



# MCKV INSTITUTE OF ENGINEERING

NAAC Accredited Grade "A" Autonomous Institute under UGC Act, 1956  
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## Best Practices of the Institute (2023-24)

### ***Best Practice I***

#### **1. Title of the Practice**

**Starting of Value Added Courses and Add-on Courses**

#### **2. Objectives of the Practice**

The Value added courses (VAC) are introduced to improve the life skill of the students. The Add-on Courses (AOC) are introduced to increase the competency of the students in line with the current state-of-the-art technologies.

#### **3. The Context**

Now-a-days, in general, it is observed that the students are getting fickle minded having very less patience in maintaining the focus in their academic as well as their personal life. They are also getting frustrated in many occasions without any major issues. This has a very detrimental effect in their personality resulting in failure in maintaining a healthy life.

Moreover, in the current era of technical revolutions, the students should always be aware of the new skills and technologies. They should have at least the basic understanding of the technological developments that is happening around them.

So, initiatives are taken to introduce some VAC and AOC for the students to enhance their technical skill and life skill.

#### **4. The Practice**

The curriculum has been designed to incorporate some VAC like Environmental Science, Constitution of India, Aptitude Skill Development-I, Aptitude Skill Development-II and Soft Skill Development Lab. All the students go through these non-credit courses. Apart from these, one VAC viz., Integrated Personality Development has been introduced for the first year students to improve the life skill of them. Swami Vivekananda Centre for Positive Thinking of the institute conducts this course throughout the year. On and above, Basic Science department of the institute conducts four AOC viz., Fundamentals and applications of Fuzzy Mathematics, Algebra for Engineers, Mathematical tools for predictive modelling and feature engineering and Advanced differential equation for the first year students to keep them acquainted with the current state-of-the-art technologies. For all these courses, an examination is conducted at the end of the course delivery and the students who pass the examination get certificates.

#### **5. Evidence of Success**

The students who take up the courses seriously and get certified do have an edge compared to others in terms of their skill, knowledge and attitude.

#### **6. Problems Encountered and Resources Required**

As the courses are of non-credit type, maintaining the enthusiasm and interest of the students is very difficult. There is also constraint in getting time in regular time table for course delivery through the year. As these are additional courses to be delivered by the faculty members of the institute, maintaining the pace is also very challenging keeping in mind their other regular activities.

## ***Best Practice II***

### **1. Title of the Practice**

**Implementation of E-waste management system.**

### **2. Objectives of the Practice**

- To reduce the use of electronic components/ equipments.
- To reuse the electronic equipments wherever applicable.
- To recycle the electronic components which are disposed off.
- To create awareness about e-waste management amongst all the stake holders.

### **3. The Context**

In today's digital era, electronic devices have become a basic necessity of everyone's daily life. From smart phones and laptops to televisions and refrigerators, everyone depends on these gadgets for communication, entertainment, and convenience. However, with the fast advancement of technology, the lifespan of electronic devices has significantly decreased, leading to a huge electronic waste problem. E-waste, or electronic waste, refers to discarded electronic devices such as computers, mobile phones, printers, and other electronic appliances. These devices contain hazardous materials like lead, mercury, cadmium, and brominated flame retardants that can have severe environmental and health impacts if not handled properly. So, e-waste management has become an essential and integral part of every organization generating such waste materials. Such management may result in sustainable development with (a) Environmental Protection, (b) Resource Conservation and (c) Health and Safety.

