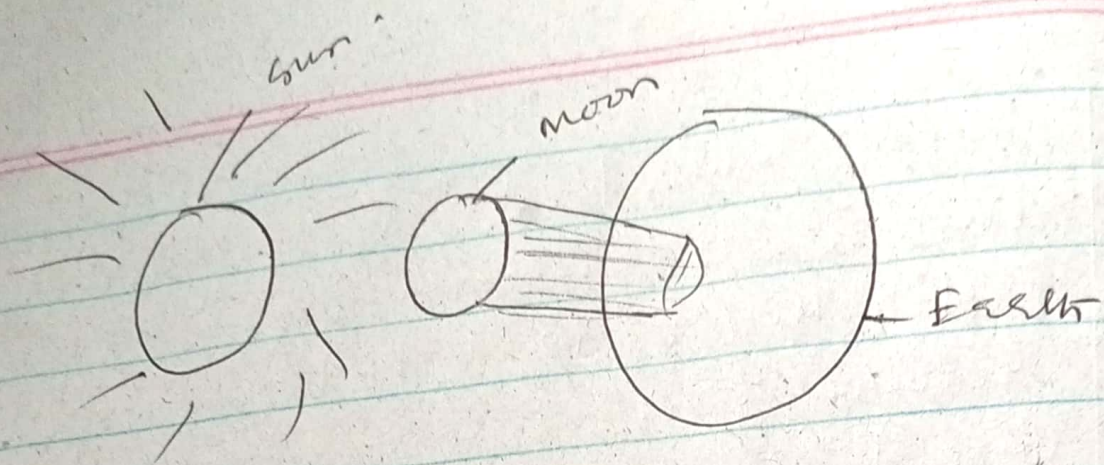
7) **Radiation**

Ultraviolet radiations and x-ray rays are also used to kill microorganisms.

8) Distinguish Solar and Lunar eclipses.

Solar Eclipse:-

Earth ^{revolves} around ^{the} sun and the moon revolves around the earth. Solar eclipse occurs when the moon comes between earth and the sun and casts a shadow on the earth.



Moon casting shadow on the earth during solar eclipse.

It takes place in every 17 months on new moon

Types of solar Eclipse.

1) Partial solar Eclipse.

Partial solar eclipse occurs when the moon casts partial shadow on the earth.

2) complete solar Eclipse.

