Brief Report on technical training on "PLC and SCADA automation" from 03.10.2018-06.10.2018 for 5th semester 2020 pass out Electrical Engineering students.

The most used guiding force behind an automated industrial plant is a "programmable logic controller" generally known as a PLC. PLCs along with certain other necessary ingredients like sensors, motors, actuators, valves, conveyors, boilers, SCADA systems, computers & many more, makes a real automated manufacturing plant. A programmable logic controller (PLC) or programmable controller is an industrial digital computer which has been ruggedized and adapted for the control of manufacturing processes, such as assembly lines, or robotic devices, or any activity that requires high reliability control and ease of programming and process fault diagnosis. Supervisory control and data acquisition (SCADA) is a control system architecture that uses computers, networked data communications and graphical user interfaces for high-level process supervisory management, but uses other peripheral devices such as programmable logic controller (PLC) and discrete PID controllers to interface with the process plant or machinery. The operator interfaces which enable monitoring and the issuing of process commands, such as controller set point changes, are handled through the SCADA computer system. However, the real-time control logic or controller calculations are performed by networked modules which connect to the field sensors and actuators. PLCs are used in various applications in industries such as the steel industry, automobile industry, chemical industry and the energy sector. The scope of PLCs dramatically increases based on the development of all the various technologies where it is applied. SCADA Applications in Power System. Supervisory control and data acquisition (SCADA) is an industrial control system which is used in many modern industries like energy, manufacturing, power, water transportation, etc. ... SCADA systems range from simple to large configurations.

The training on PLC & SCADA Automation is organized to make the aspiring engineers acquainted with the conceptual as well as practical knowledge of the Industrial Automation & latest technologies being used to achieve industrial automation. The idea of organizing this training is to inculcate the basic fundamentals of automation in the students and provide them with a platform to work on, in the near future.

Objective of the training: Students will be explored to the conceptual as well as practical knowledge of the Industrial Automation & latest technologies being used to achieve industrial automation. The idea of organizing this training is to inculcate give the basic fundamentals of automation .

.**Outcome of the program:**

Students will be able to:

- understand the basic concept of PLC and SCADA and their uses.
- able to realize the application of PLC and SCADA in industrial automation.
- Gain skills on making projects with the application on PLC and SCADA.

The program details are as below:

Title of training : PLC and SCADA Automation
Resource Organization : I & We
Date :03/10/2018-06/10/2018
Name of Trainer :*Mr. Abhijit Maitra*

Venue ***:*** *Smart class room,* Department of Electrical Engineering, Siliguri Institute of Technology

Summary of the program:

The following points can be noted from the program

- In the very fast 1st day Mr. Abhijit Maitra has explained the detailed through power point presentation the theoretical concept of Industrial automation, PLC , SCADA and its use in present days in industries along with the concept of Electrical power system.
- On the 2nd day Mr. Maitra gave very good introduction to PLC hardware, General PLC theory and concept, architecture of PLC, PLC components , programming language introduction, introduction of PLC software, SCADA applications. Students listened and learned in the entire session with accuracy.
- The students were instructed to bring their laptops for application or laboratory purpose and during the 3rd and 4th day the trainer taught the students about how to work with PLC and SCADA through software.
- During the interactive session some students raised their queries and they motivated to start some basic projects based on PLC programing.
- The trainer explained all the doubts of the students very clearly and the students were highly inspired throughout the training.
- The attendance record of the students throughout the session was satisfactory.
- The training program was attended by 47 students from 3rd year, Electrical Engineering Department.

…….. ……..

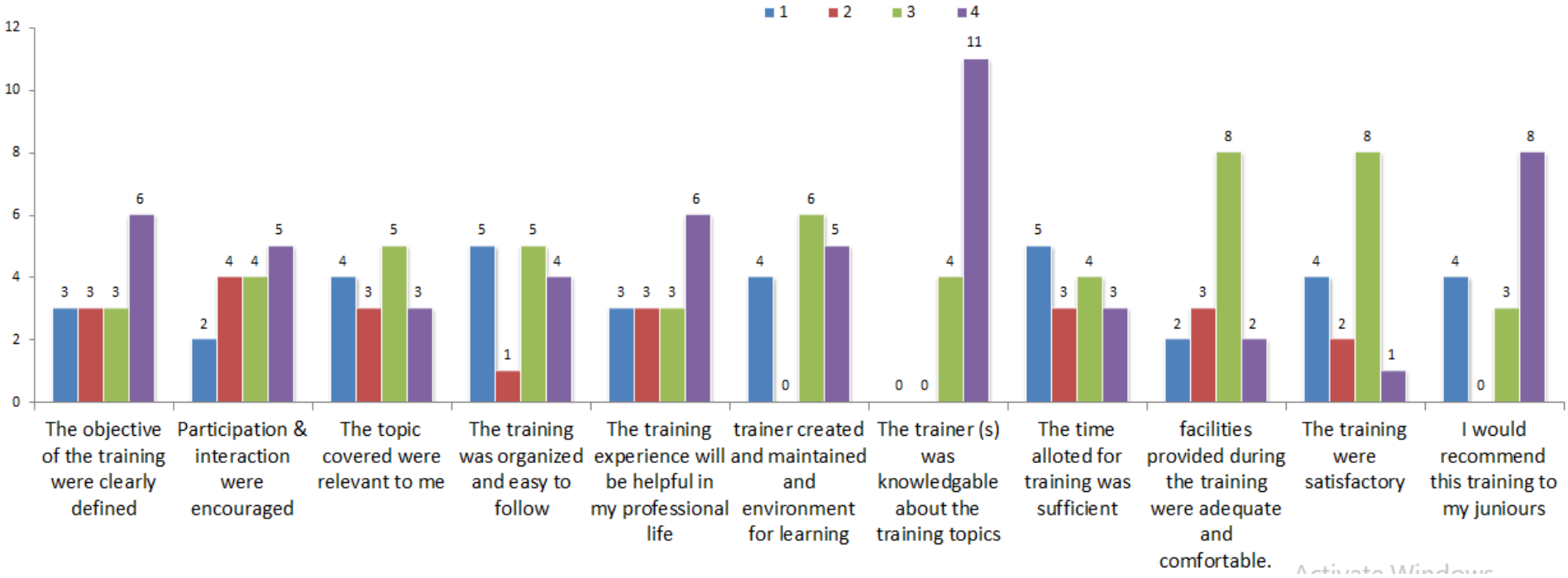
H.O.D **Jt- coordinators**

Department of Electrical Engineering **Training and Placement subcommittee, Department of Electrical Engineering**

SILIGURI INSTITUTE OF TECHNOLOGY

ELECTRICAL ENGINEERING

Feedback analysis for the training:



SILIGURI INSTITUTE OF TECHNOLOGY

ELECTRICAL ENGINEERING

Some Glimpses of the training

VISION OF THE DEPARTMENT:

To emerge as a leading Department of Electrical Engineering that caters to the latest needs of power sector, electrical & allied industry in the region.

MISSION OF THE DEPARTMENT:

To evolve as an innovative & globally competent Electrical Engineering department that contributes to the socio - economic growth of region by utilizing the advancement in Electrical Engineering by providing conducive learning and interactive environment to students and faculty.

SILIGURI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING

Brief report of 60 Hours Technical Training Program on" Energy Management Advanced (Auto-CAD Electrical Design)"

Energy Audit is the key to a systematic approach for decision-making in the area of energy management. It attempts to balance the total energy inputs with its use, and serves to identify all the energy streams in a facility. It quantifies energy usage according to its discrete functions. Industrial energy audit is an effective tool in defining and pursuing comprehensive energy management program. The Energy Audit would give a positive orientation to the energy cost reduction, preventive maintenance and quality control programs which are vital for production and utility activities. Smart energy in buildings is an important research area of Internet of Things (IoT). Buildings as important parts of the smart grids, their energy efficiency is vital for the environment and global sustainability.

