Department : Electronics and Communication Engineering		
Academic Year :2021-22		
Sr. No.	**Programme Code**	**Name of the Programme**
01.	406-4116	B.Tech. (ECE)

Following students have carried out their Project work/ Internship/ Field Project/Industrial Training for the academic session 2021-22

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05.	Ajay Kumar	16-18
06.	Anand Kumar Thakur	19-21
07.	Prince Jaisawal	22-24
08.	Ujjwal Kishor	25-27
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विभागाध्यक्ष (इले. एवं संचार अभियांत्रिकी)
H.O.D. (Elect. & Comm. Engineering)
प्रौद्योगिकी संस्थान
Institute of Technology
गु. घा. वि., बिलासपुर (छ.ग.)
G. G. V. Bilaspur (C.G.)

Signature and Seal of the Head

INDUSTRIAL TRAINING REPORT

On

"MES INTERN"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

POTHU SAI SURYA

(19106639[50])

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Dr.Reddy's

Dr. Reddy's Laboratories Ltd
Formulations Tech Ops - IX
Plot No. Q1 to Q5
Phase III, Duvvada, VSEZ,
Visakhapatnam-530 046, A.P., India
Tel : +91 891 3089031
Email : mail@drreddys.com
www.drreddys.com

27.06.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Pothu Sai Surya has successfully completed Internship in DPEx (IT MES) department, FTO Unit-9, Dr. Reddy's Laboratories Limited, from 18th May 2022 to 18th Jun 2022.

During his project here, he was found to be sincere and hardworking. We wish him all success in his future endeavors.

For DR. REDDY'S LABORATORIES LTD.,

27-6-2022

Suresh Kumar Ch

Site Head –HR, FTO Unit-9

INTRODUCTION

Dr. Reddy's Laboratories is an Indian multinational pharmaceutical company located in Hyderabad, Visakhapatnam, India. The company was founded by Kallam Anji Reddy, who previously worked in the mentor institute Indian Drugs and Pharmaceuticals Limited. Dr. Reddy's manufactures and markets a wide range of pharmaceuticals in India and overseas. The company has over 190 medications, 60 active pharmaceutical ingredients (APIs) for drug manufacture, diagnostic kits, critical care, and biotechnology

Dr. Reddy's began as a supplier to Indian drug manufacturers, but it soon started exporting to other less-regulated markets that had the advantage of not having to spend time and money on a manufacturing plant that would gain approval from a drug licensing body such as the U.S. Food and Drug Administration (FDA). By the early 1990s, the expanded scale and profitability from these unregulated markets enabled the company to begin focusing on getting approval from drug regulators for their formulations and bulk drug manufacturing plants - in more-developed economies. This allowed their movement into regulated markets such as the US and Europe. In 2014, Dr. Reddy Laboratories was listed among 1200 of India's most trusted brands according to the Brand Trust Report 2014, a study conducted by Trust Research Advisory, a brand analytics company.

By 2007, Dr. Reddy's had seven FDA plants producing active pharmaceutical ingredients in India and seven FDA-inspected and ISO 9001 (quality) and ISO 14001 (environmental management) certified plants making patient-ready medications – five of them in India and two in the UK.

In 2010, the family-controlled Dr Reddy's denied that it was in talks to sell its generics business in India to US pharmaceutical giant Pfizer, which had been suing the company for alleged patent infringement after Dr Reddy's announced that it intended to produce a generic version of atorvastatin, marketed by Pfizer as Lipitor, an anti-cholesterol medication. Reddy's was already linked to UK pharmaceuticals multinational Glaxo Smithkline

INDUSTRIAL TRAINING REPORT

On

"RANGE OPERATIONS"

Submitted in the partial fulfillment for the award of

the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Prudhvi Muni Rakesh

19106646

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND

TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारत सरकार
अंतरिक्ष विभाग
सतीश धवन अंतरिक्ष केंद्र शार
श्रीहरिकोटा रेंज डा.घ. 524 124
श्री पोट्टि श्रीरामुलु नेल्लूर जिला, आं.प्र., भारत
दूरभाष : +91-8623 245060 (6 जं)
फैक्स : +91-8623 222099

सत्यमेव जयते

Goverment of India
Department of Space
Satish Dhawan Space Centre SHAR
Shriharikota Range P.O. 524 124
SPSR Nellore Dist., AP., India
Telephone : +91-8623 245060 (6 Lines)
Fax : +91-8623 222099

प्रबंधन प्रणाली क्षेत्र MANAGEMENT SYSTEMS AREA
मानव संसाधन विकास प्रभाग HUMAN RESOURCE DEVELOPMENT DIVISION
(Phone No. 08623 – 225047, Fax No – 225577)

No. HRDD/STU/I/PRJ2022036 Date: 03/06/2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. PRUDHVI MUNI RAKESH** (Reg. No. GGV/19/1392) pursuing **B.Tech III Year (Electronics & Communication Engineering)** from **Guru Ghasidas Vishwavidyalaya, Chattisgarh** has undergone **Internship** training at **Range Operations (RO)** facilities in **SDSC SHAR, Sriharikota** from **04/05/2022 to 03/06/2022**.

