

## **Best Practice I**

### **Title: Students' friendly Campus through e-facilities**

1. **Introduction:** In spite of the campus being situated at a rural and backward area, initiatives have been taken for a smart campus where each of the stakeholders including students, faculty and researchers may largely be benefitted.
2. **Objective:** As part of the making the university as a smart campus, in the first step whole campus has been made Wi-Fi enabled with highest level security in place. Students, faculty and researchers can now access internet from their departments, hostels and residence with high availability.

The introduction of the smart class room is under the process for improving the teaching quality by enhanced student-teacher interaction.

**Context:** The challenges are as follows while implementing the best practice.

- i. To provide access to various categories of users as per their type and according defining access control were a challenge.
  - ii. Access policy was implemented for students, faculty and researchers accordingly.
  - iii. Internet and LAN bandwidth was a challenge which has been addressed by upgrading campus LAN infrastructure and 1 Gbps internet link.
3. **The Practice:** As a result of converting the campus to smart campus, we have adopted a no. of unique practice during its implementation.
  - a. In implementing Wi-Fi, we have adopted a unique policy for security and user category and time based access control has been deployed.
  - b. In Higher education and research facility (24 hours access) it is necessary and it has been implemented.
  - c. Campus security is an important access which has been implemented through introduction of IP-CCTV based Surveillance system in the campus since the campus is very large, all locations could not covered in Wi-Fi and surveillance system.
4. **Evidence of success:** As evidence of success, the following observations are made:—
  - a. Use of internet bandwidth has grown up from 100 MBPs to 400 MBPs as because each of the stakeholders is using Wi-Fi facility for 24 hours.
  - b. Because of CCTV-Surveillance and deployment of smart class facility, campus inclusion has been detected and minimized.
  - c. Because of VOIP and Video-conferring installation, communication and remote meeting has been enhanced.
5. **Problem encountered and resources required:**

- a. Motivating the all stakeholders for using the facility was a real problem to the authority which has been overcome.
- b. To deploy the facility the following resources were required –
  - i. Wi-Fi Controller
  - ii. Security Server
  - iii. Wi-Fi Access point
  - iv. Smart card
  - v. Various kinds of PoE & non PoE Switches.
  - vi. Smart class access devices and necessary software's.
  - vii. Security doors
  - viii. IP camera with VMS and storage.

## **Annexure ii**

### **BEST PRACTICE -I1:**

**Title: Eco friendly laboratory waste disposal system within the campus**

**Introduction:** The safe collection, storage and recycling of waste is vital for the protection of natural resources. Different kinds of laboratory waste, e.g., chemical , biological, cytotoxic , infectious wastes, laboratory glass goods, and e-waste are generated from different laboratories of the university. Laboratory chemicals are often disposed of in the sewage system or tipped on illegal rubbish dumps. Garbage disposal is taken very lightly with the poisonous and hazardous materials lying around openly without any treatment for other elements in the food and the air cycle to come in contact with it. There has to be a good amount of awareness amongst people and even with educated class of the people as they tend to get rid of the garbage easily and not care about its right method of disposal. A proper and safe disposal system is necessary for keeping the university campus clean and pollution free.

**Objective:**

- As an educational institution we produce a lot of laboratory 'waste' which can be managed better way to reduce environmental pollution.
- A lot of e-waste like, computers and other electronic parts are disposed of every year.
- In the present practice a modular waste disposal system has been initiated to prevent pollution in the university campus

**Context** ;- Although the University had a system for different laboratory waste disposal but no structured and centralized laboratory waste disposal system was present. It created some problems of disposing different laboratory wastes like chemical, biological

and e-waste. There are seven biological Science departments in the University. A lot of biological waste materials are evolved from these departments. Chemical wastes were generated from the chemistry as well as from different Biological Science departments. Beside this each of the Science departments and some of the Social Science departments possess computer laboratory. A large no of computers are also used in Computer Science department, computer centre and all administrative offices. A huge amount of e-waste is produced from above said sources and also from Physics and Electronics departments. Thus e-waste is also a problem for the environment of the University.

**The practice:** - To keep the University environment pollution free some steps have been undertaken for laboratory waste management. A centralized waste disposal system has been constructed, which were located in a lonely place in the campus, which is away from the University departments and offices. Three separate disposal pits have been created for three kinds of waste – chemical, biological, and glass goods. E-wastes are placed in a separate room marked for this purpose. The e-wastes are disposed for recycling through an external agency.

**Evidence of success:** - As a result of present practice the following improvements were noted:

1. There were no dumping of remnant chemicals and used or broken glass goods within the department or adjacent to the departments.
2. No e-waste was found within the dept./office or here and there in the campus.
3. There was no complaint of students and employees regarding the bad smell in the adjacent areas of biological science departments, which would come from rotten animal samples.

### **The problem encountered and resources required**

The problems of disposal of chemical and biological waste were encountered by encouraging the students, research scholars and laboratory staffs to use the centralized disposal system. The matter was monitored from time to time by Head of the dept. All HOD's were requested to discuss the matter with research scholars and laboratory staffs as a part of their awareness regarding this.

Some trolleys were provided for facilitating the disposal process. Separate PVC containers were provided in disposal areas for different categories of waste. The help of external agencies were taken for disposal of e-waste.