

Q a) What is radioactivity? Define artificial radioactivity and its types.

Answer 1- Radioactivity

A process of disintegration of heavier nucleus into smaller nuclei is called radio activity.

OR

"A process in which unstable nucleus disintegrate into a stable form."

2. Artificial Radioactivity

A slow moving neutron when bombard on Uranium atom, it disintegrate into smaller nuclei, is known as artificial radioactivity.

For example: alpha rays, beta rays and gamma rays

3- Types of Artificial Radioactivity
Following are types

a) Alpha Rays α

Alpha rays are positively charged. It contains two neutron and two proton.

i.e Helium ${}^4_2\text{He}$

b) Beta Rays β

Beta rays are negatively charged. In fact Beta rays are more similar like electron.

c) Gamma Rays γ

Gamma Rays are highly energetic and more penetrating. It contains no charge and no mass.

i.e X-rays like (Röntgen)

Qb Define Black hole and how is formed?

Answer:- Black Hole

"A substance of extreme density and strong gravitational pull is known as

black hole. It is also called 'collapser'; means 'collapse of stars'. Moreover, black hole attracts every object with strong gravitational power even light can not escape from it.

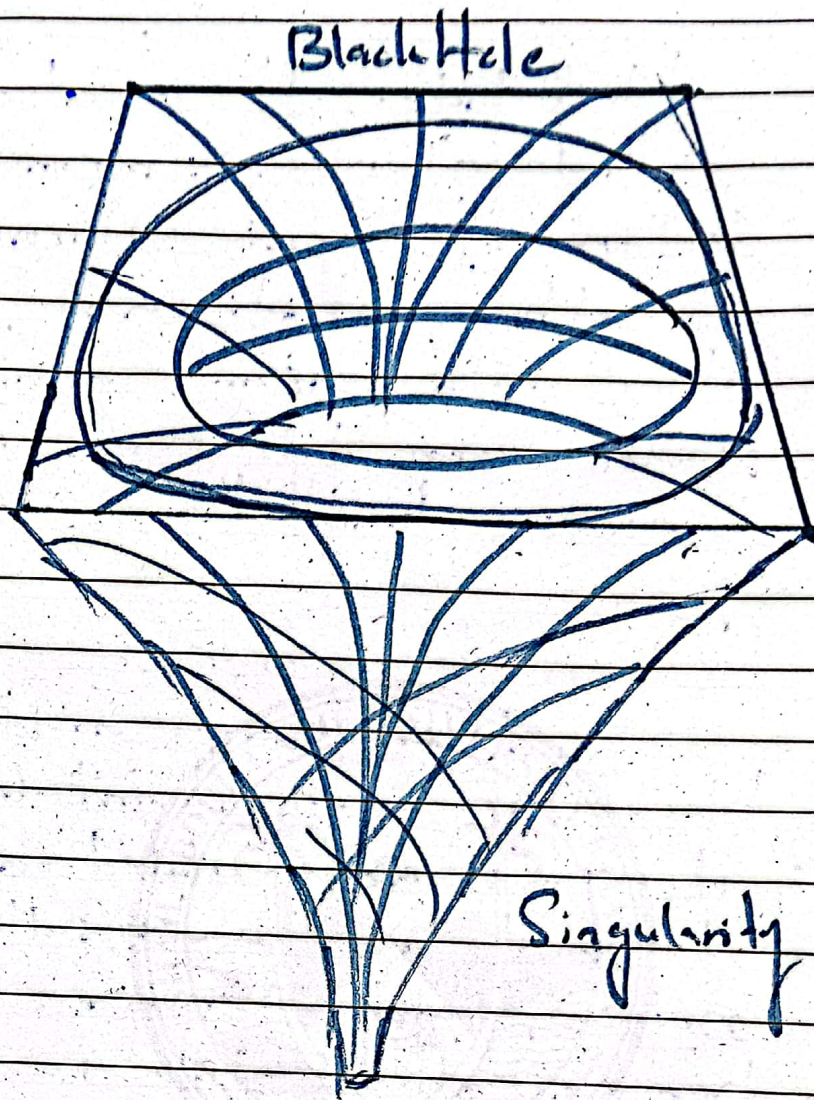
2. How a black hole is formed?

