

## ISTE approved One Week Short Term Training Program (Multidisciplinary) On “Machine Learning and Data Science”



**STTP was held from date 20th Jan to 25th Jan 2023**

The Department of Information Technology, Prof. Ram Meghe Institute of Technology and Research Badnera has organized One-week Short Term Training Program approved by Indian Society for Technical Education (ISTE) New Delhi and in association.

The goal of this STTP is disseminate knowledge to the faculty in the advanced domain areas of Machine Learning and Data Science, to improve their technical knowledge, concepts and expertise in the specific fields which have been revamped, restructured and reorganized.

Moreover, the objectives of STTP are as follows:

- To make participants well acquainted with foundational, preliminary concepts of Python along with hands on sessions.
- To develop an understanding and applications of Machine Learning algorithms.
- To develop an understanding and applications of Data Science.

The Short Term Training program was inaugurated on 20th Jan 2023 by the hands of Dr. A. I. Dhattrak, ISTE National executive council member, New Delhi, as a Chief Guest & and Prof. Dr. Hemant Deshmukh, Treasurer, VYWS, Amravati chaired the inaugural function. The function was inaugurated in presence of the Shri. Shankarrao Kale, Executive member, VYWS, Amravati, Dr. G. R. Bamnote, Principal, PRMIT&R, Dr. P. V. Ingole, Head, Department of Information Technology & Convener of program, Program Coordinators Prof. Prof. Maithili Deshmukh and Head of all the departments, Deans and staff of PRMIT&R, Badnera.

Inauguration program started with lamp lighting ceremony and welcoming of guests with mementoes and bouquet.

The Convener of the STTP Dr. P. V. Ingole explained objectives and details of the program. The Chief guest Dr. A. I. Dhattrak appreciated for selecting such topic for STTP. He motivated all participants to take advantage of such program and congratulated to department for arranging this program.



**Welcome to the Guests Prof. Dr. Hemant Deshmukh, Treasurer, VYWS, Amravati chaired the inaugural function**

Dr. G. R. Bamnote, Principal, PRMIT&R, Badnera deliberated the need of such training program for the faculty members.

The President of the inauguration function Prof. Dr. H. M. Deshmukh explained need of such orientation program for faculty members and gave best wishes to coordinators and participants.

At the end Prof. Maithili Deshmukh, Coordinator gave vote of thanks to ISTE, New Delhi, Management, Heads, Deans, Participants, and all teaching and nonteaching members. The Inauguration program was hosted by Prof. Niketa Kadam.

The machine learning field is continuously evolving. And along with evolution comes a rise in demand and importance. There is one crucial reason why data scientists need machine learning, and that is: 'High-value predictions that can guide better decisions and smart actions in real-time without human intervention.

Machine learning as technology helps analyze large chunks of data, easing the tasks of data scientists in an automated process and is gaining a lot of prominence and recognition. Machine learning has changed the way data extraction and interpretation works by involving automatic sets of generic methods that have replaced traditional statistical techniques.

The Experts deliberated right from introduction to Python, Python Data Structures, Python For Data Science, Python For Data Visualization, Exploratory Data Analysis-Fundamentals, Dimension Reduction and Visualization, Principal Component Analysis, Introduction to Regression, Introduction of Classification Models – KNN Model, Introduction To Clustering – K Means, clustering. The focus was to make the faculty member aware about the process creating separate sets for training and testing. The Experts focused to make participants well acquainted with foundational, preliminary concepts of Python along with hands on sessions.

Also participants got an understanding of Machine Learning algorithms and Data Science.

The Participants enrolled for the course from distinct places from Maharashtra. Total 43 participants participated for this one week STTP program. Expert from outside were invited to deliver expert talks and their experiences in research. Expert details and their respective topics are as follows