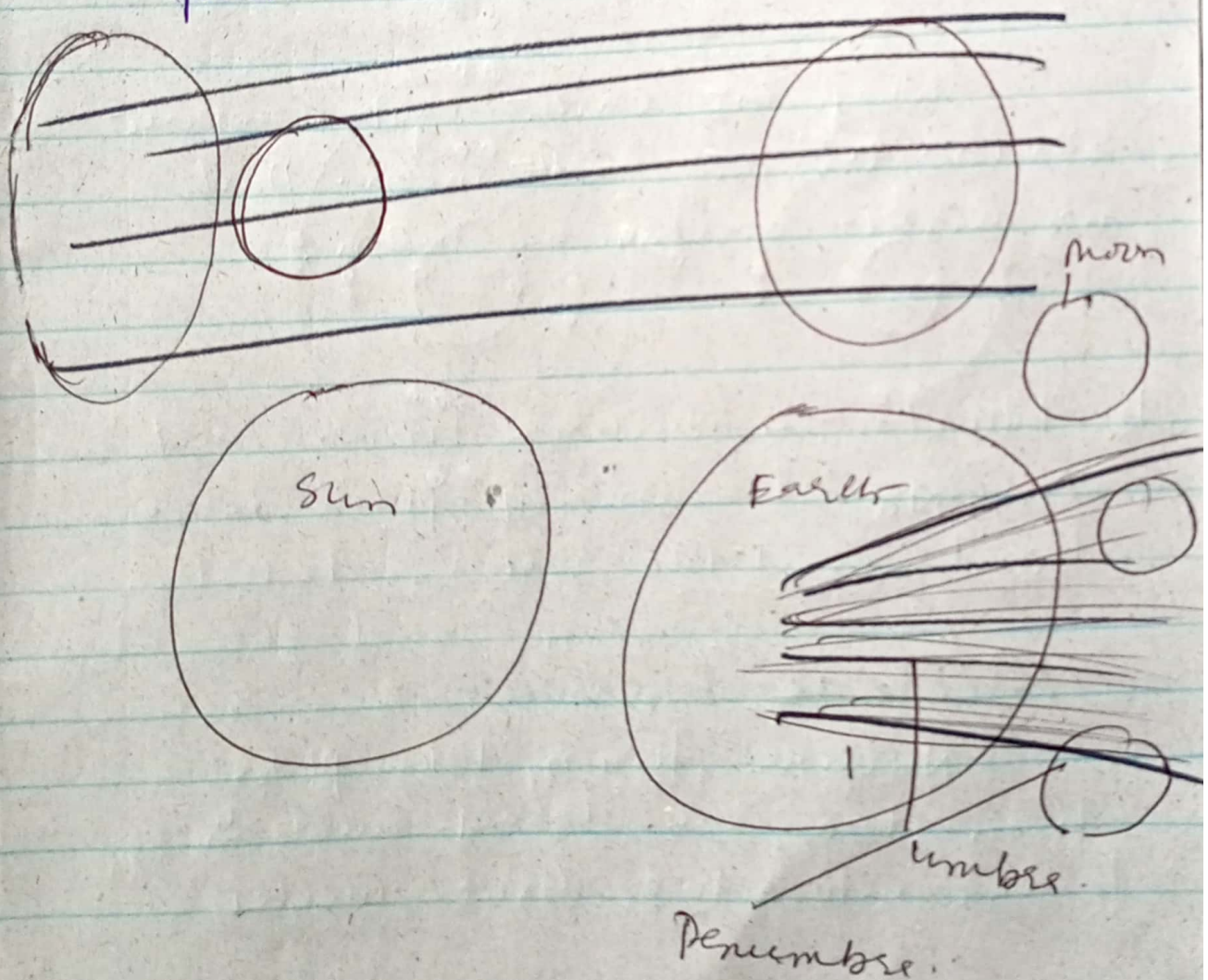
When moon casts complete shadow on the earth.

3) Annular solar Eclipse.

When a ring of fire is formed on the earth due to the moon.

Lunar Eclipse

Lunar Eclipse takes place when earth comes between the sun and the moon. It prohibits the light of the sun from reaching the moon. It takes place on full moon.



Types of Lunar Eclipse

1) Penumbral Lunar Eclipse:

When earth casts penumbral shadow on the moon.

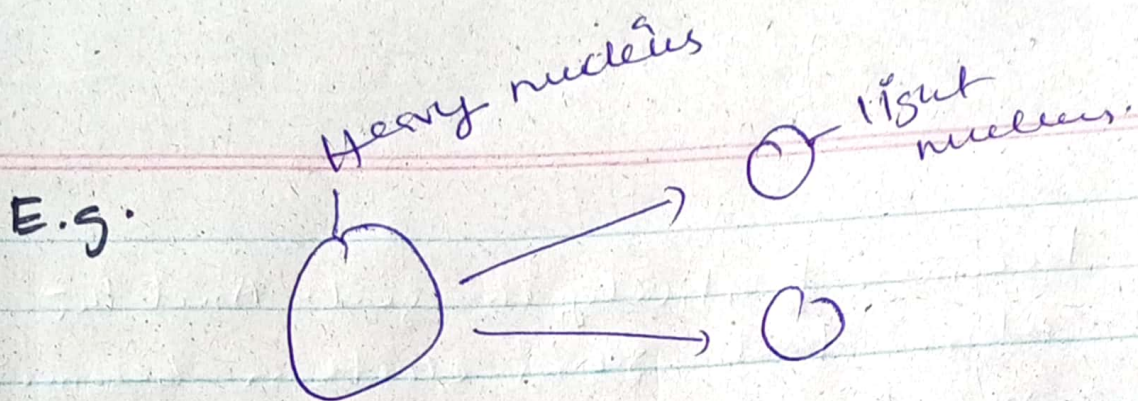
2) Umbraal Lunar Eclipse.