During the above period, his character and conduct were found to be **Very Good**.

(P. Gopi Krishna)
Group Director, MSG
पी. गोपी कृष्णा P. Gopi Krishna
समूह निदेशक Group Director
एमएसजी MSG
एसडीएससी शार SDSC SHAR

ABSTRACT

RADAR is an electromagnetic system for the detection and location of target objects such as aircraft, ships, spacecraft, vehicles, people, and the natural environment which can reflect a signal back. It uses electromagnetic radio waves to determine the angle, range, or velocity of objects. RADAR was developed by various nations before and during the Second World War. RADAR is a classic example of an electronic engineering system that utilizes many of the specialized elements of technology practiced by electrical engineers, including signal processing, data processing, waveform design, electromagnetic scattering, detection, parameter estimation, information extraction, antennas, propagation transmitters, and receivers. This paper gives an outline of RADAR principle and some of the RADAR applications, which range from air traffic control, forest and climate monitoring and the monitoring of natural disasters to name just a few.

INDUSTRIAL TRAINING REPORT

On

"Advance Telecom"

BSNL
Connecting India

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

D. Neha Reddy

(19106618)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

General Manager Telecom District
Near Agrasen Chowk, Bilaspur (C.G.) 495001

भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprises)

No: EST-79/III/CERT/07

Bilaspur at Dated – 06-06-20

Certificate

This is to certify That .....D: NEHA REDDY....., S/D/O.....D: DILLESHWER REDDY.....,a regular student .....G.G.V: BILASPUR....., has successfully completed vocational training in this organization for Four week Advance Telecom as OCB/Broadband/C-DOT/Mobile/Lease Line etc subject. [From. 09-05-2022 To 04-06-2022]

Her/His attendance, discipline, performance and overall conduct are found Good/Very Good/Excellent.

Date : 06-06-2022

AGM (Admn/HR)
O/o BSNL GMTD BILASPUR (C.G)

AGM (Admn/HR)
O/o GMTD, BSNL BILASPUR

CHAPTER 1: BSNL Services and Telecommunication Networks

INTRODUCTION:

Bharat Sanchar Nigam Limited (BSNL) is an Indian state-owned telecommunications company which came into effect from 1st October 2000. Now it is the largest provider of fixed telephony and broadband services with more than 60% market share and sixth largest mobile telephony provider in India.

TELCOM METWORK AND ARCHITECTURE:

Telecom network is broadly an integration of-

- **User Equipment**: It may be an ordinary telephone, a Mobile Phone, A PC and similar other devices.
- **Access Network**: It provides connectivity between user equipment with switching network primarily. It may be copper pairs, Wireless Link, and Optical Fiber.
- **Switching Network**: It has a role to interconnect different users.
- **Transmission Network**: It is the link n=between various Networks. It may be optical fiber, wireless network, satellite etc.
- **Application Servers**: These servers are connected to the switching networks through suitable Transmission links. Servers may contain websites, movies, games, videos and many others.

BSNL TELECOM NETWORK:

- **BSNL Landline Network**: Between Landline Telephone and a Landline/ Mobile Telephone. Some of the value-added services based on landline telephone network are Broadband Services, Web phone service, IN Services, Audio conferencing, Video conferencing etc.
- **BSNL Mobile Network**: It is also known as CMTS (Cellular Mobile Telephone Service) provides mobile services through GSM (Global System for Mobile Communication) Technology.
- **BSNL WLL Network**: It stands for Wireless in local loop. BSNL provides WLL services for technically non- feasible Landline and also for rural mode communications, WLL works on CDMA technology.
- **BSNL Internet and Broadband**: It is a service through which computer to computer communication is possible worldwide.
- **Data Networks:** 1. Leased lines
  2. Managed Leased Line Network (MLLN)
  3. Wi-fi (Wireless Fidelity)
  4. Wi-MAX (Wireless Inter-operability for Microwave Access)
- **MPLS VPN**: Virtual Private Number (VPN) and Multi-Protocol Label Switching (MPLS). It provides bandwidth on demand, Video conferencing, Voice over Internet and many other services.