Sr. No	Name of the Expert & Designation & Institute	Name of Topic	Date of Session
1	Prof. P. R. Nerkar, Dept of IT, PRMIT&R, Badnera	Introduction to Python, Python Data Structure	20 <sup>th</sup> Jan 2023
2	Prof. U. V. Nikam, Dept of IT, PRMIT&R, Badnera	Python for Data Science, Python for Data Visualization	20 <sup>th</sup> Jan 2023
3	Dr. A. S. Tiwari Dept of Computer Science & Engineering, VNIT, Nagpur	Exploratory Data Analysis	21 <sup>st</sup> Jan 2023
4	Dr. P. S. Deshpande Head, Dept of Computer Science & Engineering, VNIT, Nagpur	Dimension Reduction and Visualisation	21 <sup>st</sup> Jan 2023
5	Mr. Suyash Zanwar, Sr. Google Apigee API gateway, Consultant, Velociter Solutions Pvt. Ltd., Pune	Representation of Data Set, Feature Normalisation, Principal Component Analysis (T-SNE) T-Distributed Stochastic Neighbourhood Embedding, Introduction to Regression	22 <sup>nd</sup> Jan and 23 <sup>rd</sup> Jan 2023
6	Mr. Nakul Deshmukh, Director, Ibase Electrosoft LLP, Amravati.	Introduction to Classification Models: KNN Algorithm, Introduction to Clustering: K-means Algorithm	24 <sup>th</sup> Jan 2023
7	Dr. Aniruddha Shelotkar Senior Data Engineer, Cybage Software, Pune	Data Science applications, Data Visualization	25 <sup>th</sup> Jan 2023

This one weeks STTP on “Machine Learning and Data Science” programme was concluded with valedictory function on 25th January 2023 in the presence of Dr. G. R. Bamnote STTP on “Machine Learning and Data Science (20th Jan to 25th Jan 2023) Organized by Information Technology Department, PRMIT & R, Badnera-Amravati (M.S.) Dr. P. V. Ingole, HOD & Convener of the Short Term Training Program, Dr. D. S. Ingole, Dean, Autonomy, Dr. H. M. Deshmukh, Dean, Academics, Dr. A. S. Alvi Advisors of Program, coordinator of STTP Prof. Maithili Deshmukh and all faculty members and participants. Some participants expressed their views about the topic and have given their excellent feedback about the STTP.



**Participants during Valedictory of STTP on “Machine Learning and Data Science” 25th January 2023**

Dr. P. V. Ingole, Convener of the Short Term Training Program summarized the one week program briefly and gave vote of thanks to all guests, participants, and all committee members. Prof. Niketa Kadam hosted the program..

**“Wall Magazine 2022”**

On the occasion of Engineers day, Wall Magazine Event was organized by the Department of Information Technology. The participation of students was wholehearted, they submitted posters, articles, drawings, paintings etc on theme Role of Technology in Digital India. The students were guided to prepare by the committee mentioned Prof. H. D. Misalkar, Prof. U. V. Nikam and Prof. A. W. Burange and the Student co-



**The Hon'ble Principal, Prof. Dr. G. R. Bamnote, inaugurated the event Wall Magazine Event 2022**

ordinators of the event were: Shreya Kadam, Shrushti Dandale, Tejas Parate, Prachi Ambadkar, Hemant Malpani, Suraj Kiswe, Ayush Gayakwad, Om Jagtap, Anshu Raj and many of the students actively contributed their articles in wall magazine.

The Hon'ble Principal, Prof. Dr. G. R. Bamnote was invited as a guest and judge of Wall Magazine Event. He has inaugurated the event at 12pm in the presence of Prof. Dr. P. V. Ingole, Head of Information Technology as well as all Faculty members, students along with non-teaching staff.



**Students presented posters, articles, drawings, paintings etc on theme Role of Technology in Digital India**

## **Expert Lecture Ethical Week**

Department of Information Technology, Prof. Ram Meghe Institute of Technology and Research Badnera conducted expert lecture on Ethics and Moral values by Dr. P. V. Ingole HOD, Department of Information Technology on 13<sup>th</sup> & 14<sup>th</sup> September 2022 for B. E. Third Year & Final Year students respectively. This activity is conducted under the ethical week celebration program. Other activities like wall magazine competition, movie making competition are also conducted on 16<sup>th</sup> & 17<sup>th</sup> September 2022. Dr. P. V. Ingole explained in detailed about the Ethics and Morality. He told students that along with the good technocrat one should possess ethical and moral values to become good human being and good citizen of India. He elaborated that Ethics is an attempt to guide human conduct and it is also **an attempt to help man in leading good life** by applying moral principles. Ethics refers to well based standards of right and wrong that **prescribe what humans ought to do**, usually in terms of rights, obligations, benefits to society, fairness, or specific virtues.



