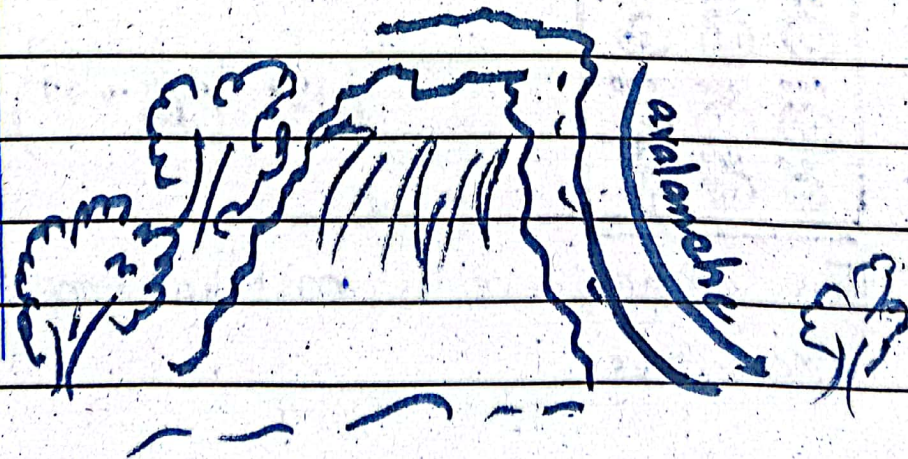


Q1a) Describe avalanche. Also describe its types.

Avalanche

"Avalanche is the large mass of ice, snow, soil, and rocks."

Avalanche is the large mass of snow, ice, soil, and rocks that slides down the mountains. When a massive earthquake, rising heatwaves or angle disturbance occurs, the nature of mountain material breaks down slides the mountains. This is known as avalanche.



Types of avalanche

Following are types:

i) Loose Snow Avalanche

Loose snow avalanche occurs after fresh snowfall.

ii) Powder Snow Avalanche

Powder snow avalanche comes with the speed of 190 mi/hr.

iii) Wet Snow Avalanche

Wet Snow avalanche is a dangerous avalanche. It occurs slowly with soil, debris, and water.

Q b) Describe tornado. Also describe its formation.

Tornado

"Tornado is the nature's most violent storm."

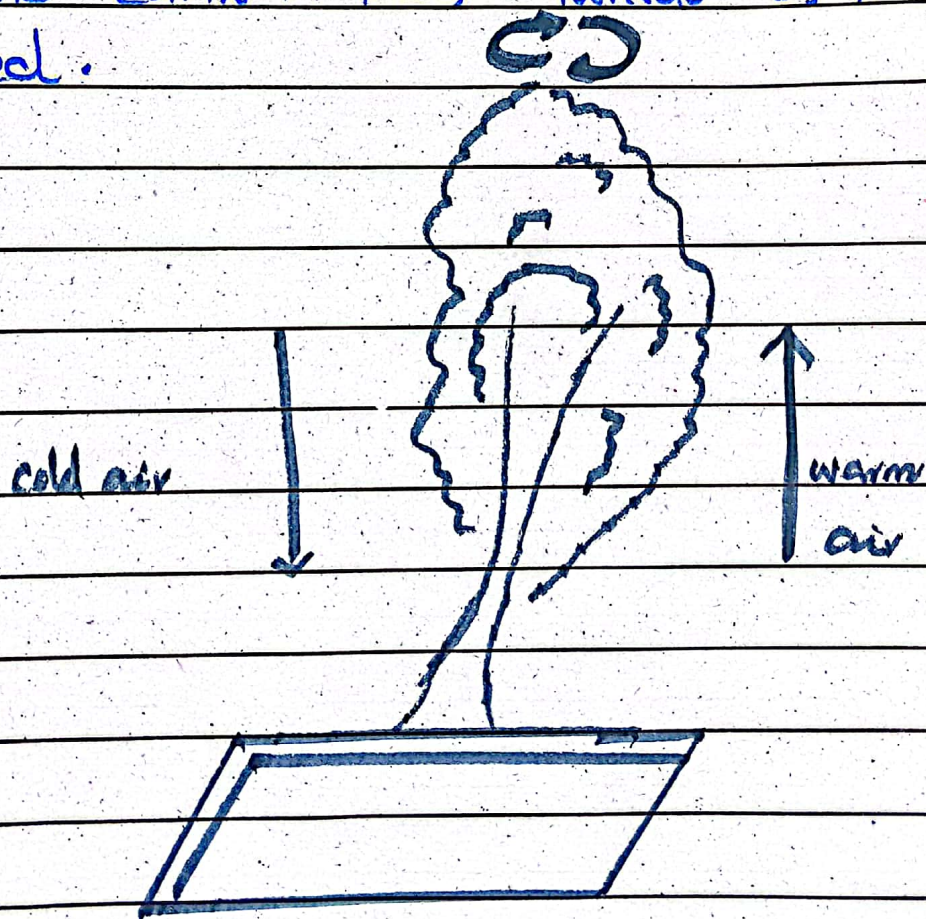
Tornado is a violent, rotating column of air in a cloud. It occurs with the base of thunderstorm and hit the earth base. Thus, tornado is a violent storm.

