1)Experiment name : DETERMINATION OF PH

Reasons: **Why test for pH?**

- It shows if water is acidic, neutral, or alkaline.
- pH affects aquatic life, drinking water quality, and pipe corrosion.
- Extreme pH can make toxic chemicals more harmful.

Pollutants that affect pH:

- **Industrial waste** (acidic or alkaline chemicals).
- **Fertilizers & pesticides** (can make water too acidic or basic).
- **Acid rain** (lowers pH due to air pollution).
- **Mining waste** (releases acids into water).
- **Sewage & detergents** (can alter pH balance)

2)Experiment name:DETERMINATION OF ACIDITY

Reasons: **Why test for acidity?**

- Measures how much acid is in the water.
- Helps check if water is safe for aquatic life and drinking.
- High acidity can corrode pipes and harm ecosystems.

Pollutants that increase acidity:

- **Industrial waste** (chemical factories release acids).
- **Acid rain** (from air pollution like sulfur dioxide).
- **Mining runoff** (acidic water from mines).
- **Sewage & wastewater** (organic matter breakdown can produce acids).

3)Experiment name :. DETERMINATION OF ALKANITY

Reasons: **Why test for alkalinity?**

- Measures water's ability to neutralize acids.
- Protects aquatic life from sudden pH changes.
- Helps prevent pipe corrosion in water systems.

Pollutants that increase alkalinity:

- **Industrial waste** (factories release alkaline chemicals).
- **Agricultural runoff** (fertilizers and lime can raise alkalinity).
- **Sewage discharge** (contains detergents and bicarbonates).
- **Limestone & carbonate rocks** (natural sources that dissolve in water).

4)Experiment name:(DETERMINATION OF CHLORIDES)

Reasons:

Why test for chlorides?

- High chloride levels can make water salty and undrinkable.
- Can cause corrosion in pipes and machinery.
- Important for checking pollution from sewage or industrial waste.

Pollutants that increase chlorides:

- **Sewage & wastewater** (contains salts and detergents).
- **Industrial discharge** (factories release chloride compounds).
- **Agricultural runoff** (fertilizers and irrigation water add salts).
- **Road salt** (used for de-icing, which can wash into water sources).

5)Experiment name: DETERMINATION OF HARDNESS

Reasons: **Why test for hardness?**

- Measures minerals (mainly calcium & magnesium) in water.
- Hard water causes scaling in pipes, boilers, and appliances.
- Affects soap lathering and fabric washing.
- Important for drinking water quality and industrial use.

Pollutants that increase hardness:

- **Dissolved minerals** (from limestone, gypsum, and dolomite).
- **Industrial waste** (factories releasing calcium/magnesium salts).
- **Agricultural runoff** (fertilizers and irrigation can add minerals).
- **Sewage discharge** (contains dissolved salts from detergents).

6)Experiment name: DETERMINATION OF TURBIDITY OF WATER
Reasons:

Why test for turbidity?

- Measures how clear or cloudy the water is.
- High turbidity blocks sunlight, harming aquatic plants.
- Can indicate pollution, bacteria, or suspended particles.
- Important for drinking water safety and ecosystem health.

Pollutants that increase turbidity:

- **Soil erosion** (sand, silt, and clay wash into water).
- **Industrial waste** (factories release suspended particles).
- **Sewage & wastewater** (organic matter and microbes cloud water).
- **Algae growth** (caused by excess nutrients like fertilizers).

Why we select these tests?

Based on the concerns raised—such as skin and hair issues, increased water turbidity, and other related problems—we selected specific water quality tests to identify potential causes:

1. **pH Level: Unbalanced pH can irritate skin and hair.**

2. **Acidity: High acidity may cause corrosion, leading to metal leaching into water.**

3. **Alkalinity: Low alkalinity can make water more susceptible to pH fluctuations, affecting skin and hair health.**

4. **Chloride Content: Elevated chloride levels can contribute to water salinity, potentially causing dryness and irritation of the skin and hair.**

5. **Hardness (Calcium and Magnesium): Hard water can cause dry skin and hair, and may exacerbate conditions like eczema. citeturn0news33**

6. **Turbidity: Increased turbidity indicates suspended particles, which can harbor pathogens and irritate the skin. citeturn0search25**

By conducting these tests, we aim to pinpoint specific water quality issues that could be contributing to the reported skin and hair problems, as well as the observed increase in turbidity.