Short questions and answers:

1. Briefly explain Disaster and their causes?

Ans: A sudden occurrence of an accident ,that causes huge loss of life and property is called a disaster.

- It is also called calamity.
- It is an event or series of event , which causes damage or loss of property, infrastructure, environment etc..
- E.g.: Earthquake,flood,tsunami etc…

Causes: Disasters are caused by two ways:

1) by natural phenomenon –eg: earthquake,pandemics

2)by human activities - e.g.: war, explosions.

2. Outline the mechanism by which the ozone layer protects earth from harmful UV rays:

Ans: Ozonosphere is an important layer found within stratosphere. Ozone is found in this layer.

- When ultra-violet radiation that spread out from the sun strikes the oxygen molecule, it splits the molecule into two individual oxygen atoms.
- The oxygen atoms, thus produced, combines with Oxygen ($O2$) molecule and produce ozone molecule ($O3$).
- This reaction is aided by either Nitrogen or Oxygen, which absorbs the excess energy that is liberated.
- Ozone thus formed will be split by ultra-violet rays into a molecule of oxygen and an atom of oxygen (O).
- It is through this repeated circular ozone and oxygen formation that the concentration of ozone is maintained in the stratosphere

- **Formation/Mechanism of ozone layer**
- Oxygen molecule is photolysed by solar radiation, creating 2 oxygen radicals.
- $O_2 \xrightarrow{\text{photolysis}} 2O$
- Oxygen radicals react with molecular oxygen to produce ozone.
- $2O+O \longrightarrow O_3$

3. Explain about cyclone and its types?

- **Ans:** System of winds rotating inwards to an area of low pressure, in a coiled

manner.

- Cyclone is derived from a Greek word ***cyclos*** which means coils of snake
- **Reason**: due to coriolis force, surface wind get spiralled towards the low pressure area.
- Cyclones are not present in equatorial regions because coriolis force is absent.

Types: 1)tropical cyclone 2)polar cyclone 3) meso cyclone 4)extra tropical cyclone.

4. Explain green house effect? What are the gases responsible for green house effect?

Ans: Greenhouse effect is the process of trapping heat by the green house gases.

- Green house gases are the gases which absorbs infrared radiations and creates the greenhouse effect
- Eg: carbon dioxide, chlorofluro carbons(CFC)

5. What is the difference between cyclone and anti cyclone?

Cyclones	Anti cyclones
It is a low pressure system with surroundings of high pressure.	It is a high pressure system with surroundings of low pressure.
It blows anti clockwise in the Northern Hemisphere.	It blows clockwise in the Northern Hemisphere.
It blows clockwise in the Southern Hemisphere.	It blows anti clockwise in the Southern Hemisphere.
It is associated with cloudy skies, heavy rainfall with stormy winds.	It is associated with clear skies, mild winds and dry conditions.
It can cause great damage to lives and property if precautions are not taken.	The weather is settled and pleasant.

6.Explain about atmospheric circulations?

Ans: Atmospheric circulations is the large scale movement of air , in which thermal energy is redistributed on the surface of the earth.

- Earths atmospheric circulation varies from year to year
- It is linked to ocean temperature and winds.
- Human activities affect atmospheric circulation by adding greenhouse gases to the atmosphere, and increasing earth's average temperature.

Types of atmospheric circulations:

1)Latitudinal atmospheric circulation.

2)Longitudinal atmospheric circulation.

7.Define Indian Monsoon and its types?

Ans: Monsoon is a regional wind that blows towards land at a certain season and blow from the landmasses during other season.

- These wind blows in the opposite direction in summer and winter.
- Though monsoon winds blow over all parts of the world, it is well-developed over India and the South-east Asian regions. The Indian subcontinent has two types of winds.

1. South-West Monsoon

2. North-East Monsoon

8. Explain Biosphere and its components?

Ans: Biosphere is an important realm of Earth. The totality of life on earth and its interdependency on abiotic environmental factors. Biosphere consists of the complex interdependency between biotic and abiotic environmental components.

- Basically, biosphere is a thin envelop that encircles most of the earth, and supports life.
- All forms or life including human beings' dwell in biosphere. The health of the biosphere is determined by the availability of oxygen, moisture, temperature, air pressure and soil.
- Components of biosphere: 1)Terrestrial ecosystem 2)Aquatic ecosystem.

9. Explain about disaster and its types?

Ans: A sudden occurrence of an accident that causes huge loss of life and property is called as a ***disaster***. It is also called as a ***calamity***. Disaster is an event or series of events, which gives rise to casualties & damage or loss of properties, infrastructures, environment.

<u>Types of Disasters</u>

a) Natural Disaster

A disaster caused by natural factor is called as a natural disaster.

E.g.: Earthquake, flood, cyclone etc.

b) Man-made disaster

A disaster caused due to the human activities.

E.g.: Wars, fire accidents, industrial accidents etc.

10. Define Risk and different ways of dealing the risk?

Ans: Risk is a "measure of the expected losses due to a hazard event occurring in a given area over a specific time period. Risk is a function of the probability of particular hazardous event and the losses each would cause."

- Risk = Probability of Hazard x Degree of Vulnerability.

There are different ways of dealing with risk, such as:

- a) **Risk Acceptance** means an informed decision to accept the possible consequences and likelihood of a particular risk.
- b) **Risk Avoidance** is an informed decision to avoid involvement in activities leading to risk realization.
- c) **Risk Reduction** refers to the application of appropriate techniques to reduce the likelihood of risk occurrence and its consequences.
- d) **Risk Transfer** involves shifting of the burden of risk to another party. One of the most common forms of risk transfer is Insurance