INDUSTRIAL TRAINING REPORT

On

SCADA RTU

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Anurag Kumar Dubey

19106610

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

TATA POWER-DDL

TATA POWER-DDL LEARNING Centre

TPDDL/HR-TD/TRG/FY/S.No.2443

Date: 05th July 2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Anurag Kumar Dubey** from **Guru Ghasidas Vishwavidyalaya, Bilaspur, Koni,** has undergone an Internship for a period of **32 days** from **25th May 2022 to 25th June 2022** at Tata Power DDL on the following project -

"Data Analytics in SCADA/ADMS System."

In TS – Grid Automation(ADMS)

We wish him success in his future endeavors.

FOR TATA POWER DELHI DISTRIBUTION LIMITED,

Jawed Salim Khan
HR –Talent Acquisition & Manpower Planning

TATA POWER DELHI DISTRIBUTION LIMITED
TPDDL Learning Centre, CENPEID
Pocket F, Sector – 11, Rohini, Delhi – 110085
Tel. : 011-65464370, 011-27570583 Telefax : 011-27570725

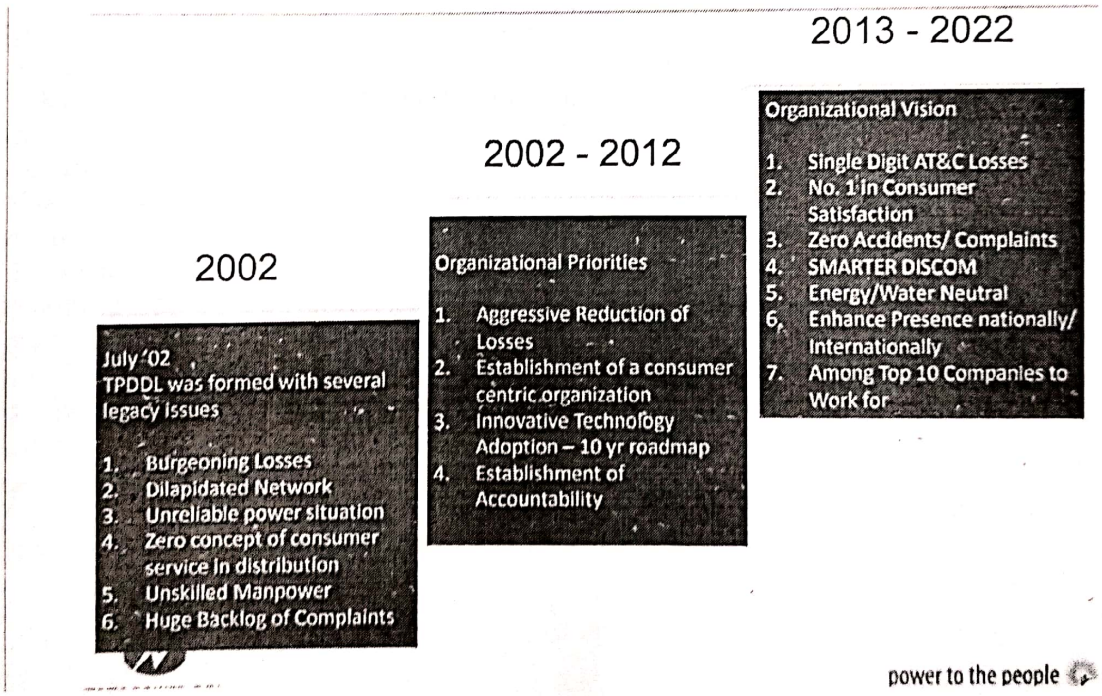
POWER DISTRIBUTION COMPANY: - TPDDL

1. INTRODUCTION

Tata Power Delhi Distribution (Tata Power-DDL), a joint venture between Tata Power and the Government of NCT of Delhi, has been the frontrunner in implementing power distribution reforms in the capital city and is acknowledged for its consumer friendly practices.

It is the first power distribution company in India to report profits and present dividend earnings to its joint owners, the state government of Delhi and Tata Power. And it is the first power distribution utility from India to win the prestigious Edison Award (twice) for outstanding contributions to the advancement of the industry worldwide. Most importantly, it represents a successful working model for future public-private initiatives.

TPDDL, earlier named North Delhi Power (NDPL), which services the north and northwest areas of Delhi, began operations in July 2002. Since privatization, the Aggregate Technical & Commercial (AT&C) losses in Tata Power-DDL areas have shown a record decline. AT&C loss is a measure of overall efficiency of the distribution business which is the difference between units input into the system and the units for which the payment is collected. In the years since, it has brought AT&C losses down from 53% to 12%, beating the world average of 15%.