Objective of the training program: Students will be explored to the concept of advanced energy management and Auto-CAD based electrical design. They are also able to design & develop IoT based energy monitoring system.

Outcome of the training program:

- Able to understand the need of energy management and audit in different areas
- Design some basic layout of electrical system using Auto-CAD
- Understand the technical aspects of plant and equipment
- Use the energy review to develop this into an Energy Management System
- Use IoT tools for some smart monitoring systems in modern appliances

The program details are as below:

Title of program: Technical Training Program on Energy Management Advanced (Auto-CAD Electrical Design)

Resource Organization: I and We, Kolkata

Date: Phase-I: 18.01.18-20.01.18, Phase-II: 16.04.18-18.04.18, Phase-III: 26.04.18-28.08.18

Time: 10.00 am-5 pm.

Venue: APJ Abdul Kalam Seminar Hall/Smart Class Room, Department of Electrical Engineering, SIT

The entire training program has been conducted in three (03) phases

The following points can be noted from the **Phase-I** program

- At the beginning of the training an introductory and welcome speech has been delivered by Prof. J. B. Basu, Head of the Department, Department of Electrical Engineering, SIT, Siliguri.
- In this phase Auto-CAD based electrical design of different electrical panels have been discussed. In this session design of relays, MCBs, switches, motors have been demonstrated.

- During this session some live industrial projects and its energy audit analysis has been discussed in a brief manner to be familiar with the different topologies of energy management system.

The following points can be noted from the **Phase-II** program

- In this session IoT (Internet of Things) based smart monitoring system for energy management analysis has been discussed. The Internet of Things (IoT) is the network of physical objects or "things" embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data.
- In their session they also discussed the typical programming concept of Arduino based microcontroller and development of flowchart while executing any typical problem analysis.
- During this session utilization of energy and its impact in house hold applications have been established and concept of smart energy meter using IoT tools has been introduced.

The following points can be noted from the **Phase-III** program

- In this session server-client interaction through online chat window has been demonstrated through different coding and analysis. Several communications during the process can be recorded and monitored for data analysis.
- A typical analysis of temperature monitoring and control system using node MCU and ubidots has been discussed.
- Students are highly motivated in this particular application; they formed several groups and started to implement the basic IoT tools in some real-time projects.

Overall Monitoring:

- All the students are entitled to prepare a brief report on the training program at the end training.
- The attendance record of the students throughout the session was satisfactory.
- As per the feedback received from the students end, the interactive session was fruitful and much attractive in modern days perspective and this kind of training program may be for longer period in future for such better output.
- In the concluding part, the trainers thanked all the students for their patience hearing and gave his contact no. and email id in case any students have any query to develop some IoT based real-time projects.

The training program continued with 63 students from 3rd year of Electrical Engineering Department.

H.O.D

Department of Electrical Engineering

Coordinator

T & P Sub-Committee

SILIGURI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING

Some Glimpses of the Training Program

SILIGURI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING

SILIGURI INSTITUTE OF TECHNOLOGY
ELECTRICAL ENGINEERING

Brief Report on technical training on "Motor winding applications (conceptual based)" from 03.10.2018-06.102018 for 3rd semester 2021 pass out Electrical Engineering students.

The operating modes and types of electrical machines are defined by the way that their windings are connected. Their fundamental principle of operation is based on the voltages and currents flowing through these windings. Independent of the type of machine, the windings can be categorized as concentrated or distributed, with further subcategories such as fractional and integral also applied. For the proper application of any motor the necessary component is the controller . With the integrated part of the training Arduinos and Raspberry Pi are introduced to the students with the coding platforms. Arduino is an open-source electronics platform based on easy-to-use hardware and software.

Objective of the training: Students will be explored to the conceptual as well as practical knowledge of the Industrial Automation & latest technologies being used to achieve industrial automation. The idea of organizing this training is to inculcate give the basic fundamentals of automation .

.Outcome of the program:

Students will be able to:

- understand the basic concept of construction, classifications and working of different motors.
- able to realize the application of different motors and control the motors with Arduino.
- Gain skills on making projects with the application on Arduino and different motors.

The program details are as below:

Title of training ***: Motor winding application (conceptual based)***

Resource Organization : I & We

Date ***:03/10/2018-06/10/2018***

Name of Trainer ***:Mr. Suruchi Gagan, Mr. Rohan Deb Roy, Mr. Subham Sinha***

Venue ***: Dr. A.P.J. Abdul Kalam Hall,*** Department of Electrical Engineering, Siliguri Institute of Technology

Summary of the program:

The following points can be noted from the program

- In the very fast 1st day the trainers explained the basic constructions and working of different electrical machines with their classifications and applications.
- On 2nd day the students are introduced with the design of motor winding and the basic concept and process of that .
- On 3rd day of the training the students were introduced with the Arduino board and the trainers explained the details regarding the Arduino with application and coding.
- Basics of Arduino programming like Arduino sketch main loop, introduction to variables, arithmetic operators, relational operators, increment operator, conditional operators etc. are also discussed.
- On 3rd and 4th day of the training the students were instructed and motivated to write code for Arduino

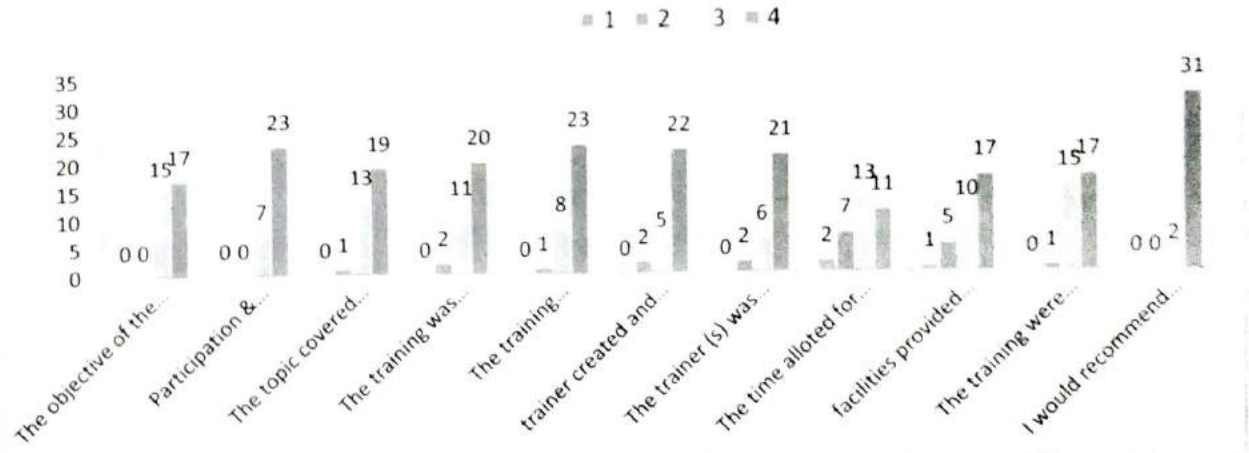
in their laptops.

- Some Arduino based basic projects are also discussed in the training such as controlling lights, speed control of motors and actuators, generation of PWM pulses, different sensory feedbacks use etc.
- The trainer explained all the doubts of the students very clearly and the students were highly inspired throughout the training.
- The attendance record of the students throughout the session was satisfactory.
- As per the feedback received from the students end, the entire session was really fruitful and enjoyable and this kind of training program may be for longer period in future for such better output.
- The training program was attended by 59 students from 3rd year, Electrical Engineering Department.