**Presentation by Head of Department IT Dr. Prashant V. Ingole**

The objective of taking lectures on ethics and moral values is to imbibe the students that an engineer whether he works individually or works for a company, has to go through some ethical issues, mostly under the conditions such as, conceptualization of a product, issues arising in design and testing departments, or may be on the issues involving the manufacturing, sales and services.

Questions related to morality also arise during supervision and team works. The ethical decisions and moral values of an engineer need to be considered because the decisions of an engineer have an impact the products and services how safe they are to use, the company and its shareholders who believe in the goodwill of the company, the public and the society who trusts the company regarding the benefits of the people. **Ethics does provide good tools for thinking about moral issues.** Ethics can provide a moral map. Most moral issues get us pretty worked up - think of illegal human relationships, abortion of girl child, religion conversion. Because these are such emotional issues we often let our hearts do the arguing while our brains just go with the flow. **Ethics provides us with a moral map, a frame work that we can use to find our way through difficult issues.**



**Third year and Final year Students attending expert lecture on Ethical Week**

Ethics can pinpoint a disagreement. Using the framework of ethics, two people who are arguing a moral issue can often find amicable solution.

Total 125 students from B. E Third year & 81 students from B. E. Final year were attended the session. Lecture on Ethics and Moral values is highly appreciated by all the students of third and final years. It was good interactive session between students and HOD. Class teachers of third and final years have taken efforts to arrange and motivate students.

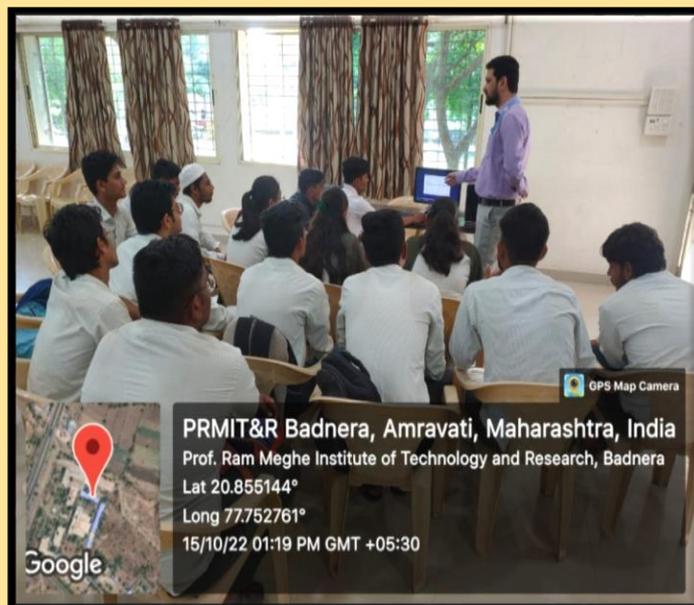
## Hardware and Networking Workshop

Information Technology department of PRMIT&R, Badnera had organized **Two days hardware & networking workshop for third year student** as content beyond syllabi. Head of the department IT Dr. P. V. Ingole sir inaugurated workshop. In his speech he advised participant to take maximum advantage from this workshop and enhance hardware and networking knowledge.



**Head of the Department IT Dr. P. V. Ingole inaugurated workshop and guiding Third year students gathering**

This was an in-house activity meticulously planned and effectively executed by the departmental faculties. The class was divided into five groups and individual faculty members trained them on the hardware and networking practical knowledge group by group. There were Sixty-one participants enrolled for the workshop from the third year. The main aim of this workshop was to provide Computer Hardware & Networking technical skills and expertise in the fast growing field of computer hardware and network engineering and to acquaint the participant with issues of "Computer Hardware". The Trainers for the course were Prof. A. A. Gulhane, Prof. P. R. Nerkar, Prof. H. D. Kale, Prof. S. D. Thakur, Prof. A. G. Mahalle & Prof. S. N. Sarda. The workshop gave the detailed description about computer hardware. The trainers had given the details information about computer hardware such as monitor, keyboard, Computer Data storage, Hard disk Drive, Graphics cards, Sound Cards, Memory, Motherboard, etc. The workshop covered detail information and insight of computer hardware.



