Q. No. 3

a. How global warming can be reversed?
b. Define ceramics. Give properties and applications of ceramics.
c. Explain the working of Optic fibers & Mobile phone.
d. Define the following and give examples:

- Food Additives
- Food Preservatives
- Food Adulteration
- Food Contamination

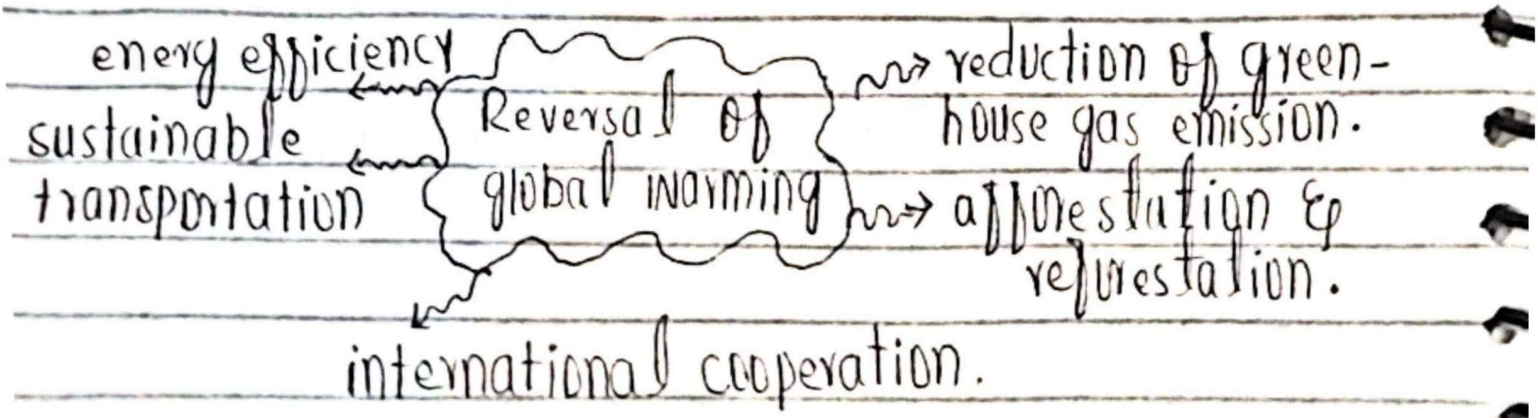
Q. No 3

(a). Reversal of Global Warming

- Reduction of greenhouse gas emissions: shifting from fossil fuels to renewable energy sources like solar and wind reduces carbon emissions.

- Afforestation and reforestation: planting more trees increases carbon absorption from atmosphere.

- Sustainable transportation: promoting public transport, electrical vehicles, and fuel efficient cars reduces pollution.



(b). Ceramics.

-- Definition: ceramics are inorganic, non-metalic materials made by shaping and hardening substances such as clay at high temperatures.

-- Properties:

- High hardness and strength.
- Resistant to heat, corrosion and chemical attack.
- Poor conductors of heat and electricity (good insulators).

-- Applications:

- Used in making pottery, tiles and sanitary wares.
- Used as electrical insulators and in electronic components.

(c). Working of Optic Fibers and Mobile Phone.

i- Optic Fiber:

- Optic fiber works on the principle of total internet reflection.
- Light signals enter the fiber core and are reflected repeatedly from the core-cladding boundary.

- These reflections allow light to travel long distances with very little loss.
- Information is transmitted in form of light pulses.

ii- Mobile Phone:

- A mobile phone converts voice into electrical signals using a microphone.
- These signals are changed into radio waves and transmitted to nearest cell tower.
- The cell tower forwards the signals to recievers mobile phone.
- The receieving phone converts signals back into sound through speaker.

(d). Definitions and Examples.

i- Food Additives: substances added to food to improve its taste, color, texture or shelf life. e.g: food colors added to sweets.

ii- Food Preservatives: chemicals used to prevent food from spoilage caused by microorganisms. e.g: salt in pickle.

c. Food Adulteration: The practice of intentionally adding inferior or harmful substances to food. e.g: mixing water in milk.

iv. Food Contamination: The presence of harmful organisms or toxic substances in food due to poor handling or environment. e.g: Bacterial growth in uncovered foods.