H.O.D
Department of Electrical Engineering

Jt- coordinators
Training and Placement subcommittee,
Department of Electrical Engineering

Feedback analysis of the training program:



VISION OF THE DEPARTMENT:
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SILIGURI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRICAL ENGINEERING

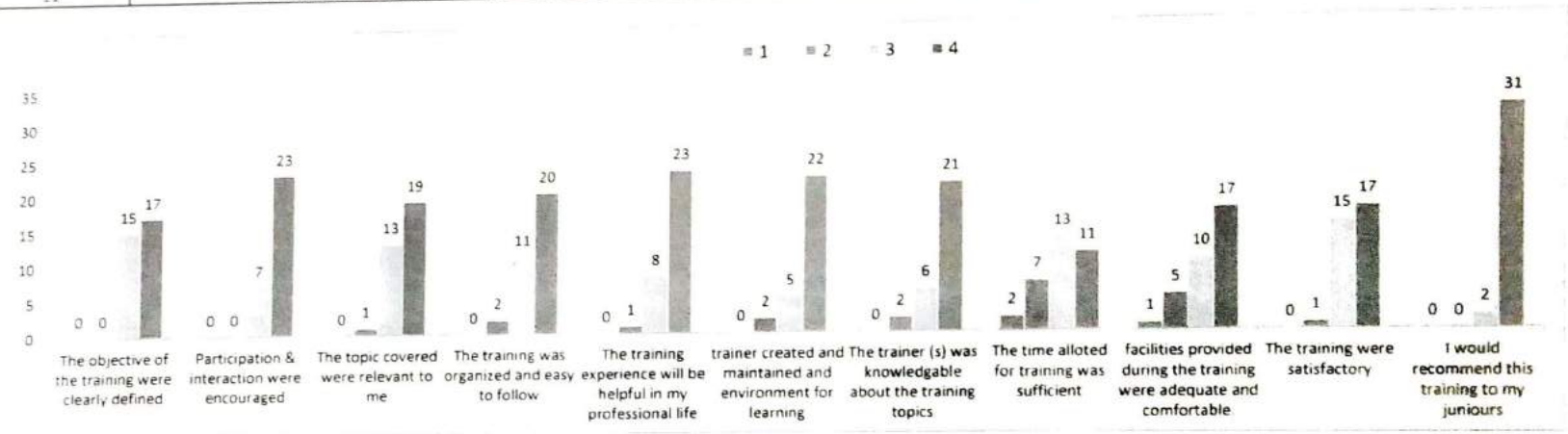
Feedback analysis For the training on Motor winding application (comceptual bases)

Duration: 03/10/2018-06/10/2018

3rd Sem EE, 2021 pass out batch

Training Organized by:T & P, S.I.T

	TRAINING PROVIDER: I & WE	Ratings(1 being lower & 4 being highest rating)				Total No. of Respondents : 33			
Sl.no	Feedback elements	1	2	3	4	% of rating 1	% of rating 2	% of rating 3	% of rating 4
1	The objective of the training were clearly defined	0	0	15	17	0.00	0.00	46.88	53.13
2	Participation & interaction were encouraged	0	0	7	23	0.00	0.00	21.88	71.88
3	The topic covered were relevant to me	0	1	13	19	0.00	3.13	40.63	59.38
4	The training was organized and easy to follow	0	2	11	20	0.00	6.25	34.38	62.50
5	The training experience will be helpful in my professional life	0	1	8	23	0.00	3.13	25.00	71.88
6	trainer created and maintained and environment for learning	0	2	5	22	0.00	6.25	15.63	68.75
7	The trainer (s) was knowledgable about the training topics	0	2	6	21	0.00	6.25	18.75	65.63
8	The time alloted for training was sufficient	2	7	13	11	6.25	21.88	40.63	34.38
9	facilities provided during the training were adequate and comfortable.	1	5	10	17	3.13	15.63	31.25	53.13
10	The training were satisfactory	0	1	15	17	0.00	3.13	46.88	53.13
11	I would recommend this training to my juniours	0	0	2	31	0.00	0.00	6.25	96.88



Sl. No	Name	Comment

Training on DBMS with Oracle

Introduction:

A database is a collection of related data which represents some aspect of the real world. A database system is designed to be built and populated with data for a certain task. **Database Management System (DBMS)** is a software for storing and retrieving users' data while considering appropriate security measures. It consists of a group of programs which manipulate the database. The DBMS accepts the request for data from an application and instructs the operating system to provide the specific data. In large systems, a DBMS helps users and other third-party software to store and retrieve data. DBMS allows users to create their own databases as per their requirement. The term "DBMS" includes the user of the database and other application programs. It provides an interface between the data and the software application.

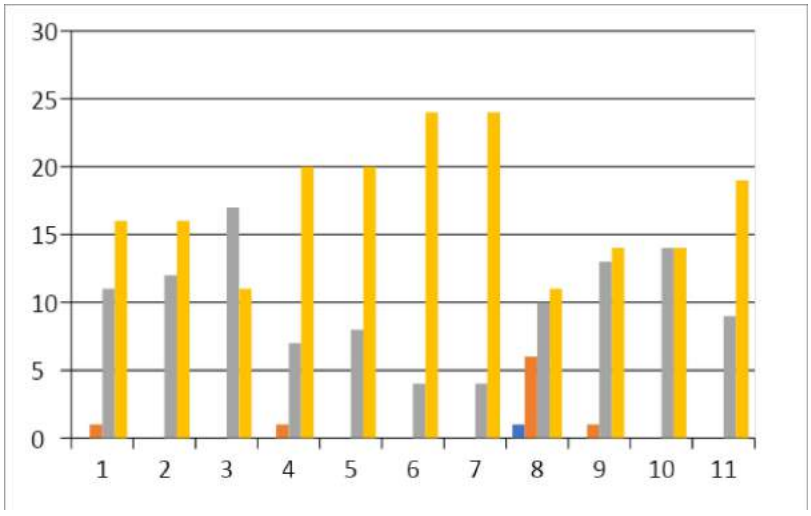
Objective: After attending the training, students should be able to understand:

1. Basic concepts of relational databases ensure refined code by developers.
2. Create reports of sorted and restricted data.
3. Run data manipulation statements.
4. Manage schema objects with data dictionary view.
5. Retrieve row and column data from tables.
6. Create and query external tables.

Program Details:

Training Program: DBMS with Oracle
Resource Organization: I & We
Date: 18/7/2017 to 22/7/2017
Students who can attend: B. Tech (ECE) 5^{h} Sem-2019 PO.

Feedback Analysis:



REPORT of FEEDBACK ANALYSIS:

Feedback for training was taken on 22nd july,2017 with the 3rd year students (2019 PO). Analysis of feedback are listed below:

1. Duration of training should be increased then students will be able to understand more clearly.
2. Due to huge no. of students, they faced a problem for doing lab assignments, so for practical sessions students need computer lab.
3. Trainers are very much friendly, so students are being encouraged for solving any queries.
4. Laptop table should be provided.
5. Training should be held after starting of their regular classes' results an increased no of students in training.

(4)

Report for Training on Big Data/Hadoop during 10/07/2017 to 17/07/2017 for 3rd year 2018 pass out batch

Introduction

Hadoop is an open-source framework that allows to store and process big data in a distributed environment across clusters of computers using simple programming models. It is designed to scale up from single servers to thousands of machines, each offering local computation and storage. In the Training provides a quick introduction to Big Data, Map Reduce algorithm, and Hadoop Distributed File System.

Training Objective :

- Upon completion of this course, participants will be able to:
- Understand fundamentals of Concepts in Bigdata and hadoop etc
- Understand fundamentals of Hadoop etc.
- Be able to use the HDFS file system, debug and run simple Java programs for hdfs.
- Be aware of the important topics and principles of software development and write better &more maintainable code
- Be able to program using advanced Java topic like JDBC, Servlets and JSP .