**Faculty delivering lecture on basic computer hardware and networking to students group**

## "Movie Making & Presentation Competition"

Department of Information Technology, IE(I) & IETE student chapter & of Prof. Ram Meghe Institute of Technology & Research Badnera had organized a **Movie Making & Presentation Competition** on the occasion of engineers day. The participation of students was wholehearted. This activity is conducted under the Ethical week celebration in the IT department. Students made a movie clip related to the theme Role of Technology in Digital India and presented it in front of the judges and audience. Total 40 student of 2<sup>nd</sup>, 3<sup>rd</sup> and final year participated in the event. Winners were selected on the parameters like, Confidence in presentation, creativity in the movie clip, clarity in conveying message to the audience. Theme of the event was **"Role of Technology In Digital India"**.

Each movie clip presented was delivering one meaningful message in accordance to the theme given. The program was inaugurated at the hands of Dr. P. V. Ingole, Head of Information Technology Department and senior professors Prof. S.V. Dhopte, Prof. S. S. Kulkarni, Dr. A. S. Alvi, Dr. P. P. Deshmukh, Prof. Ms. M. S. Deshmukh and all other faculty members were present for the event. Prof Ms. Sonika Chorey, Prof. Mr. A. W. Burange, Dr. P. P. Deshmukh were invited as a judge of event. All staff members along with students of 2<sup>nd</sup>, 3<sup>rd</sup> and final year IT students attended the event.

## Workshop on Scratch 2.0

Department of Information Technology organized workshop on “Scratch Tool Workshop” on 16<sup>th</sup> & 17<sup>th</sup> December 2022. Workshop was inaugurated at the hands of Dr. P. V. Ingole, HOD Information Technology in presence of Workshop Coordinators Prof.U.V.Nikam, Prof.A.W.Burange. In which he addressed the students about the importance of this tool in today’s competitive coding environment. Students from Second year Section A & Section B actively participated in the workshop. The contents for the workshop were as follows:

### Session 1

1. Introduction to Scratch
2. Importance of coding in today’s technical environment.
3. Installation of Scratch
4. Introduction to Scratch GUI.
5. Working of Scratch GUI

### Session 2

1. Practical implementation of projects (Hands-on)
2. Happy Birthday animation
3. Music animation
4. Introduction of different objects & their tasks
5. Helicopter theme coding



**Dr. P.V. Ingole , HOD Dept. of IT at his inaugural speech**

Total 125 students attended this workshop, students were overwhelmed by seeing coding in very interesting way, they were satisfied as they understood the logic of programming and enjoyed this interesting workshop, also they developed some very good animations by applying their logic of programming, using this tool. At the end of second day team of students developed application on scratch tool by applying their own innovative ideas. Queries of students very well solved by coordinators.



**Large number of students presented movie at the competition**

As per the evaluation of judges following students were declared as winner.

1. Aditya Gite & Team- 1<sup>st</sup> Winner.
2. Tanvi Wakode & Team – 2<sup>nd</sup> Winner



**Prize distribution to winner team by the hands of Dr. P. V. Ingole, Head of Information Technology Department and senior Professors**

The students were guided to prepare a movie on given theme using e resources and their own ideas by the event organizers Prof. U. V. Nikam. Student coordinators of the event were Om Jagtap (3<sup>rd</sup> Yr. IT), Sanket Bansod (3<sup>rd</sup> Yr. IT), Hemant Malpani(3<sup>rd</sup> Yr. IT), Esha Rathi(3<sup>rd</sup> Yr. IT), Shreya Kadam(3<sup>rd</sup> Yr. IT) and many other students actively contributed for the event.

Workshop ended with appreciating efforts taken by coordinators Prof.U.V.Nikam, Prof.A.W.Burange. Class teacher Prof. Radhika Fuke and Prof. Himanshu Kale have taken efforts to motivate students for active participation.



**Coordinators conducting hands on session for students**



**Screenshots of program on Tool Scratch 2.0 done by students**

### **Guest Lecture on “Aptitude Tips & Tricks”**

Department of Information Technology, Prof. Ram Meghe Institute of Technology and Research Badnera conducted guest lecture on Aptitude tips & tricks by Mr. D. M. Chavhan , Director, AVR Human Development Institute, Amravati on 12<sup>th</sup> October 2022 in Class room for B. E. Third Year section A Students. Prof. Harshal Misalkar introduced the expert of guest lecture.

