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**Rajokri Institute of Technology, DSEU**

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**B.Sc. DATA ANALYTICS 2023 -25**

Name: PAWAN PARIDA

Semester: 2nd

Subject: EVIRONMENTAL STUDIES

Subject Faculty: Dr. DEVESH KUMAR

**Activity 4**

*Identifying and Reducing Indoor Pollutants*

**Objective :** To educate participants on the importance of indoor air quality, identify common indoor air pollutants, understand their sources, and learn strategies to improve air quality in indoor environments.

**Instructions**

Complete the following steps and compile your findings into a detailed report.

**Step 1: Identify Common Indoor Pollutants**

* Create a list of common indoor pollutants. Some examples include:
  + Particulate matter (PM2.5 and PM10)
  + Carbon monoxide (CO)
  + Volatile organic compounds (VOCs)
  + Mold and mildew
  + Radon
  + Tobacco smoke
  + Pet dander and dust mites
  + Formaldehyde
  + Household chemicals (cleaners, pesticides)

**Step 2: Survey Your Home**

* Conduct a thorough survey of your home to identify the presence of these pollutants. Consider the following areas:
  + Kitchen (e.g., gas stoves, cooking fumes)
  + Bathroom (e.g., mold, cleaning agents)
  + Living areas (e.g., furniture off-gassing, dust)
  + Bedrooms (e.g., pet dander, dust mites)
  + Basement/garage (e.g., radon, chemical storage)
* Use an air quality monitor if available to measure levels of pollutants such as PM2.5, CO, and VOCs.

**Step 3: Document Sources**

* For each identified pollutant, document the likely sources in your home. Include the following information:
  + Pollutant name
  + Source(s) in your home
  + Health effects associated with the pollutant

**Step 4: Research Reduction Strategies**

* Research and list strategies to reduce each identified pollutant by 50%. Consider the following methods:
  + **Ventilation**: Increasing natural or mechanical ventilation.
  + **Air Purifiers**: Using air purifiers with HEPA filters.
  + **Cleaning**: Regular cleaning with non-toxic products.
  + **Source Control**: Eliminating or reducing the use of products that release pollutants.
  + **Humidity Control**: Using dehumidifiers to prevent mold growth.
  + **Maintenance**: Regular maintenance of appliances and HVAC systems.

**Step 5: Create an Action Plan**

* Develop a detailed action plan to implement the strategies identified in Step 4. Include:
  + Specific actions to be taken
  + Timeline for implementation
  + Materials or equipment needed
  + Expected outcomes

**Step 6: Monitor and Evaluate**

* After implementing the action plan, monitor the indoor air quality over a period of one month.
  + Use an air quality monitor to measure changes in pollutant levels.
  + Document any noticeable improvements in air quality and health effects.

**Step 7: Report Findings**

* Compile your findings into a comprehensive report. Your report should include:
  + **Introduction**: Briefly describe the importance of indoor air quality and the objective of the assignment.
  + **Pollutant Identification**: List of pollutants found in your home and their sources.
  + **Reduction Strategies**: Detailed strategies to reduce each pollutant.
  + **Action Plan**: Your step-by-step plan to improve air quality.
  + **Results**: Changes in pollutant levels and overall air quality after implementing the plan.
  + **Conclusion**: Summary of your findings and any recommendations for maintaining good indoor air quality.

**Submission**

Submit your report in both digital and hard copy formats by [due date]. Be prepared to present your findings to the class.

**Evaluation Criteria**

* **Thoroughness**: Completeness of pollutant identification and source documentation.
* **Research**: Quality and feasibility of reduction strategies.
* **Action Plan**: Practicality and detail of the action plan.
* **Results**: Effectiveness of the strategies in reducing pollutants.
* **Presentation**: Clarity and organization of the report and oral presentation.