What is Big Data?

Big data means really a big data, it is a collection of large datasets that cannot be processed using traditional computing techniques. Big data is not merely a data, rather it has become a complete subject, which involves various tools, techniques and frameworks.

Advantages of Hadoop :

- Hadoop framework allows the user to quickly write and test distributed systems. It is efficient, and it automatic distributes the data and work across the machines and in turn, utilizes the underlying parallelism of the CPU cores.
- Hadoop does not rely on hardware to provide fault-tolerance and high availability (FTHA), rather Hadoop library itself has been designed to detect and handle failures at the application layer.
- Servers can be added or removed from the cluster dynamically and Hadoop continues to operate without interruption.
- Another big advantage of Hadoop is that apart from being open source, it is compatible on all the platforms since it is Java based.

Training Methodology:

- Hands on practice approach to training, behavioral model of training would be practiced.
- During the training, the Trainee would implement a project related to respective modules.
- Commitment to Individual growth and constant evaluation.
- Implementation of programming techniques through a Project.

Training Details:

Title of Training: Big Data/Hadoop

Resource Organization/ Name of Trainer: I & We

10
te: ~~06~~/07/2017 to 17/07/2017

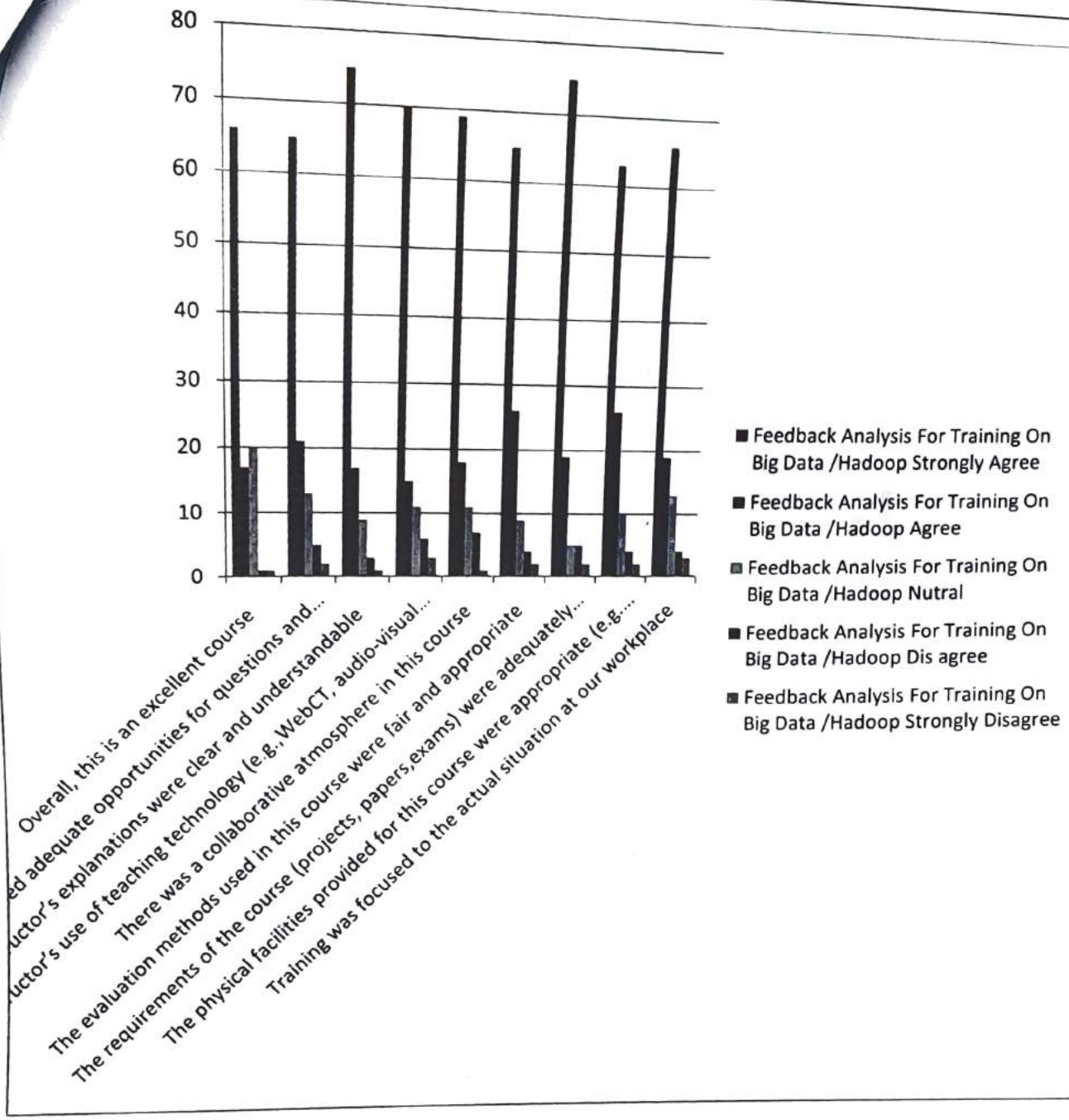
Venue: SIT, OT&UML Lab

Summary of the program:

The following points can be noted from the program.

- At the beginning of the training trainer has clearly described the basic Introduction to java its application in industries in different areas.
- Students had done many data analysis algorithm by themselves during the trainings.
- During the training some students raised their queries and the trainer had explained all the quarries of the students.
- At the end of the training an online exam was conducted.
- As per the feedback received from the students end, the entire session was really fruitful
- and enjoyable and the students have learned framework of Hadoop.

Feedback analysis for the training:


80
70
60
50
40
30
20
10
0
Overall, this is an excellent course
ed adequate opportunities for questions and...
uctor's explanations were clear and understandable
uctor's use of teaching technology (e.g., WebCT, audio-visual...
There was a collaborative atmosphere in this course
The evaluation methods used in this course were fair and appropriate
The requirements of the course (projects, papers, exams) were adequately...
The physical facilities provided for this course were appropriate (e.g....
Training was focused to the actual situation at our workplace
Feedback Analysis For Training On Big Data /Hadoop Strongly Agree
Feedback Analysis For Training On Big Data /Hadoop Agree
Feedback Analysis For Training On Big Data /Hadoop Nutral
Feedback Analysis For Training On Big Data /Hadoop Dis agree
Feedback Analysis For Training On Big Data /Hadoop Strongly Disagree

Training on CORE JAVA

Introduction:

Java is a high-level programming language originally developed by Sun Microsystems and released in 1995. Java runs on a variety of platforms, such as Windows, Mac OS, and the various versions of UNIX. This tutorial gives a complete understanding of Java. This reference will take you through simple and practical approaches while learning Java Programming language. This training is an introduction to Core Java. It starts with steps to install required software and editor. It has details of OOPS concept with detailed examples and great explanation. It covers important concepts of Core Java. It covers History of Java, Origin, Features of Java, OOPS, Array and Multidimensional arrays. What is class, Control structures, Object, Method and different types of constructor, String, Exception Handling and Collection Framework examples. Each topic is covered with detailed explanation and with examples.