When energy inside a black hole gets unbalanced, it pulls every object inside it and as a result nothing gets escape; hence, a black hole is formed.

According to a question;

$$d \propto \frac{m}{V} \therefore d \propto m$$

Therefore, strong density attracts mass towards and every thing collapses inside a black hole.



• Black Hole diagram

Q c Define Solid Waste Management.
Also describe issues of SWM
in Pakistan.

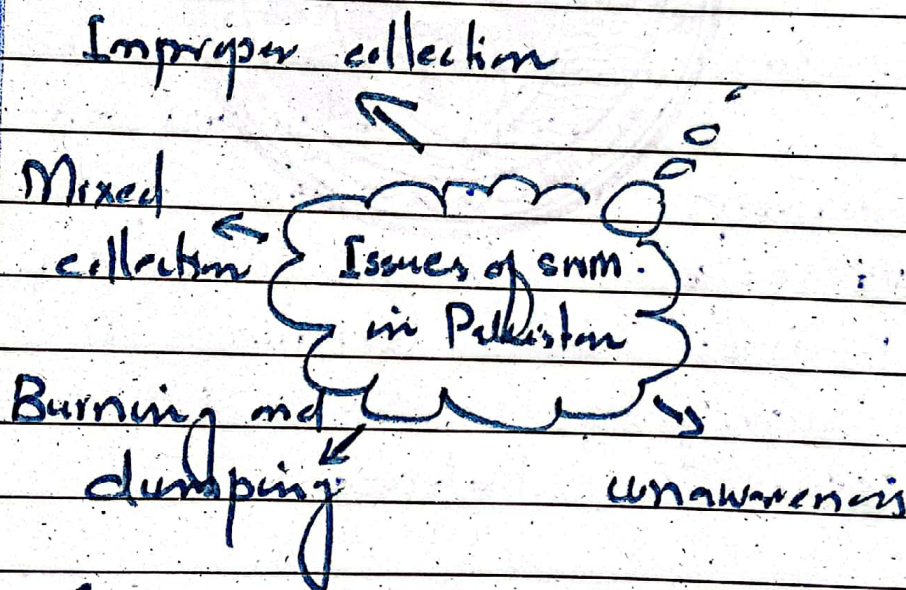
Answer 1- Solid Waste Management (SWM)
"Solid and semi-solid
waste of biodegradable,
recyclable and electronic
substances known as

Solid waste management.

In fact, a process of collecting solid and semi-solid wastage known as solid waste management.

Forexample, plastics, bottles, wires etc.

2- Issues of SWM in Pakistan
Following are issues of solid waste management:



a) Improper collection of SWM
Improper collection of SWM is issue in Pakistan.

In fact, there is no proper collection system. According to RBS,

"almost 5,500 tonnes of SWM are wasted." Hence, improper SWM is an issue.

b) Difficulty in separate collection
Moreover, there is no separate collection of waste. All waste are mixed up. Thus, mixing waste is another issue of SWM in Pakistan.

c) Common dumping and burning
Further, dumping and burning is an issue and prevails. Pollution of the planet. Thus, burning and dumping of SWM is an issue in Pakistan.

d) Unawareness
Last, but not the least, unawareness of public leads an obstacle in collection of SWM. Therefore, awareness is an issue of SWM collection.