When the earth casts complete shadow on the ~~earth~~ moon. And no light reaches the moon.

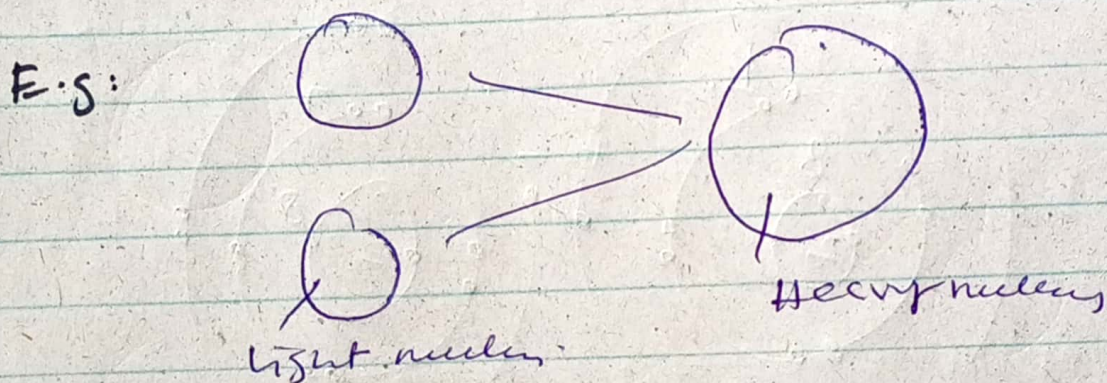
d) What are Nuclear Fission and Nuclear Fusion? Explain ionic bond in table salt.

Nuclear Fission:-

Nuclear fission takes place when ~~two~~ one heavy nucleus breaks into two light nuclei



Nuclear Fusion:
 When ~~two light nuclei~~ are ~~join~~ when one heavy nucleus is formed from two light nuclei.

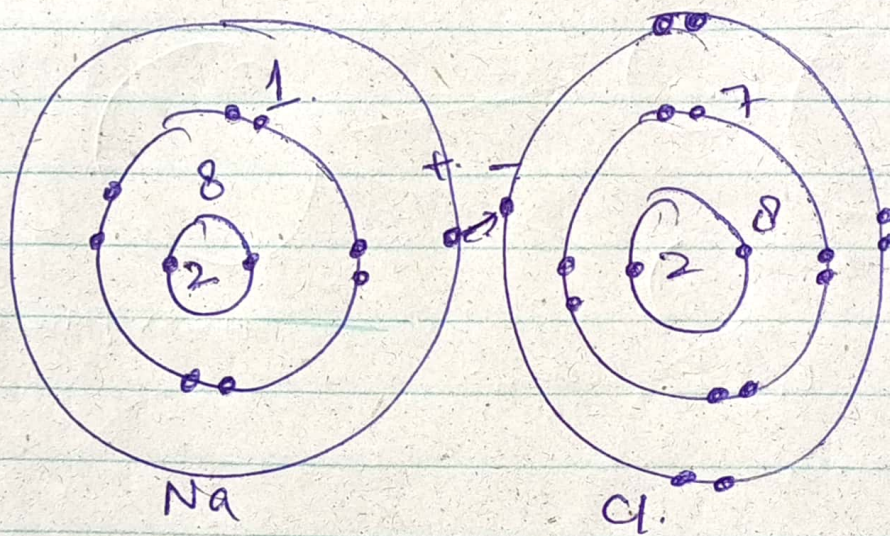


Ionic Bond:-

Ionic bond is defined as when electrons are transferred from one atom to another atom. The atoms that transfer electron

becomes positively charged. And the atom that gains electron becomes negatively. Atoms participate in ionic bond in order to get stability, to complete its octet.