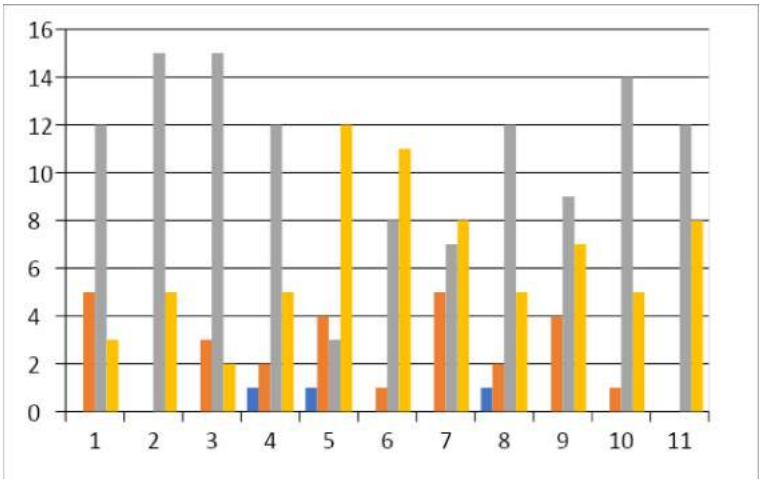
Course Objectives: After the training program, students will be able to:

1. Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
2. Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
3. Be aware of the important topics and principles of software development.
4. write a computer program to solve specified problems.
5. use the Java SDK environment to create, debug and run simple Java programs.

Program Details:

Training Program: CORE JAVA
Resource Organization: I & We
Date: 10.04.2017-14.04.2017
Students who can attend: B. Tech (ECE) 4^{h} Sem-2019 PO.

Feedback Analysis:



REPORT of FEEDBACK ANALYSIS:

Feedback for training was taken on 14th April, 2017 with the 2nd year students (2019 PO). Analysis of feedback are listed below:

1. Duration of training should be increased then students will be able to understand more clearly.
2. Laptop table should be provided.
3. Online material should be provided for making clear the concept.
4. Sitting arrangements should be improved.

(7)

Training on IoT Basics with Applications

Introduction: **Internet of Things (IoT)** is a network of physical objects or people called "things" that are embedded with software, electronics, network, and sensors that allows these objects to collect and exchange data. The goal of IoT is to extend to internet connectivity from standard devices like computer, mobile, tablet to relatively dumb devices like a toaster.IoT makes virtually everything "smart," by improving aspects of our life with the power of data collection, AI algorithm, and networks. The thing in IoT can also be a person with a diabetes monitor implant, an animal with tracking devices, etc. This IoT tutorial for beginners covers all the Basics of IoT. Students has learnt about Best practices for IoT in this Internet of Things in this training like.

- Design products for reliability and security
- Use strong authentication and security protocols.
- Energy efficient algorithms should be designed for the system to be active longer.

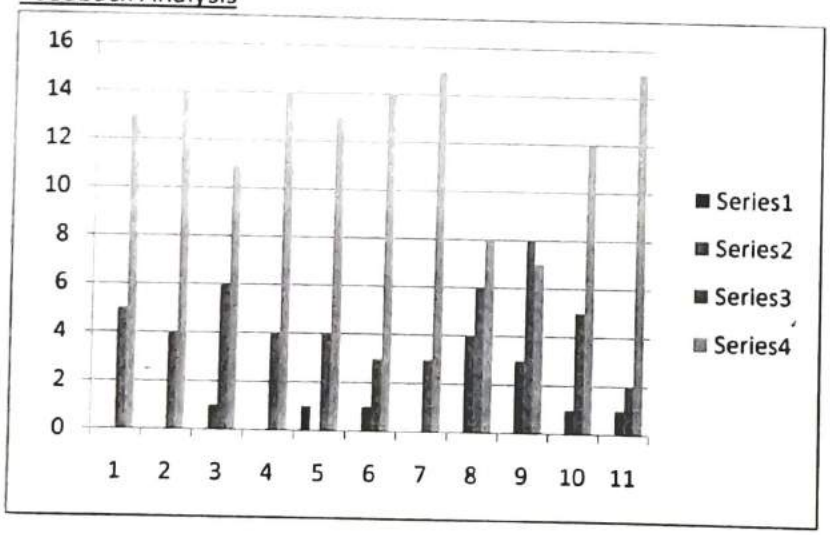
Objective:After attending the training, students should be able to understand:

1. IoT architecture and IoT Decision Framework
2. Configure Raspberry Pi, Understand Sensors, Actuators
3. Understand various IoT Networking Protocols which are mainly used to develop communication solutions.

Program Details:

Training Program: IoT Basics with Applications
Resource Organization: I & We
Date: 03.07.2017-15.07.2017
Students who can attend: B. Tech (ECE) 7^{h} Sem-2018 PO.

Feedback Analysis



Report of Feedback Analysis:

Feedback for training was taken on 25th July 2017 with the 4th year students (2018 PO). Analysis of feedback are listed below:

1. Duration of training should be increased then students will be able to understand more clearly.
2. Due to problem of internet connection students faced difficulty to do their project work.
3. Trainers are very much friendly and energetic, so students are being encouraged for doing IOT projects.
4. Wi-Fi speed should be increased.

(7)

Training on IoT Basics with Applications

Introduction: **Internet of Things (IoT)** is a network of physical objects or people called "things" that are embedded with software, electronics, network, and sensors that allows these objects to collect and exchange data. The goal of IoT is to extend to internet connectivity from standard devices like computer, mobile, tablet to relatively dumb devices like a toaster.IoT makes virtually everything "smart," by improving aspects of our life with the power of data collection, AI algorithm, and networks. The thing in IoT can also be a person with a diabetes monitor implant, an animal with tracking devices, etc. This IoT tutorial for beginners covers all the Basics of IoT. Students has learnt about Best practices for IoT in this Internet of Things in this training like.

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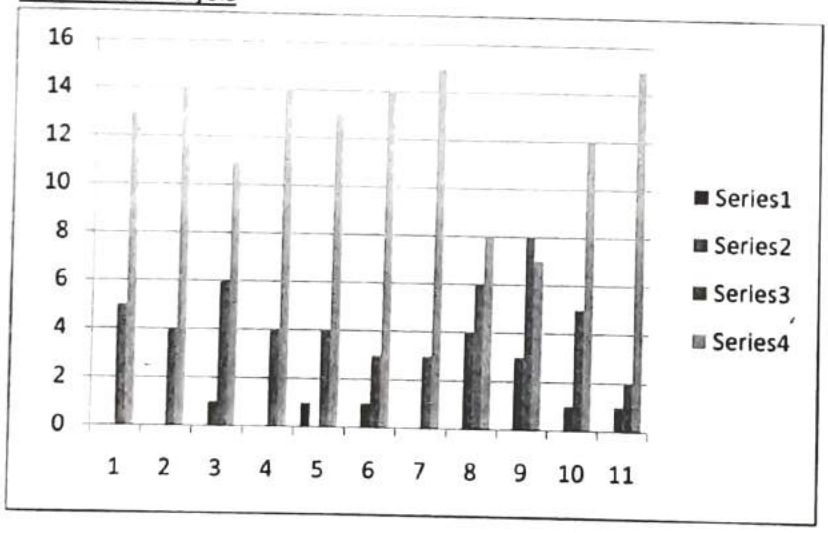
Program Details:

Training Program: IoT Basics with Applications
Resource Organization: I & We
Date: 03.07.2017-15.07.2017
Students who can attend: B. Tech (ECE) 7^{h} Sem-2018 PO.

Feedback Analysis



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Training on HTML

Introduction:

Today's user expects a lot out of the web page: it has to load fast, expose the desired service, and be comfortable to view on all devices: from a desktop computers to tablets and mobile phones.In this course, we will learn the basic tools that every web page coder needs to know. We will start from the ground up by learning how to implement modern web pages with HTML and CSS. We will then advance to learning how to code our pages such that its components rearrange and resize themselves automatically based on the size of the user's screen. We'll be able to code up a web page that will be just as useful on a mobile phone as on a desktop computer. No "pinch and zoom" required!

Objective: After attending the training, students should be able to understand

1. Learn to build mobile responsive web pages, using the Bootstrap Framework.
2. Learn to work with variables, conditional statements, arrays, and loops in JavaScript.
3. Learn to build stylish forms in Bootstrap with complete JavaScript enabled validation.