INDUSTRIAL TRAINING REPORT

On

"METHODS AND INSTRUMENTS FOR LOCATING CABLE AND TRANSMISSION LINE FAULTS At

NTPC REGIONAL LEARNING INSTITUTE (RLI) SIPAT, Chhattisgarh"

Submitted in the partial fulfillment for the award

of the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Ajay Kumar

(Roll No. 19106602)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT228

THIS CERTIFICATE IS AWARDED TO

AJAY KUMAR

VT Roll No – VT22ECIT228

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

INTRODUCTION

ABOUT NTPC:

Ntpc is india's largest energy conglomerate with roots planted way back in 1975 to accelerate power devolopment in india. Since it has established itself as the dominant power major with presence in the entire value chain of the power generation business. From fossil fuels it has forayed into generating electricity via hydro, nuclear and renewable energy sources. This foray will play a major role in lowering carbon footprint by reducing green house gas emissions. To strengthen its core bussiness, the corporation has diversified into the fields of consultancy, power trading, trainng of power professionals, rural elexctrification ash utilisation and coal mining as well.

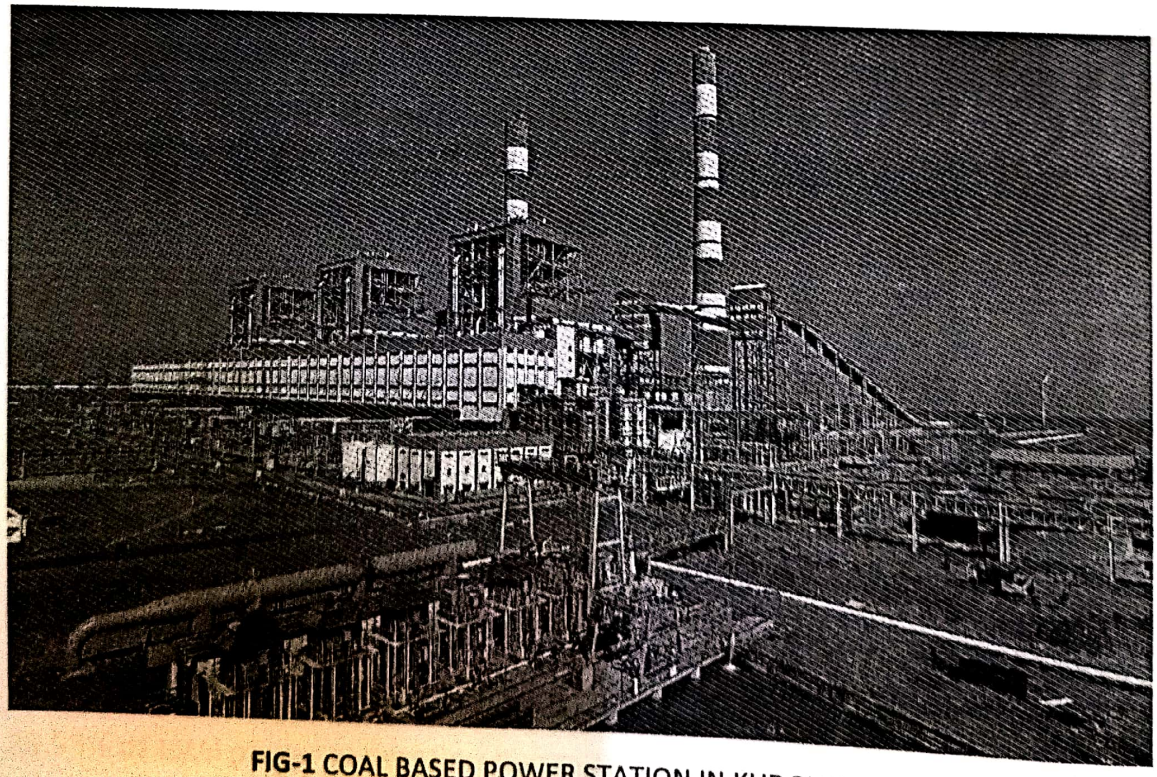


FIG-1 COAL BASED POWER STATION IN KUDGI BIHAR

INDUSTRIAL TRAINING REPORT

On

"PROGAMMING WITH PYTHON"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Anand Kumar Thakur

18106008

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

SUMMER TRAINING CERTIFICATE

INTERNSHALA TRAININGS

Certificate of Training

Anand Kumar Thakur

from Guru Ghasidas Vishwavidyalaya has successfully completed a 6-week online training on **Programming with Python.** The training consisted of Introduction to Python, Using Variables in Python, Basics of Programming in Python, Principles of Object-oriented Programming (OOP), Connecting to SQLite Database, Developing a GUI with PyQT, Application of Python in Various Disciplines, and The Final Project modules.
In the final assessment, Anand Kumar scored 85% marks.
We wish Anand Kumar all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2022-07-13 Certificate no. : 6623D4CF-AA40-9B86-F1C9-EBE45E4DD430
For certificate authentication, please visit https://trainings.internshala.com/verify_certificate

INTRODUCTION TO PYTHON

Python Language Introduction

Python is a widely used general-purpose, high level programming language. It was initially designed by Guido van Rossum in 1991 and developed by Python Software Foundation. It was mainly developed for emphasis on code readability, and its syntax allows programmers to express concepts in fewer lines of code.