Ionic Bond in NaCl.



~~Now~~ Sodium contains 1 electron in outer most shell, and chlorine contains 7 electrons so, sodium loses 1 electron & Cl gets that electron to attain stability.

b) What is Milkyway? How Dark matter is related to Galaxies? Give different parts of Galaxies.

Milky Way:

The universe contains around 100-200 billion galaxies. Among these 200 billion Milky Way is one of the galaxies. It is disc shaped and contains planets, sun and other stars.

Different Parts of Galaxies:

1) Sun

2) Planets

3

Stars.

Meteoroids.

Asteroids.

Dwarf Planets.

Arms of galaxies.

Q. NO. 4.

A) What are the methods employed in solid waste management?

Solid Waste Management:

Solid waste management is defined as the process by which waste is generated, collected,

transported and managed in a systematic way.

Method of Solid Waste Management

1) Generation.

Here waste is generated from households, factories, hospitals and other places.

2) Collection

waste is collected in the big dustbins placed in every city-street.

3) Transfer.

waste collected in dustbin is transferred to landfill.

4) Disposition.

waste is disposed off in the landfills for further processing.

5) Burning.

waste is properly burnt.

b) How does a human heart work in blood circulation?

Human Heart:

Human is a muscular organ lies in thoracic region. It works continuously without any stimulation hence it is called Myogen-

It is enclosed in a membrane called Pericardium. It is double layered contains pericardium that provides flexibility to the heart.

Structure of Human

Heart:

Heart consists of four chambers two upper atrium and two lower ventricles. Upper atria receive blood from anterior venae cava and pulmonary veins and ventricles ~~receive~~ ^{transfer} blood oxygenated blood to the body through aortic or carotid arch.

Correction. Hyperopia can be corrected by using convex lens.

Parts of Human eye:

Following are the major parts of human eye.

- 1) Cornea.
- 2) Retina
- 3) Iris
- 4) Pupil
- 5) Lens
- 6) Cods
- 7) optic nerve
- 8) Macula
- 9) Eye fluid
- 10) conjunctiva.

a) write uses of each of the following.

1) Microwaves.

Microwaves are short length electromagnetic radiations used in microwave ovens.

It is used to cook food.

It is used in the microwave ovens.

Microwaves are also used for baking purposes.

2) Ultraviolet waves.

Ultraviolet radiations are high energy electromagnetic radiations. They are used in the process of photosynthesis. Plants manufacture food by the process of photosynthesis. Carbohydrates are used by the animals. They are essential for the survival of life on earth.

3/ X-Rays:

X-rays are high energy electromagnetic radiation. They are used for determination of diseases. X-rays are used by the radiologist.

Veins receive deoxygenated blood except pulmonary veins that receive oxygenated blood from the lungs.

Function of Human Heart:

Human heart receives deoxygenated blood from the whole body through anterior and posterior veins come to the left atrium. From ~~left~~^{right} atrium it is transferred to ~~left~~^{right} ventricle through tricuspid valve. From here blood enters in pulmonary artery for its oxygenation from the lungs. Blood from lungs enters in pulmonary veins ~~transfers~~ into left ~~ventricle~~ atrium from here via bicuspid valves it enters into left ventricle and is ultimately transferred to aorta arch for its supply to the whole body.

c) What is Myopia and Hyperopia?
List major parts of Human Eye?

Myopia Myopia is called shortsightedness in which the person sees near objects clearly however distant objects produced obscure objects.

Correction.

It can be corrected by using concave lens.

Hyperopia

In this condition near objects are blurry however distant ones are clear.

Correction. Hyperopia can be corrected by using convex lens.

Parts of Human eye:

Following are the major parts of human eye.

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- 4) Pupil
- 5) Lens
- 6) Cods
- 7) optic nerve
- 8) Meucle
- 9) Eye fluid
- 10) conjunctiva

d) write uses of each of the following.

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