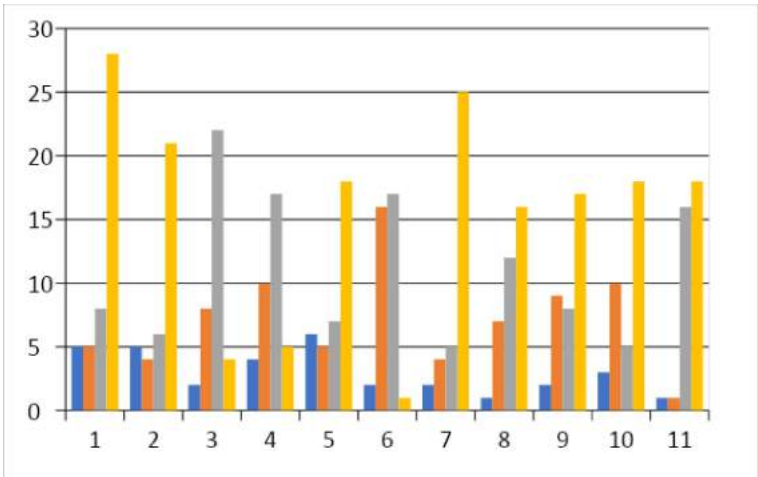
Program Details:

Training Program: HTML
Date: 31/7/2017-04/8/2017
Students who can attend: B. Tech (ECE) 3rd Sem-2020 PO.

Feedback Analysis:

Feedback Element	1	2	3	4
The objectives of the training were clearly defined	5	5	8	28
Participation and interaction were encouraged	5	4	6	21
The topics were relevant to me	2	8	22	4
The training was organized & easy to follow	4	10	17	5
The training experience will be helpful in my professional life	6	5	7	18
Trainer created & maintained an environment for learning	2	16	17	1
The trainer(s) was knowledgeable about the training topics	2	4	5	25
The time allotted for training was sufficient	1	7	12	16
The facilities provided during the training were adequate and comfortable	2	9	8	17
The training was satisfactory	3	10	5	18
I would recommend this training to my juniors.	1	1	16	18

Feedback Analysis



Feedback for training was taken on 02August, 2017 with the 2nd year students (2020 PO). Analysis of feedback is listed below:

1. Sitting arrangements should be improved.
2. Training is good for developing the skills of student but the objective of training was not clearly defined.
3. Trainer has sufficient knowledge to clear the doubts raised in classes.
4. Training sessions should be more interactive and interesting.
5. Voice of Trainer was not audible so students faced communication problem in classes.

Training on Embedded system with Microcontrollers

Introduction:

An embedded system is a microprocessor-based computer hardware system with software that is designed to perform a dedicated function, either as an independent system or as a part of a large system. At the core is an integrated circuit designed to carry out computation for real-time operations. Complexities range from a single microcontroller to a suite of processors with connected peripherals and networks, from no user interface to complex graphical user interfaces. The complexity of an embedded system varies significantly depending on the task for which it is designed. Embedded system applications range from digital watches and microwaves to hybrid vehicles and avionics. As much as 98 percent of all microprocessors manufactured are used in embedded systems. Embedded systems are managed by microcontrollers or digital signal processors (DSP), application-specific integrated circuits (ASIC), field-programmable gate arrays (FPGA), and gate arrays. These processing systems are integrated with components dedicated to handling electric and/or mechanical interfacing. Embedded systems programming instructions, referred to as firmware, are stored in read-only memory or flash memory chips, running with limited computer hardware resources. Embedded systems connect with the outside world through peripherals, linking input and output devices. The industry for embedded systems is expected to continue growing rapidly, driven by the continued development of Artificial Intelligence (AI), Virtual Reality (VR) and Augmented Reality (AR), machine learning, deep learning, and the Internet of Things (IoT). The cognitive embedded system will be at the heart of such trends as: reduced energy consumption, improved security for embedded devices, cloud connectivity and mesh networking, deep learning applications, and visualization tools with real time data.

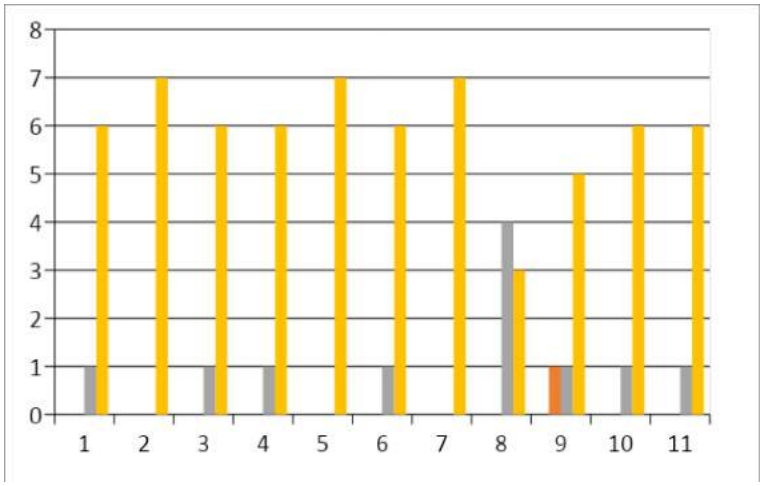
Objectives: After attending the training, students should be able to understand:

1. The basic working of a microcontroller system and its programming in assembly language.
2. To integrate hardware and software for microcontroller applications systems.
3. The internal architecture and interfacing of different peripheral devices with Microcontrollers.
4. To write the programs for microcontroller.
5. The role of embedded systems in industry.
6. The design concept of embedded systems.

Program Details:

Training Program: Embedded system with Microcontrollers
Resource Organization: I & We
Date: 15/1/2018 to 17/1/2018, 19/3/2018 to 21/3/2018, 23/4/2018 to 25/4/2018
Students who can attend: B. Tech (ECE) 6^{h} Sem-2019 PO.

Feedback Analysis



Report of Feedback Analysis 1st Phase of Winter Training

Feedback for training was taken on 17th Jan, 2018 with the 2ND year students (2020 PO). Analysis of feedback are listed below:

1. Duration of training should be increased then students will be able to understand more clearly.
2. Due to problem of internet connection students faced difficulty to do their project work.
3. Trainers are very much friendly and energetic, so students are being encouraged for doing embedded projects.

Report of Feedback Analysis 2nd Phase of Winter Training

Feedback for training was taken on 21st March 2018 with the 2ND year students (2020 PO). Analysis of feedback are listed below:

1. Training was good.
2. Rooms need to be more updated with proper charging facilities for Laptop.
3. Breaks in regular interval should also be provided.
4. There are too many students so too much noise and chaos in class.
5. Projector was not working properly.
6. Training session should be more.
7. This is very hard for teacher to teach the whole ECE 2nd year students altogether.
8. Two trainers is needed to run the training program smoothly.

Report of Feedback Analysis 3rd Phase of Winter Training

Feedback for training was taken on 25th April 2018 with the 2ND year students (2020 PO). Analysis of feedback are listed below:

1. Duration of training should be increased then students will be able to understand more clearly.
2. Due to problem of internet connection students faced difficulty to do their project work.

SILIGURI INSTITUTE OF TECHNOLOGY

Report for Training on advanced JAVA with Oracle during 3/4/2017 to 7/4/2017 for 3rd year 2018 pass out batch

Introduction:

Apart from University requirement, Java is also a pre-requisite for learning latest technologies like Android and Big Data. In order to prepare and make students ready for industry Computer science department has carved out a course that specifically aligns with industry requirements and conducted by industry experts.