Dr. Pranjali P. Deshmukh welcomed the guest speaker. The main objective of this Guest Lecture on “Aptitude Tips & Tricks” is to impart aptitude knowledge amongst students. They should be aware of shorter tips and tricks to solve aptitude problems smartly in minimum time. Aptitude tests are one of the most important sections in several competitive exams, entrance exams, and campus placements for engineering students. Many recruiters include aptitude tests as an important stage of the selection process apart from a personal interview. When it comes to hiring fresh engineering graduates, an aptitude test helps a hiring manager gauge candidates on their reasoning ability skills. Guest speaker taught various tips and tricks to solve aptitude problems. Students found those tips and tricks very easy and they can solve problems in less time as compare to traditional methods.



**Trainer was delivering the session**

Total 46 students from B. E third year section A were attended the 2 hours session. Guest lecture is highly appreciated by all the students and the faculty members. It was good interactive session between students and expert. Students also raised some queries related to the aptitude problems and speaker resolved their queries to their satisfaction. Program ended with the vote of thanks by Dr. Pranjali Deshmukh

### **Guest Lecture on Aspects of Environment and Sustainability**

Department of Information Technology, Prof. Ram Meghe Institute of Technology and Research Badnera conducted guest lecture on **Aspects of Environment and Sustainability** by Er. Narendra Bais, Electrical Engineer and Environmentalist , MSEB Amravati on 3<sup>rd</sup> October 2022 in Class room for B. E. Second Year. Prof. Himanshu Kale introduced the expert of guest lecture. Dr. P. V. Ingole, HOD IT department welcomed the guest speaker. Speaker emphasises on that engineers are increasingly required to play a leadership role in sustainable development, overcoming global challenges,

such as depletion of resources, environmental pollution, rapid population growth and damage to ecosystems. Delivery of most of the services essential to modern life such as electricity, flight, television, medical imaging, sewage networks, the telephone, water networks and railway lines are the result of engineering. Engineers plan, design and create the physical structure through which society lives, works and plays. Therefore in order to appreciate and understand the role of the engineer, we must examine the relationship between the engineer and society.



**Speaker delivering his session to Second year students**

In the 20th century, engineering achievements were developed without considering their impact on social, economic, and environmental natural systems. Considering the problems facing our planet today and the problems expected to arise in the first half of the twenty-first century, engineers must revisit their mindset and adopt a new mission statement to contribute to the building of a more sustainable, stable, and equitable world. Objective of the guest lecture is aware the engineering students adopt a completely different attitude towards natural and cultural systems and reconsider interactions between engineering disciplines, non-technical fields and the society.

Total 61 students from B. E Second year section A & B were attended the session. Guest lecture is highly appreciated by all the students and the faculty members. It was good interactive session between students and expert. Program ended with the vote of thanks by Prof. Himanshu Kale.

### **Guest Lecture on Python with Machine Learning**

Department of Information Technology, Prof. Ram Meghe Institute of Technology and Research Badnera conducted guest lecture on Python with Machine Learning by Mr. Nakul Deshmukh, Director, IBase Electrosoft LLP, Amravati on 24<sup>th</sup> August 2022 in EXTC seminar hall for B. E.

Third Year Students. Prof. Harshal Misalkar introduced the expert of guest lecture. Dr. Pranjali P. Deshmukh welcomed the guest speaker. The main objective of this Guest Lecture on “Python with Machine Learning” is to make the students familiarize how Machine Learning applications are ruling the world. Guest Lecture suggests ways to enhance the value of Python with Machine Learning, and working Knowledge of Programming skills and python. With an intent to tell the students about the scope of python with ML in the current day Technological Advancements. Students should know the importance of the field which is booming in recent years as well as application areas in Machine learning in used. The speaker explained types of machine learning and wide variety of learning algorithms.



**Expert delivering lecture on Python with Machine Learning**

The speaker also suggested some areas in which students can find problems for their final year projects. The session was very interactive where the students posted some queries and the guest speaker clarified their doubts. Total 120 students for B.E. Third year (Section A & B) participated for guest lecture.

Guest lecture is highly appreciated by all the students and the faculty members. It was good interactive session between students and expert. Program ended with the vote of thanks by Dr. Pranjali Deshmukh.