Python is a programming language that lets you work quickly and integrate systems more efficiently. Python is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. It uses English keywords frequently where as other languages use punctuation, and it has fewer syntactical constructions than other languages.

- **Python is Interpreted** – Python is processed at runtime by the interpreter. You do not need to compile your program before executing it. This is similar to PERL and PHP.
- **Python is Interactive** – You can actually sit at a Python prompt and interact with the interpreter directly to write your programs.
- **Python is Object-Oriented** – Python supports Object-Oriented style or technique of programming that encapsulates code within objects.
- **Python is a Beginner's Language** – Python is a great language for the beginner-level programmers and supports the development of a wide range of applications from simple text processing to WWW browsers to games.

History of Python

Python was developed by Guido van Rossum in the late eighties and early nineties at the National Research Institute for Mathematics and Computer Science in the Netherlands.

INDUSTRIAL TRAINING REPORT

On

"C.S.P.D.C.L"

Submitted in the partial fulfillment for the award of

the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Prince Jaiswal

(19106644)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CHATTISGARH STATE POWER DISTRIBUTION COMPANY LTD. SURAJPUR

Training Certificate

No. EES/TRG/CERT/ 1446 Surajpur, Dt. – 01/06/2022

Order / 02-06/Trg.-7/2022-23/SE-I/ETC/162/318 Raipur, Dt.- 31.05.2022

This is to certify that Prince Jaiswal, S/O Shri Mohar Lal Jaiswal Student of B.Tech.(Electronics & Telecommunication) 6TH Sem. OF Guru Ghansidas University, Bilaspur has Successfully completed One Month from 02.06.2022 to 30.06.2022 (four Week) Vocational training in our organization.

His performance & orientation towards learning during the above period was found GOOD. We wish him all the best for his future.

Executive Engineer (O&M)
CSPDCL, Surajpur

INDEX

VOCATIONAL TRAINING REPORT

On

"TELECOM TECHNOLOGY AND NETWORK"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

UJJWAL KISHOR

(19106666)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Certificate Number

ALTOFNB416-2022-1633004

ALTOFNB416-2022-1633004

ADVANCED LEVEL TELECOM TRAINING CENTRE (ALTTC), GHAZIABAD

(UNO'S ITU CENTRE OF EXCELLENCE)

APEX TRAINING INSTITUTE OF BSNL(A GOVT. OF INDIA ENTERPRISE)

A Joint Venture Of International Telecommunication Union, Geneva, UNDP And The Government Of India In 1975

CERTIFICATE

This is to Certify that Mr./Ms.

UJJWAL KISHOR , Student from

Guru Ghasidas Vishwavidyalaya , Bilaspur, Chhattisgarh

has successfully completed the following Course conducted by

Bharat Sanchar Nigam Limited

VOCATIONAL TRAINING IN TELECOM TECHNOLOGY AND NETWORK (04 week)

with effect from 23.05.2022 *TO* 17.06.2022

at ALTTC, Ghaziabad

We wish him/her all the best for a bright future.

20.06.2022

DATE

Dy. General Manager (CFA)
(ALTTC)

ABSTRACT

Telecommunication is a diverse field of engineering which is connected to electronics, civil,structural, and electrical engineering. Ultimately, telecom engineers are responsible forproviding the method for customers to have telephone and high-speed data services. It helpspeople who are closely working in political and social fields, as well accounting and project management.

Telecom engineers use a variety of equipment and transport media available from a multitudeof manufacturers to design the telecom network infrastructure. The most common mediaused by arange of services and engineering solutions revolving around wireless mode ofcommunication and other information wired telecommunications companies today are copper wires, coaxial cable, andfiber optics. Telecommunications engineers use their technical expertise to also provide transfer, such as wireless telephony services, radio andsatellite communications, internet and broadband technologies

INDUSTRIAL TRAINING REPORT

On

"VIBRATION SIGNAL PROCESSING UNIT"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

AMRIT RAJ

(19106607)

B.Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

ANANTH TECHNOLOGIES Pvt Ltd.

Ananth Info Park, Plot No. 39, Hitec City, Phase-II, Madhapur, HYDERABAD - 500 081, India
Ph. No. +91-40-6615 6615, Fax No. +91-40-6615 6531, 6615 6652
E-mail: 1) mail@ananthtech.com; 2) psr@ananthtech.com
Website : www.ananthtech.com

AS9100D & ISO 9001 : 2015

Date: 24-06-2022

CERTIFICATE

This is to certify that Mr. **AMRIT RAJ** bearing **Enroll. no. GGV/19/1031** respectively of **School of Studies in Engineering & Technology, GGV, BILASPUR (C.G)**, department of **Electronics & Communication Engineering (ECE)** has done Industrial Internship at **M/s Ananth Technologies Pvt Ltd. (ATL)**, Hyderabad from **2nd May 2022** to **24th June 2022**.