The course 'OOPS with Java' was designed as 12 days online training conducted for 2nd year CSE and IT students. In this training session students learned basic object oriented concepts such as inheritance, encapsulation, and abstraction. They learn how to create and use simple Java classes containing arrays, loops, and conditional constructs. They also learn to use and manipulate object references, and to write simple error handling code. They also learned some advance topic like Oracle JDBC connectivity , JSP, Servlates.

Training Objective :

Upon completion of this course, participants will be able to :

• Understand fundamentals of Java programming such as variables, conditional and iterative execution, methods, etc

• Understand fundamentals of object-oriented programming using Java, including defining classes, invoking methods, using class libraries, etc.

• Be able to use the Java SDK environment to create, debug and run simple Java programs

• Be aware of the important topics and principles of software development and write better &more maintainable code

• Be able to program using advanced Java topic like Oracle JDBC connectivity, Servlets and JSP .

Training Methodology:

- Hands on practice on approach to training, behavioral model of training would be practiced.
- During the training, the Trainee would implement a project related to respective modules.
- Commitment to Individual growth and constant evaluation.
- Implementation of programming techniques through a Project.

Training Details:

Title of Training: Advanced JAVA with Oracle

Resource Organization/ Name of Trainer: I & We

Date: 3/4/2017 to 7/4/2017

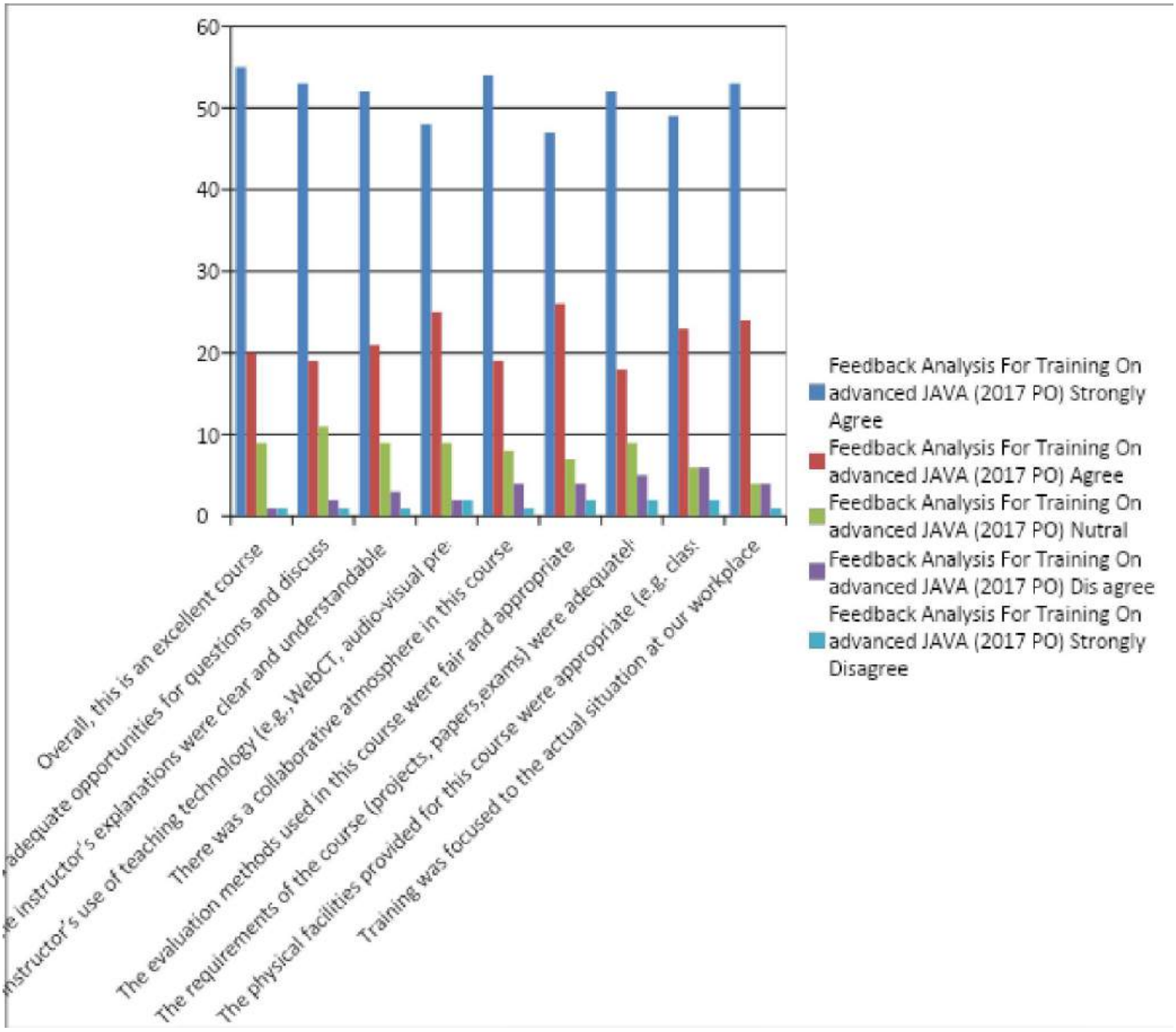
Venue: SIT, Programming Lab I/ SIT, Programming Lab II/OT&UML Lab

Summary of the program:

The following points can be noted from the program.

- At the beginning of the training trainer has clearly described the basic Introduction to, OOPs programming and java its application in industries in different areas with the students.
- Students had done many programming by themselves during the trainings.
- During the training some students raised their queries and the trainer had explained all the quarries of the students.
- At the end of the training an online exam was conducted.
- As per the feedback received from the students end, the entire session was really fruitful
- and enjoyable and the students have learned many things about Oracle connectivity, JSP, Servlet

Feedback analysis for the training:


60
50
40
30
20
10
0
Overall, this is an excellent course
adequate opportunities for questions and discuss
instructor's explanations were clear and understandable
instructor's use of teaching technology (e.g., WebCT, audio-visual pre
There was a collaborative atmosphere in this course
The evaluation methods used in this course were fair and appropriate
The requirements of the course (projects, papers,exams) were adequatel
The physical facilities provided for this course were appropriate (e.g. class
Training was focused to the actual situation at our workplace
Feedback Analysis For Training On advanced JAVA (2017 PO) Strongly Agree
Feedback Analysis For Training On advanced JAVA (2017 PO) Agree
Feedback Analysis For Training On advanced JAVA (2017 PO) Nutral
Feedback Analysis For Training On advanced JAVA (2017 PO) Dis agree
Feedback Analysis For Training On advanced JAVA (2017 PO) Strongly Disagree

SILIGURI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

Report for the training on AUTOCAD 3D conducted during 16/8/2017 to 19/8/2017 & 21/8/2017 to 26/8/2017 for 2018 pass out CE students.

Objective of the training: Students explored the basic area and application of AutoCAD 3D. They also acquired the basic skill set needed to model and render 3 dimensional designs in less time with significant to meet the needs of the industry.

Outcome of the program:

Students will be able to:

- Able to understand and complete basic as well as advanced topics of AutoCAD 3D, including Surface modelling and Rendering.
- Able to apply AutoCAD 3D in real time engineering drawings.

