7.2 - Best Practices

7.2.1: Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.

Best Practice 1

1. Title of the Practice: - Utilization of Open Source Software in Campus.

2. Objectives of the Practice:

- To create the awareness among the learners and faculty members for the professional growth.
- To provide the license free resources.
- To equip the Labs with cost-effective resources for the research and development.
- To provide the data security and transparency.
- To used open-source software for community collaboration for the Purpose of Academic excellence.

3. The Context:

The present study was conducted with the aim of studying the awareness and adoption of free and open source software at the higher education level and the factors influencing that. The purpose of this activity is to motivate engineering graduates and faculty to utilize open-source software and other resources and tools available in their careers in education, research, and development.

4. The Practice:

Theem College of Engineering (Theem COE) has initiated a step ahead to conduct an awareness campaign among the learners for the utilization of open source resources at the institute level. And to make available various open-source software lab setups used in higher-level education, research, and development. Faculty and students can utilize their time to learn open-source software available in the Campus. The institute has set up an open-source lab for the purposes of developing algorithms, doing linear algebra, producing graphs for larger data sets, data visualisation and analysis, and numerical matrix computation, open source software such as Scilab is used instead of Matlab. We chose Latex over Microsoft Word because of a typesetting system. LaTeX is used to produce documents that have a polished appearance. Writing documents in the domains of science, mathematics, engineering, and economics are typical examples. LaTeX is a typesetting system that builds upon LaTeX, but with more capabilities and a more approachable syntax. There are two versions of PyCharm available: professional and community. With fewer functions, the Community Edition is a free, open-source project. Although the Professional edition is for sale and offers an exceptional collection of tools and features, to get over this, we're free to use the newest web-based interactive development environment for code, data, and notebooks is called Jupyter Notebook. Users can set up and organise workflows in data science, scientific computing, computational journalism, and machine learning thanks to its adaptable interface. Extensions are encouraged to increase and improve functionality in a modular architecture. Nearly all of the popular programming languages, including Python, C/C++, Java, Perl, Ruby, etc., are supported by Linux. It also provides a wide selection of applications that are helpful for programming. For developers, the Linux terminal is more user-friendly than the Windows command line. Many libraries are available that are designed specifically for Linux. Many programmers also mention

how easy it is to get things done on Linux. One of the main arguments in favour of Linux OS among programmers is the capability of bash scripting. Create and edit texts (Writer), presentations (Impress), spreadsheets (Calc), graphics (Draw), mathematical formulas (Math), and databases (Base) with Apache Open Office, an open- source office productivity suite.

5. Evidence of Success:

Theem College of Engineering (Theem COE) have set up multiple open-source lab for faculty and students. The Faculty utilizes its resources and efforts to set up the lab. on the requirement of the user the institute put utmost efforts to provide the facilities it includes the software like Scilab, Latex, and Jupyter for Python programming, Linux operating system, and Apache Open Office. The faculty and students utilize the lab for various purposes, like academic experiments, learning, research, and the development, Paper writing, Modelling, Data analysis, Indexing, Google Citation and project reports using Latex. Two Days workshop on "Quality Assurance in higher Educational Institutes (HEI's) by using Open Educational Resources (OER)" organized by IQAC, Theem College of Engineering Sponsored by NAAC for Students and Faculty from campus as well as other institutes faculty for the awareness of open-source software and advantages of open source. The record of lab utilization is maintained in the lab accession log book.

6. Problems Encountered and Resources required:

While researching open source software to be installed, it was difficult to decide which software to select for installation. The research team took some brainstorming sessions with senior faculties, and experts decided the list of software to be installed with the due permission of higher authorities. Network connectivity problems are a regular issue with Linux servers, and they can be annoying for both system administrators and end users

THEEM COLLEGE OF ENGINEERING BOISAR

Best Practice 2

1. Title of the Practice: - Transform students' project into paper publication.

2. Objectives of the Practice:-

Objectives/Outcomes:-

- To empower understudies to pick Inquire about and Advancement as a career.
- To take part different occasions like extend competition, paper introductions
- To create mindfulness around cooperation on totally different occasions held at state, national and universal level.
- To empower understudies to the range of Mental Property Rights.
- To conduct valuable courses and specialized workshops & conferences as per the current industry requirement.

3. The Context: -

The purpose of this activity is to motivate Engineering Graduates to opt their career in Research and Development to accelerate the economic development of the country.

4. The Practice:-

Theem College of Engineering (Theem COE) has initiated a step ahead to conduct International Conferences in the campus under the name of THEEM-2023. (Trends and Herald in Engineering Excellence and Metamorphosis). Theem COE conducted the first National Conference THEEM-HWWE-2020 in the year 2020 which had boosted us towards the present two days International conference THEEM - 2023. The conference received various research papers of various areas of specialization from UG and PG students and from industries. Few papers were selected by the publication committee and are accepted to present their papers in the International conference THEEM - 2023. It is an opportunity for showcasing the efforts and expertise in creating innovative solutions to real-world problems by engineering students. There was a selection of the best paper presentation of each track. And selected papers were forwarded for publication in the ICTACT Journals.

5. Evidence of Success:-

The conference received more than 200 research papers of various areas of specialization from UG and PG students out of which 101 papers were selected by the publication committee and are accepted to present their papers in International conference THEEM - 2023. The event was inaugurated by Dr. Mohammad Israr, President Maryam Abacha American University, Nigeria. The keynote of the conference was delivered by Dr. K. P. Karunakaran , Professor IIT Bombay and Dr. Pirsab Attar, Asst. Professor, Dept of Production Engineering, VJTI, Matunga Mumbai. .After that all session chairs are welcomed and felicitated by college higher authorities and senior staff. Hereafter the beginning of the sessions are announced. Different sessions are simultaneously conducted for each track. And session chairs for respective tracks judged each presentation. Track coordinator monitored and guided the entire session. And ensured their support to conduct each session successfully.

THEEM COLLEGE OF ENGINEERING
BOISAR

- Various tracks details is given as :

Sr. No.	Track	Streams
01	COIT	Computer Science, Information Technology
02	ELEC	Electrical, Electronics & Telecommunication Engineering
03	MEA	Mechanical, Production, Automobile Engineering
04	CVE	Civil Engineering
05	APSC	Applied Science & Humanities

A Special Session is also organized for industry's participants. Total 04 papers were presented by industry's participants. It was tough to finalize the best paper for each track. The session chair and track coordinator made a hard decision and finalized the best papers for each track. There was a selection of the best paper presentation of each track. And best teams were awarded by certificates and are appreciated.

Selected papers proceed for ICTACT Journal Publication. Total 10 papers are proceeding for Journal publication. Journal publications which were decided for publication are ICTACT Journal on Soft Computing, ICTACT Journal on Image and Video Processing and Indian Journal of Chemical Technology.

6. Problems Encountered and Resources required:-

Research confirms that under the right conditions project-based learning, although sometimes difficult to implement, can improve student learning. Students were hesitating to take part in the paper presentation because of lack of confidence and daring. Students were Feeling burden of academics to participate in activities and to motivate students to participate is a challenge.