During this period, he has gained exposure to industrial environment and involved in Design of "Vibration Signal Processing Unit" under our guidance and supervision.

It is certified that he has completed the Internship satisfactorily and his conduct during this period is found good.

ANANTH TECHNOLOGIES PVT LTD. Hitec City, Phase-II, Madhapur, Hyd-81 ATL Ananth Info Park, Plot No. 39

(V. SATISH DHAVAN)
GENERAL MANAGER

ABSTRACT

The high frequency vibration signal can effectively reflect the structural strength of aircraft during flight tests. In order to meet the need of real-time monitoring of vibration parameters of a large civil airliner, an airborne real-time monitoring system for vibration signals is designed and developed. Vibration signal processing unit works on monitoring the on-board vibration during the flight test. Development of airborne real-time monitoring software for high-frequency signals was based on coding and circuit designing. The software received and analyzed the network data of the airborne acquisition system, processed the time domain signals by FFT and power spectrum transformation, and realized the graphical display. The software can provide a strong support for the monitoring person to know the status of the aircraft in time. The project aims to acquire both the Mode-shape and Spectral vibration signals through suitable vibration sensors on-board, processed and analyzed in the frequency domain. The Power Spectral Density data are telemetered to ground for analysis and use. The module will be designed with floating point arithmetic to get more number of channels on a single card. Processing the vibration data on-board gives reduced data rate without compromising on the measurement.

Keywords **:** Signal Processing, Anti- aliasing Filter, ADC Interface, FPGA, RS422, Ethernet, ZYNQ-7000 SoC, SPI Flash memory, DDR3L SDRAM.

INDUSTRIAL TRAINING REPORT

On

"VIBRATION SIGNAL PROCESSING UNIT"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Ankit Kumar

(19106609)

B.Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

ANANTH TECHNOLOGIES Pvt Ltd.

Ananth Info Park, Plot No. 39, Hitec City, Phase-II, Madhapur, HYDERABAD - 500 081, India
Ph. No. +91-40-6615 6615, Fax No. +91-40-6615 6531, 6615 6652
E-mail: 1) mail@ananthtech.com; 2) psr@ananthtech.com
Website : www.ananthtech.com

AS9100D & ISO 9001 : 2015

Date: 24-06-2022

CERTIFICATE

This is to certify that Mr. **ANKIT KUMAR** bearing **Enroll. no. GGV/19/1033** respectively of **School of Studies in Engineering & Technology, GGV, BILASPUR (C.G),** department of **Electronics & Communication Engineering (ECE)** has done Industrial Internship at **M/s Ananth Technologies Pvt Ltd. (ATL), Hyderabad from 2nd May 2022 to 24th June 2022.**

During this period, he has gained exposure to industrial environment and involved in Design of "Vibration Signal Processing Unit" under our guidance and supervision.

It is certified that he has completed the Internship satisfactorily and his conduct during this period is found good.

ANANTH TECHNOLOGIES PVT LTD. Hitec City, Phase-II, Madhapur, Hyd. 81 ATL Ananth Info Park, Plot No. 39

(V. SATISH DHAVAN)
GENERAL MANAGER

ABSTRACT

The high frequency vibration signal can effectively reflect the structural strength of aircraft during flight tests. In order to meet the need of real-time monitoring of vibration parameters of a large civil airliner, an airborne real-time monitoring system for vibration signals is designed and developed. Vibration signal processing unit works on monitoring the on-board vibration during the flight test. Development of airborne real-time monitoring software for high-frequency signals was based on coding and circuit designing. The software received and analysed the network data of the airborne acquisition system, processed the time domain signals by FFT and power spectrum transformation, and realized the graphical display. The software can provide a strong support for the monitoring person to know the status of the aircraft in time. The project aims to acquire both the Mode-shape and Spectral vibration signals through suitable vibration sensors on-board, processed and analysed in the frequency domain. The Power Spectral Density data are telemetered to ground for analysis and use. The module will be designed with floating point arithmetic to get large number of channels on a single card. Processing the vibration data on-board gives reduced data rate without compromising on the measurement.