Formation of tornado

"Tornadoes form by movement of warm and cold air."



When in a cloud, movement of warm air and cold air occurs with the upward and downward direction, tornadoes formed. In fact, warmer air moves upward and colder air goes downward. Initially, movement occurs horizontally in a cloud, but movement goes vertically downward to the earth. Thus, tornado is formed.



• Tornado

Q

Pesticides

"Pesticides are chemicals used to kill harmful micro-organisms, animals, or plants."

Pesticides are chemical substances. These are widely used to kill harmful organisms and plants. Thus, pesticides are also used to protect agriculture from harmful organisms.

Types of pesticides

Following are

types:

1) Insecticides

Insecticides used to kill insects.

ii) Fungicides

Fungicides are used to kill harmful fungi.

iii) Weedicides

Weedicides are used to kill weeds.

iv) Nematocides

Nematocides are used to kill nematodes.

v) Rodenticides

Rodenticides are used to kill mice and rats.

vi) Herbicides

Herbicides are used to kill unwanted plants.

Pesticides	Organism
insecticides	insects
fungicides	fungi
weedcides	weeds
nematicides	nematodes
rodenticides	rats
herbicides	unwanted plants

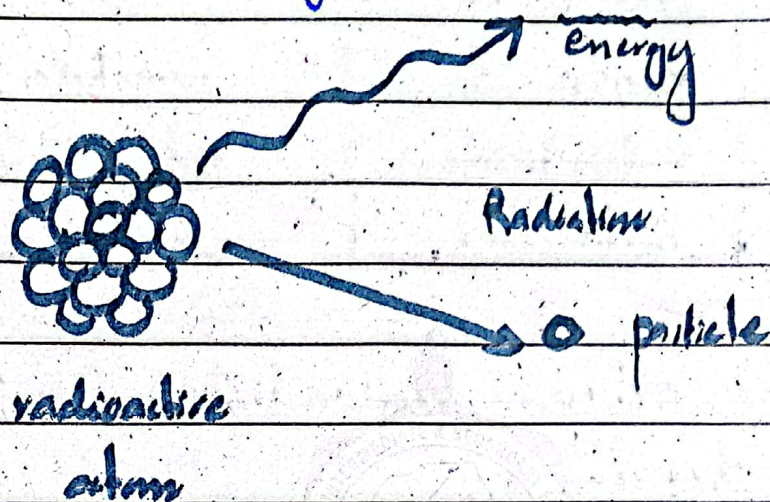
Qd Define artificial radioactivity. Describe its types.

Artificial Radioactivity

"A slow moving neutron leads to formation of artificial radioactivity."

Artificial radioactivity is a man-made process. When a slow moving neutron is bombarded on Uranium atom, it can

Due to instability and energy released in radiation form, process is known as artificial radioactivity.



Types of artificial radioactivity

are types: following

i) Alpha rays (α)

'Alpha rays are positively charged particles.'

Alpha rays are positively charged. These are similar to Helium atom.
i.e. ${}^4_2\text{He}$

ii) Beta rays (β)

'Beta rays are negatively charged.'

Beta rays are negatively charged particles. These are similar to electron.

iii) Gamma rays (γ)

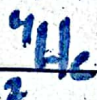
'Gamma rays are chargeless particles.'

Gamma rays are chargeless, having no charge. These are similar to x-rays. (Roentgen or rays)



Types of artificial radioactivity

Alpha (α)



Beta (β)



electron

Gamma (γ)

(γ)



X-rays

Q: a) Describe difference between climate and weather.