### **4. The Practice**

To implement e-waste management system, the institute has adopted the 3 pillars of it:

- (a) Reduce: The institute has reduced buying unnecessary/ extra equipments/ gadgets. It is also become a process of buying low power devices having lower carbon footprint.
- (b) Reuse: It is observed that many of the computers are unsuitable for specific laboratory job requiring high computational power. Those computers are shifted to other laboratories that require some basic computer configuration. Also, when some of the computers become unsuitable for any of the laboratories, they are being donated to nearby schools or needy people so that they can serve their purpose for simple applications.
- (c) Recycle: Recycling is a vital component of sustainable e-waste management system. Establishing efficient recycling system helps recovering valuable materials from discarded devices while minimizing the environmental impact of raw material extraction. Partnering with certified e-waste recyclers ensures the safe and responsible processing of electronics, adhering to strict environmental and data security standards. In this regard, the institute has signed an agreement with Hulladek for recycling different electronic devices that are being disposed off. The electronic disposals are recycled on regular basis and certificates are being issued by the authorized agency.

### **5. Evidence of Success**

The total power consumed has been reduced in spite of installation of many electronic equipments/ gadgets. A certain part of the additionally required computers are being served by the shifting of computers from high computing laboratory to others where that much computation power is not required. The recycling process is also helping minimizing the ill environmental effects of toxicity. All these have also created awareness amongst all the stake holders leading their mindset towards sustainable development.

## **6. Problems Encountered and Resources Required**

In many cases, the low power devices with long life are very costly and may not be always affordable. The recycling process also requires some financial overhead to be borne by the institute. More awareness campaigns are required regarding e-waste management for all the stake holders.

# Institutional Distinctiveness

**Emerging Tech Laboratory:** Institute setup various emerging tech laboratory as describe below.

1. *Centre of Excellence in 3d Printing:* The goal of the Centre of Excellence is to bring together industries, R&D institutions, and academics to hold manufacturing problems using 3D printing technologies. Through access to 3D printing technology, the Centre of Excellence aims to bridge the gap between basic research, product design, and development, and provide cutting-edge solutions.
2. *Electric Vehicle Laboratory:* Electric vehicles are being considered a medium of future mobility. MCKV Institute of Engineering has set up a State-of-the-art Electric Vehicle Laboratory in collaboration with Logiczap NextGen Technologies (one of the fastest-growing companies in the field of EV training & skill development), to provide complete training, internship & skill development solution in EV two-wheeler Technology for students and professionals.

**Green-Campus-Clean-Campus:** The institute has an intention to adopt the “Green Campus” system for environmental conservation and sustainability. The goal is to reduce CO<sub>2</sub> emission, energy and water usage, while creating an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The “Green Campus” has been a very new concept adopted by this institute. The college administration is working on the several facets of “Green Campus” including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Carbon Footprints and Alternative Energy.

As a result of continuous effort to provide a global-and-holistic education in a healthier environment, the management and editorial team of R. World Institutional Ranking congratulates MCKVIE on being Ranked No. 67 across India, in The Green Rankings 2022.

**Institution’s Innovation Council (IIC):** Institution’s Innovation Council (IIC) is an initiative of the Ministry of Education’s Innovation Cell (MIC) for fostering the culture of innovation amongst higher education Institutes. The Innovation Council was established to promote innovation in the Institution among the young students to work on new ideas and to familiarize them with concepts of improving products and services to the market, increasing efficiency and product profitability.

The main aim of IIC is to conduct various activities related to innovation, entrepreneurship, IPR, and startups in collaboration with academicians, entrepreneurs, investors, and professionals for creating a mentor pool for student innovators.

Institute received 3/5 star rating during the AY: 2021-2022 as announced by IIC-MIC.

**PRAYAS:** PRAYAS is an initiative taken by the institute to make a platform for the engineering students to express their innovative ideas by contributing to the solutions of different real life technical problems. By participating in this competition, the students will be able to showcase their knowledge level by proposing innovative solutions to technical problem. They will also be able to acquire the skill of writing a research article following a particular template. And they will also be able to develop their attitude through the process of presenting their proposal to the audience. So, in a nutshell, PRAYAS helps the students to develop their Knowledge, Skill and Attitude (KSA) which are the basic building blocks of successfulness in professional world. The proceedings of the program are being published in the form of a book with an ISBN.