Keywords: *Signal Processing, Anti-aliasing Filter, ADC Interface, FPGA, RS422, Ethernet, ZYNQ-7000 SoC, SPI Flash Memory, DDR3L SDRAM.*

INDUSTRIAL TRAINING REPORT

On

"BANARAS LOCOMOTIVE WORKS (B.L.W.) VARANASI"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Amit Mishra
(19106606)
B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Indian Railways

Technical Training Centre

Banaras Locomotive Works

Varanasi – 221004

Azadi Ka Amrit Mahotsav

Regd.No.: VOC/2022061181

CERTIFICATE

This is to certify that Ms./Mr. AMIT MISHRA student of B.TECH in ELECTRONICS & COMMUNICATION ENGINEERING, 3RD YEAR from GURU GHASIDAS VISHWAVIDYALAYA has undergone summer internship at Banaras Locomotive Works, Varanasi from 02-Jun-2022 to 29-Jun-2022. The subject of the internship undertaken by Ms./Mr. AMIT MISHRA is MSS, LTS, ETS, SCADA and a copy of the report is annexed to this Certificate.

His / Her performance and conduct during the training was good. We wish him/her success in life.

Date : 29-Jun-2022

Place : BLW, Varanasi

(Ramjanm Chaubey)
SAG(NF)/IRSME
Principal
Technical Training Centre
Banaras Locomotive Works, Varanasi

Technical Training Centre – in search of excellence, always.....

PREFACE

The objectives of the practical training are to learn something about industries practically and to be familiar with the working style of a technical person to adjust simply according to the industrial environment.

It is rightly said practical life is far away from theoretical one. We learn in class room can give the practical exposer real life experience no doubt they help in improving the personality of the student, but the practical exposure in the field will help the student in long run of life and will be able to implement the theoretical knowledge. As a part of academic syllabus of four year degree course in **Electronics and Communication Engineering.**

Engineering, every student is required to undergo a practical training. I am student of final year **Electronics and Communication** and this report is written on the basis of practical knowledge acquired by me during the period of practical training taken at Banaras Locomotive Works, Varanasi.

INDUSTRIAL TRAINING REPORT

On

" Internship on Embedded System Design and IoT (30 Day's) "

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Nitish Kumar Jha

(19106637)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CERTIFICATE

CERTIFICATE NO : CERT_ZOY8MVI6L

CIN NO : U80900TN2012PTC085936

PANTECHSOLUTIONS
Technology Beyond the Dreams

CERTIFICATE
OF INTERNSHIP

This is to certify that

NITISH KUMAR JHA (GGU BILASPUR)

has successfully completed

INTERNSHIP ON EMBEDDED SYSTEM DESIGN AND IOT (30 DAY'S)

at Pantech Prolabs India Pvt Ltd

12-07-2022
DATE
OF ISSUE

M.K.JEEVARAJAN
DIRECTOR
PANTECHSOLUTIONS
www.pantechsolutions.net

ABSTRACT

Practical exposure in the field of embedded system is extremely important as it gives

close view of the real electronic world issues. It helps to cover all parts that remind uncovered in the classroom. It helps to gain experience. Just theoretical knowledge is not sufficient for the success of any engineer student. So once should have practical knowledge about each theory of life.

I learnt lot of new things from this training which could never have been learnt from theory classes.

If any finding and recommendation go in any way to prove some new ground in helping the commodity future sector. I sell be my efforts have dully served the purpose. In the fourth coming pages and attempt has been made to present report covering different aspect of my training

INDUSTRIAL TRAINING REPORT

On

"ELECTRICAL REPAIR SHOP AND E&M DEPARTMENT AT CENTRAL REPAIR SHOP (CRS), BARKAKANA "

सेंट्रल कोलफ़िल्ड्स लिमिटेड
Central Coalfields Limited
(A Subsidiary of Coal India Limited)

Submitted in the partial fulfillment for the award of the
Degree of Bachelor of Technology
In
Electronics and Communication Engineering
By

Pragati Pal (19106640)
B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CENTRAL COALFIELDS LIMITED
(A Miniratna Company)
Human Resource Development Department
Darbhanga House, Ranchi – 834 029
Tele Fax No. 0651 – 2360597

पत्रांक संख्या/सीसीएल/टीआरजी/प्रमाण पत्र/22-23/ 207 Dated : 13/06/2022

TO WHOM IT MAY CONCERN

This is to certify that Ms.PRAGATI PAL a student of B.Tech (ECE), Guru Ghasidas Vishwavidyalaya, Bilaspur, Chattisgarh has done Project training at CRS, Barkakana Area of Central Coalfields Limited , Ranchi from 16th May 2022 to 11th June 2022 on the topic "ELECTRICAL REPAIR SHOP AND E&M DEPARTMENT".

She has completed her training satisfactorily. I wish all success in her life.