Weather

"Weather is sudden, frequent, and temporary changes in atmospheric conditions."

Weather is a change in atmosphere. It is temporary change.

e.g., pressure of air, temperature, moisture etc.

Climate

"Climate is a change for a long period of time and of a

X



particular region."

Climate is a change of a particular region. In fact, climate is weather itself.

e.g., tropical forest climate

Difference between weather and climate

<u>Comparison</u>	<u>weather</u>	<u>climate</u>
i) meaning	Weather is a change in atmospheric condition.	Climate is a weather of a particular region.
ii) condition	It is a short term condition.	It is a long term condition.
iii) measurement	It is measured by a short period of time.	It is measured by a long period of time.

affect

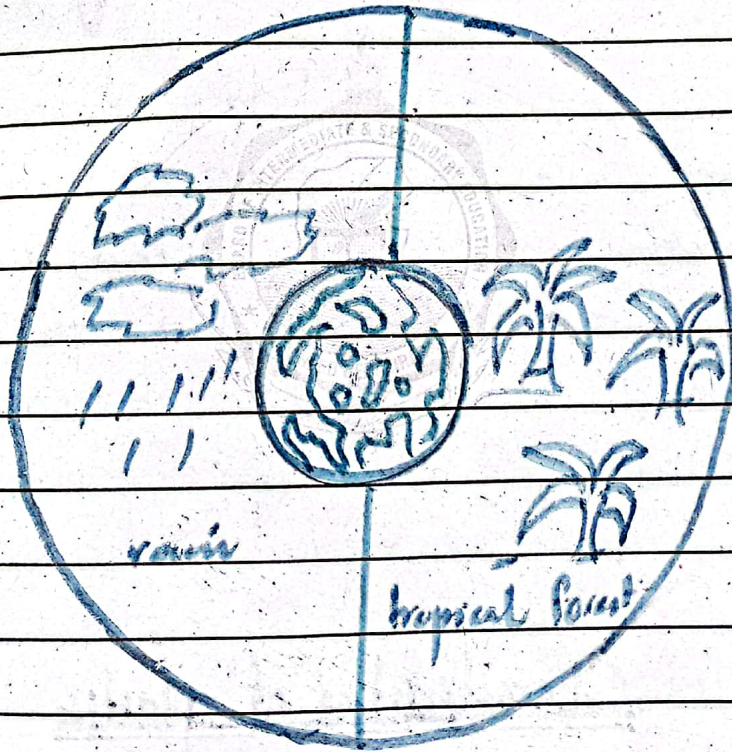
It is affected by
-temperature, pressure,
wind etc

It is affected
by latitude,
and longitude.

change

It changes
frequently

It does not
change
frequently.



• Weather

• Climate



Qb) Define plastic. Its characters, and management of waste plastic.

Plastic

"Plastic is a kind of material that can be moulded easily."

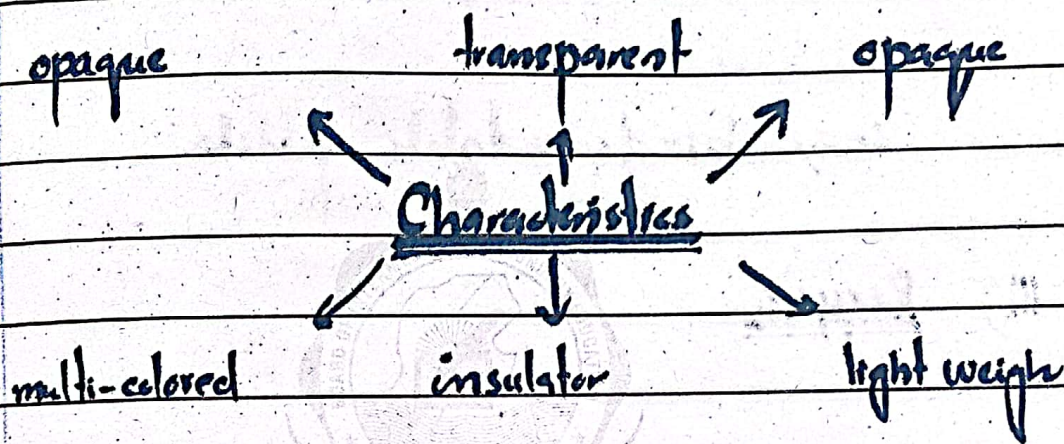
Plastic is come from Latin word 'plasticus', meaning 'being moulded'. In fact, plastic is a material that can be heated and cooled, hardened and softened easily. Thus, plastic is a useful material.

