Best Practices

[1] Rainwater Harvesting

Title of the Practice:

"Rainwater Harvesting"

Objectives of the Practice:

- To save rain water from allowing it to run off
- To use rainwater for chemistry practical exercises
- To use rainwater for watering plants and trees in the campus

The Context:

- Rainwater harvesting is the accumulation and storage of rainwater for reuse on-site, rather than allowing it to run off.
- Rainwater can be collected from rivers or roofs, and in many places, the water collected is redirected to a deep pit (well, shaft, or borehole), a reservoir with percolation, or collected from dew or fog with nets or other tools. Its uses include water for gardens, irrigation, domestic use with proper treatment, etc.
- The harvested water can also be used as drinking water, longer-term storage, and for other purposes such as groundwater recharge.
- One method of rainwater harvesting is rooftop harvesting. With rooftop harvesting, most any surface — tiles, metal sheets, plastics, but not grass or palm leaf can be used to intercept the flow of rainwater and provide a household with high-quality drinking water and year-round storage.

The Practice:

- The College is situated in southern part of the Gujarat state. The region experiences heavy rainfall during monsoon every year.
- Therefore, college has established water storage system in backside of the college building and harvesting system in the form of water tanks. One method of rainwater harvesting is rooftop harvesting.

- Water from rooftop is collected to tanks via pipelines. There are four water tanks each having capacity of 5000 ltr. These water tanks are situated at ground floor of college building.
- There are two Chemistry Labs in college. Both Chemistry labs are situated on first floor of college building. Many Chemistry practical exercises required distilled water. And rainwater can be used for the same purpose.
- Harvested water is used at chemistry labs by pulling up it via water pumps. This water is used for Practical exercises in Chemistry labs and for watering plants and trees in the campus.
- This harvested water can be used throughout whole year.
- By using this practice, college can save its expenses towards distilled water purchase and this practice is found to be very tranquil, too.

Evidence of Success:

By using this practice, Results of Chemistry laboratory experiments are found to be accurate and precise same as using distilled water which is available in market at comparatively high rates this.

[2] Roof Top Solar Panel System

Title of the Practice:

"Roof Top Solar Panel System as a Green initiative to inculcate green consciousness in students and plan actions to save our environment and to be one with nature"

Objectives of the Practice:

- To generate solar energy and to utilise generated solar energy for the institute
- To export excess solar power to the grid
- To impart practical knowledge among students from this practice
- To save the nature to save the future, make safer environment for better tomorrow
- To enhance students' awareness and to influence their independent thinking abilities to make simple practical attentions in their personal and professional lives that can have a long-term impact on improving our environment.

The Context:

- Solar energy is radiant light and heat from the Sun that is harnessed using a range of ever-evolving technologies such as solar heating, photovoltaics, solar thermal energy, solar architecture, molten salt power plants and artificial photosynthesis.
- It is an essential source of renewable energy, and its technologies are broadly characterized as either passive solar or active solar depending on how they capture and distribute solar energy or convert it into solar power.
- The large magnitude of solar energy available makes it a highly appealing source of electricity.
- The development of affordable, inexhaustible and clean solar energy technologies will have huge longer-term benefits. It will increase institute's energy security through reliance on an indigenous, inexhaustible, and mostly import-independent resource, enhance sustainability, reduce pollution and lower the costs.

The Practice:

- The College is situated in southern part of the Gujarat state. The region experiences about eight clear and sunny months in a year.
- Therefore, college has installed a Roof Top Solar Panel system of 37 KV on terrace area of the college building.
- The installed Roof Top Solar Panel system generates more energy to the college than required.
- The electricity bill goes in minus as the produced energy is provided to the DGVCL (Daxin Gujarat Vij Company Limited).
- This Roof Top Solar Panel system are quite easy to install requires very low maintenance and also it doesn't create any noise or release any toxic substances.
- Apart from this, it is very easy to add more panels to the system in case of change in energy needs of the institute.
- By using this practice, college can save its expenses towards electricity bills and this practice is found to be very tranquil, too.

Evidence of Success:

- Installed Roof Top Solar Panel System is found to fulfil ample energy needs of the institute.
- It has enhanced students' awareness towards renewable energy sources and established consciousness towards a safer environment through a green initiative.