

Read the question carefully and address exactly what is asked, avoiding unnecessary deviation.

Start with a clear and relevant introduction that shows understanding of the topic.

Structure the answer logically: introduction, explanation/analysis, and a brief conclusion.

Use correct scientific terminology (e.g., biodiversity, sustainability, carbon cycle, eutrophication).

Explain concepts clearly and accurately, avoiding vague or generalized statements.

Support answers with relevant examples, preferably from Pakistan or global case studies where appropriate.

Include data, statistics, or facts (e.g., temperature rise, deforestation rates) when relevant to strengthen arguments.

Incorporate environmental laws, agreements, or protocols (e.g., Paris Agreement, Kyoto Protocol, SDGs) where applicable.

Show cause-and-effect relationships in environmental processes.

Focus on analysis and application rather than rote definitions.

Present balanced views by mentioning impacts,

Day: _____

Date: _____

- > Food Shortage and rising poverty
- > Burden on Educational institutes.
- > Less availability of resilient houses. Contexted buildings that replacing the vegetation covers
- > Two to three rooms houses for large family size — **psychological problems** rising among population as a result.

Long Term Consequences:

- > Extractions of natural resources.
- > Replacing cultivating lands into Housing societies.
- > Climate change due to burning of fossil fuel to meet the population demand.

Mitigation steps to curb the problem:

- > Adopt 2-3 child policy by government.
- > Given incentives in the form of free education, health facilities, monthly bonus etc.
- > Rising awareness through education. Create centres for family planning.

Food Insecurity (b)

When there is no clear chances to get "Three times meal to every person per day", it is the food insecurity.

Causes:

- > Rising population
- > Outdated practices in agriculture
- > Decreasing productivity due to climate change.
- > Rising Inflation

Consequences:

- > Malnutrition among children - Bones deforms such as **Rickets**.
- > Vulnerability rises due to lack of immunity - prone to diseases attacks.
- > Crime rates increases.

Way forwards to mitigate the problem:

- * Contain the boom-bust cycle of population explosion
- * Maintain the Demand and

Day: _____

Date: _____

Supply by state institutions.

Make sure to pure nutrient, cheap, easy to access food is available to every person.

Increase per Capita income of every person.

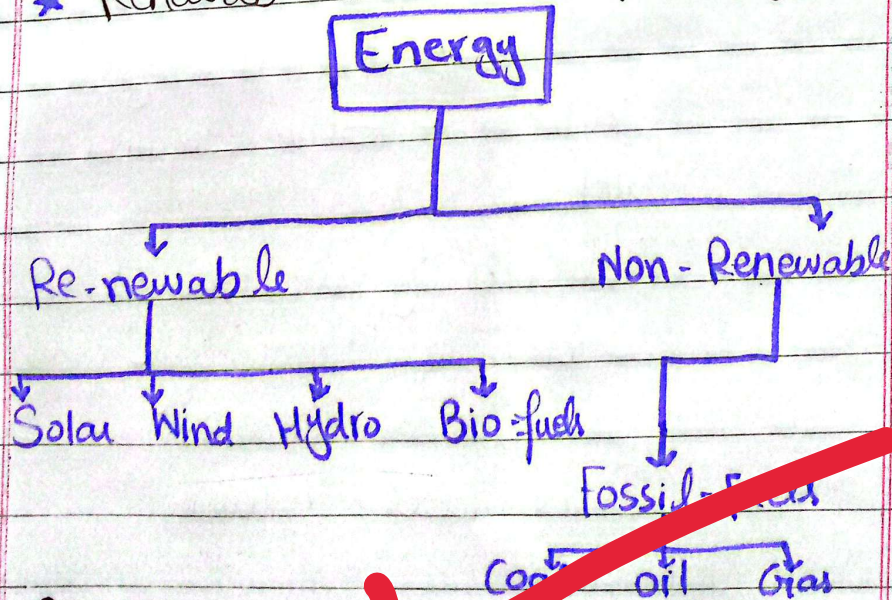
Energy Security:

Energy is a Key Component to run the economy, meet the daily demands, Agriculture Sector and modern technology.

Sources of energy:

* Non-Renewable Sources of Energy

* Renewable Sources of Energy.



* Renewable energy sources can be used again and again.

* It's a cheap source of energy

- * It Can't generate pollution and does not abundon on natural Resources.
- * It's a Sustainable Source of energy.
- ⊙ Non-Renewable energy resource are available for only one/single time

Usage.

- ⊙ It Can produce air, aquatic and Soil pollution.
- ⊙ Not a cheap source not in term of monitory values but also having environmental cost.
- ⊙ Un-Sustainable Source of energy.

Way's of Energy Security:

- Shifting from Non-Renewable to Renewable energy resources.
- Adopt modern technologies and run out outdated and old the pipe Source of pollution.
- Mandatory to adopt **3R** principles should be made by Government.

Water Logging & Salinity:

Water logging is a Condition in which land is suffocated with prolonged standing water.

Impacts:

- * Oxygen does not mixed/exchange with Soil.
- * Minerals are less available to plants grow in Water logged land.
- * Water Seeped down under ground with toxic material and affects the ground water.

Salinity:

"When the Salt Concentration rises in soil, this condition is called Salinity."

Salinity:

There are many Causes of rising Salinity in soil.

- * Land bare from long time period and no under practicing of Cultivation.
- * Using excess of fertilizers and pesticides.
- * Single type of Crop Cultivation repeatedly that disturbs the balance of nutrients in Soil.

Consequences:

Land will turn into a desert.

land gradually.
Not support for cultivation practice
→ High concentration of salt can
be reduced by growing salt resistant
plants. such as: Cactus.

Q#04.

Technological Options to Counter Air pollution.

①

Conventional Vehicles to E-vehicles:

To counter Air pollution, it is
necessary to adopt electric vehicles
instead of conventional vehicles.
Less burning of fossil fuels, means
less emissions of SO_x and NO_x
to pollute Air.

②

Use High Octane fuel:

High Octane fuel use in vehicles
instead of conventional fuels. High
Octane fuel has good efficiency
and no production of harmful
pollutants as by product like
 CO_2 and Sulphur Oxides.

Day: _____

Date: _____

③ Use Scrubbers.

In industries Use Scrubbers at the exiting point of Smoke. These Scrubbers suck all pollutants from air and leave remaining smoke in air.

④ Air pollutant monitoring system.

At working places, especially in Industries always use air pollutant sensitive monitoring systems that ring alarm as the pollutants started to exceed their limits.

⑤ Carbon Sequestrations.

In modern and Advances developed Countries, such as Kuwait, UAE etc, a technology of Carbon Sequestration is practicing where pollutants level emission inevitable to beyond the set Standards. This machine Capture Carbon from air and stored them within rocks under sea. It is a very expensive process.

⑥ Artificial Rain.

Sprinkling Artificial Rain would

Fragile Economy:

Fragile economy does not support government to adopt advance technology to cope climate change impacts. In Pakistan, 2022 floods, 300 million people were affected and 30 million \$ lost in economy was a mere glimpse of extreme shocks of climate change.

and?