Characteristics of plastic

Following are characteristics:

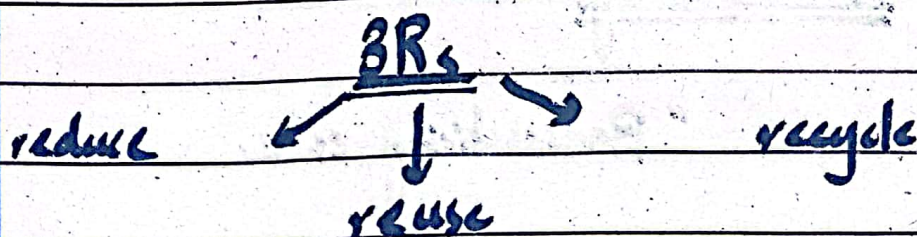
i) Plastic is transparent.

- ii) Plastic is opaque.
- iii) Plastic is multicolored.
- iv) Plastic is an insulator.
- v) Plastic is a light material.
- vi) Plastic has low density.
- vii) Plastic can be reused.



Management of waste plastic

Waste plastic can be managed by 3Rs.





i) Reduce Plastic can be managed by reducing its consumption.

ii) Reuse Plastic can be reused on heating.
e.g., biodegradable plastic

iii) Recycle Plastic also recycle to come into a new form.
e.g., thermosetting plastic

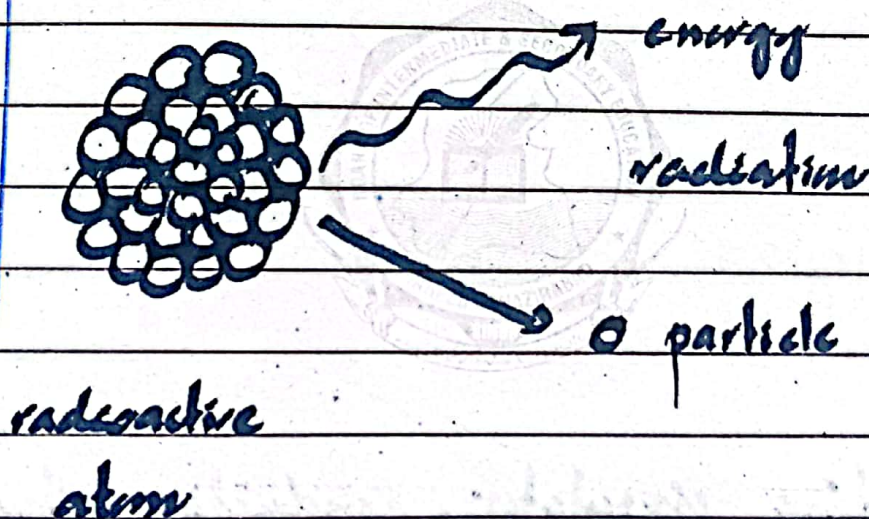
Q 6) How radioactivity helps power generation?

Radioactivity

"Radioactivity is a

process of disintegration
of heavier nucleus
into smaller nuclei."

Radioactivity is a
process in which heavy nucleus is broken
down into smaller nuclei. In fact,
it is a process of making unstable
nuclei into a stable form.



• Radioactivity

Radioactivity in power generation

Radioactivity helps
in power generation (energy). In fact,
it is a useful process!



"When a slow moving electron hits Uranium atom, causes instability."

Further, instability causes imbalance within an atom. This results energy flow in the form of radiations. These radiations are summed up to produce currents. Thus, energy is generated onward and managed by a complete process.

Qd) Define insulator, conductor with examples.

Insulator

"Insulator is a kind of material that does not allow

current to pass through it."

An insulator is a material that restricts current to pass through it. In fact, it does not allow electricity go through it. Thus, an insulator is opponent to current. i.e., wood, plastic, rubber etc.

Conductor

"Conductor is a kind of material that allows current to pass through it."

A conductor is a material that let current pass through it. In fact, it is friendly to current and allows electricity to pass. Thus, a conductor is good to current.

i.e., iron, steel, etc.