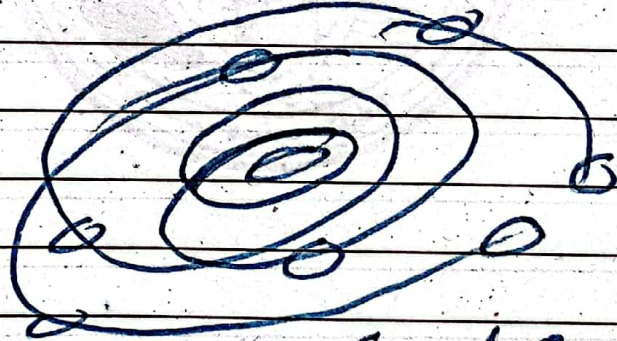
Qd) Define galaxy. Earth moves around which galaxy?
 Answer: Galaxy

Galaxy is the basic unit of universe. In fact,

"Galaxy is a collection of millions of billions of stars."

Thus, galaxy is a combination of billions of stars that form a whole universe.

For Example: elliptical galaxy, spiral galaxy, milky way galaxy, and irregular galaxy

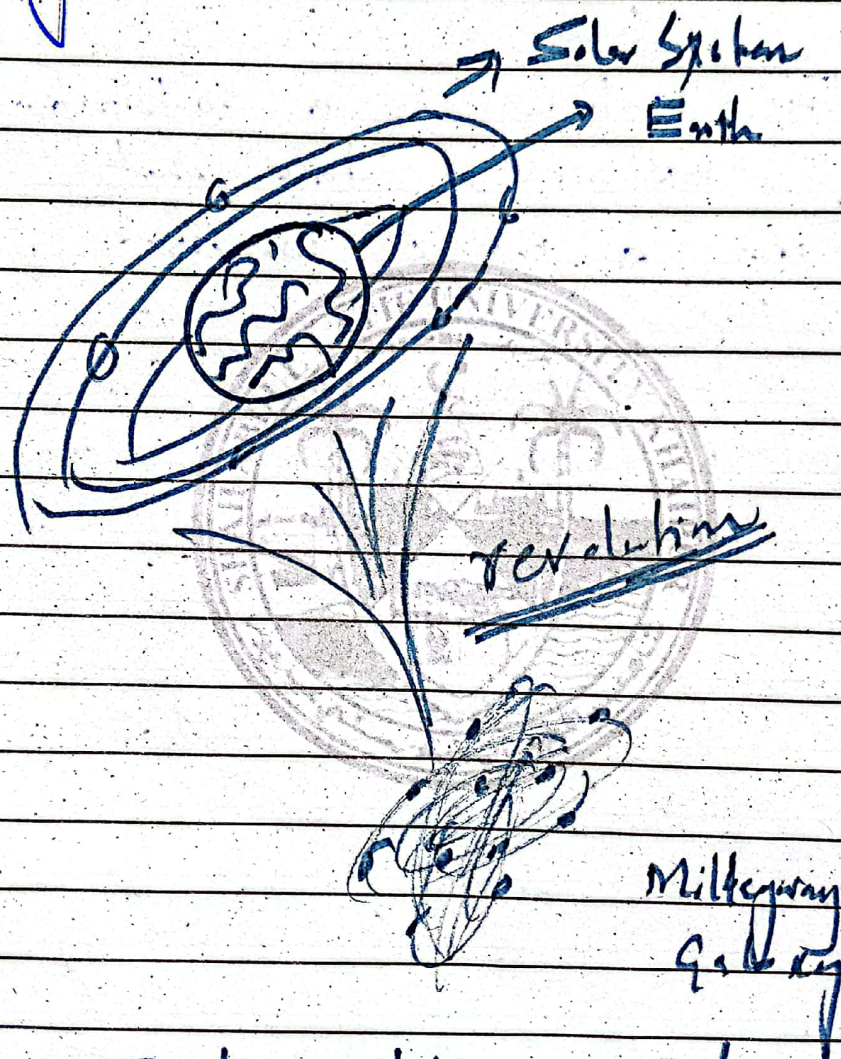


Spiral Galaxy

2- Movement of Earth around Galaxy

Earth moves around 'Milky way' galaxy. The most abundant and common galaxy in the universe is

'Milkyway' galaxy. around which
Earth revolves. In fact, a
whole solar system revolves
around 'Milkyway' galaxy.
It takes 230 million
years.



Earth revolves around
galaxy