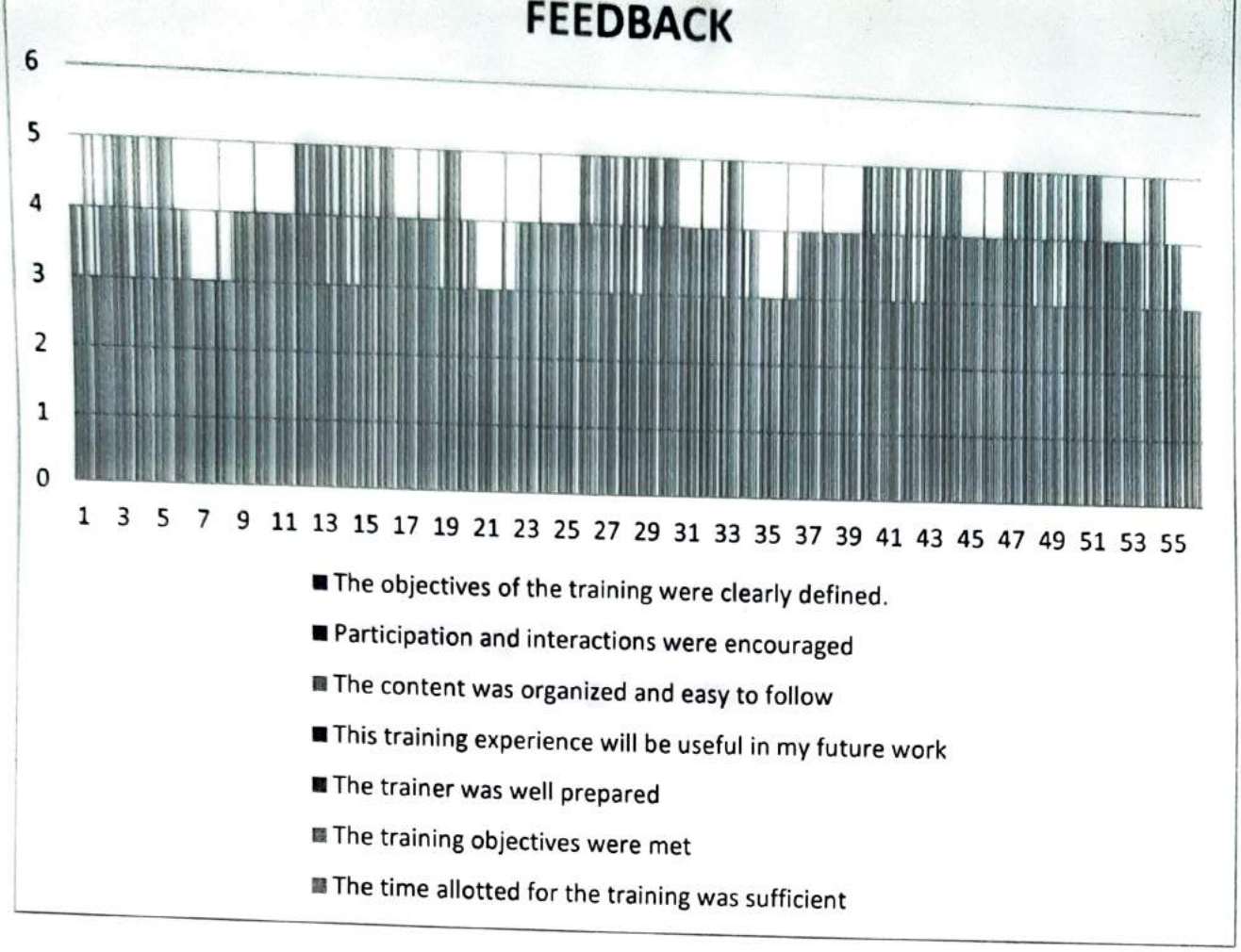
The program details are as below:

Title of training : AUTOCAD 3D
Rersource Organization: I & We
Date : 16/8/2017 to 19/8/2017 & 21/8/2017 to 26/8/2017
Venue : Department of Civil Engineering, Siliguri Institute of Technology

Summary of the program:

The following points can be noted from the program

- At the beginning they were introduced to the AutoCAD 3D and given an elaborated idea of its application in the different areas of the industry
- The topics discussed and taught during the intermediate days of the training were 3D modeling, solid editing, visualizing solids, mesh modeling, surface modeling, rendering and presentation.
- Students executed many 3-D practice models during the session
- At the end of the training an online exam was conducted
- As per the feedback received from the students end, the entire session was a real success and students learned and enjoyed the session on AutoCAD 3D.



HOD, Dept. of Civil Engineering

Departmental T&P Coordinator
Dept. of Civil Engineering

SILIGURI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

Report for the training on Basic AutoCAD conducted during 10/4/2017 to 14/4/2017 for 2019 pass out CE students.

Objective of the training: Students explored the basic area and application of AutoCAD. They also acquired the basic skill set needed to produce quality designs in less time with significant to meet the needs of the industry.

Outcome of the program:

Students will be able to:

- Able to understand and exhibit the preliminary concepts of AutoCAD
- Able to apply AutoCAD in real time engineering drawings.

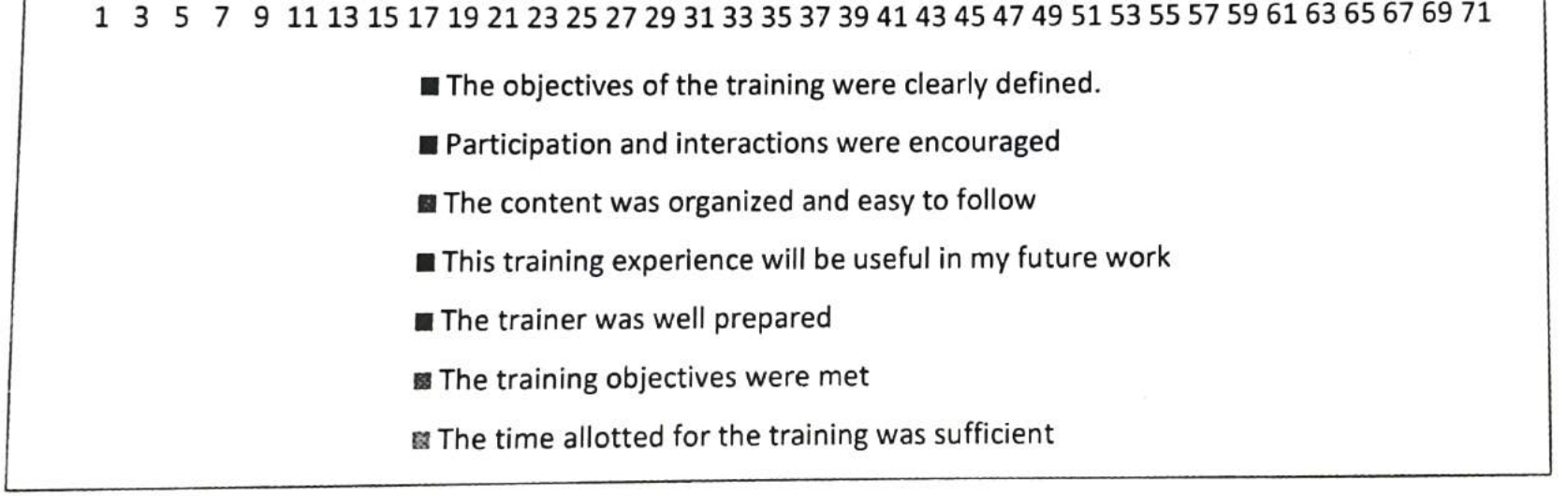
The program details are as below:

Title of training : **Basic AutoCAD**
Rersource Organization: I & We
Date : 10/4/2017 to 14/4/2017
Venue : Department of Civil Engineering, Siliguri Institute of Technology

Summary of the program:

The following points can be noted from the program

- At the beginning they were introduced to the AutoCAD and given an elaborated idea of its application in the different areas of the industry
- The topics discussed and taught during the intermediate days of the training were primitives, viewing, geometry, precision, layers, properties, modifying, blocks, layouts, notes and labels and printing
- Students executed many 2-D practice drawings during the session
- At the end of the training an online exam was conducted
- As per the feedback received from the students end, the entire session was a real success and students learned and enjoyed the session on AutoCAD.



HOD, Dept. of Civil Engineering

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