Ch.Manager (M) (HRD)
CCL, Ranchi
13/06/2022
मुख्य प्रबंधक (खनन)
मानव संसाधन विकास
सी. सी. एल., राँची
Chief Manager (Mining)
HRD, CCL, Ranchi

Abstract

This report takes a pedagogical stance in demonstrating how various machineries are repaired and maintained for uninterrupted coal mining which in turn is paramount for the power supply and smooth functioning of households and industries and how this is immediately attainable with the present state of the art.

The focus for this detailed study is provided by how various electrical and electronic methodologies and control systems are taken into functioning for a wider work of power supply via thermal and solar supplies. Since it involves humongous machinery and hundreds of workers and engineers in every coalfield, safety and system reliability concerns dominate in this domain.

With such motivation, two issues are tackled: the special problem of quality assurance in these series functions of machines without major power loss also preventing wear and tear since each of the pieces costs in crores, and the broader problem of human safety underground or in open cast mines. In the former case, multiple rounds and variations of testing are put on the repaired machines and also during internal repair steps to ensure proper functioning in the long run, in latter the analysis is directed towards proving safety protocols to the nook.

INDUSTRIAL TRAINING REPORT

On

"DEVELOPING A PLC LOGIC ON BR6 DRILLING MACHINE"

Submitted in the partial fulfilment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

SAGAM NARASIMHAM

Roll No. 19106655

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
रामचंद्रापुरम, हैदराबाद
मानव संसाधन विकास केंद्र

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM, HYDERABAD-502032
Human Resource Development Centre

Ref No: 22ENGG4345

Date : 08-06-2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr./Ms./Mrs. SAGAM NARASIMHAM with college id no: GGV/19/1406 studying in INSTITUTE OF TECHNOLOGY, GURU GHASIDAS VISHWAVIDYALAYA pursuing B.E/B.Tech/MBA in ELECTRONICS AND COMMUNICATION discipline had undergone project training from 10th MAY 2022 to 8TH JUNE 2022. The title of the project as per our records is TO DEVELOP PLC LOGIC ON BRG DRILLING MACHINE

Project training In-charge

PREFACE

At very outset of the prologue, it becomes imperative to insist that vocational training is an integral part of engineering curriculum. Training allows us to gain an insight into the practical aspects of the various topics, with which we come across while pursuing our vocational training gives practical implementation of various topics we already have learned and will learn in near future. Vocational training always emphasizes on logic and commonsense instead of theoretical aspects of subject. On my part, pursued six weeks training at BHEL Hyderabad. The training involved a study of various departments of the organization as per the time logically scheduled and well planned given to us. It also involved a project on PLC under the guidance of Mr. Pradeep Kumar Maji. The rotation in various departments was necessary in order to get an overall idea about the working of the organization.

Sagam Narasimham

B.Tech (ECE)

Tevatron Technologies
Energising Minds

Industrial Training Report on

"IoT-based Smart Water Quality Monitoring System"

By

CHITTETI HARSHAVARDHAN(18106019)

GURU GHASIDAS VISWAVIDYALAYA

Bilaspur, Chhattisgarh.

Under the Guidance of

GAGAN PREET SINGH

MENTOR AT HEXNBIT

Tevatron Technologies Pvt. Ltd.

(23rd May 2022 to 3rd July 2022)

HEXNBIT

"SKILLING FOR FUTURE"

INDUSTRY PARTNER – TEVATRON TECHNOLOGIES PVT LTD

Reference Unique ID: HNB2107222374

Date: 21/07/2022

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Chitteti Harshavardhan** from **Guru Ghasidas Central university, Bilaspur** has undergone and completed his Training & Internship Program in **"Internet Of Things"** from 23rd May 2022 to 3rd July 2022.

During this period, exposure has been given on various technical activities around **"Internet Of Things"** technology at Tevatron Technologies Pvt. Ltd.

We found him extremely inquisitive & hardworking. He was very much interested to learn the function of our core division & also willing to put his extra effort to get into the depth of the subject in order to understand it better. His overall performance has been rated very Good & we would like to wish him for future endeavors.

Regards,

Gagan Preet Singh

Digitally signed by Gagan Preet Singh
Date: 2022.07.21 18:41:16 +05'30'

For. Hexnbit

Tevatron Technologies Pvt. Ltd. Noida

For Tevatron Technologies Pvt Ltd

Tevatron Technologies
Energising Minds

Abstract

Pollution of water is one of the main threats in recent times as drinking water is getting contaminated and polluted. Polluted water can cause various diseases in humans and animals, which in turn affects the life cycle of the ecosystem. If water pollution is detected in an early stage, suitable measures can be taken and critically we can avoid situations. To make certain the supply of pure water, we should examine the quality of the water in real-time. Smart solutions for monitoring water pollution are getting more and more significant these days with innovations in sensors, communication, and Internet of Things (IoT) technology. In this project, a detailed review of the latest works that were implemented in the arena of smart water pollution monitoring systems is presented. The project poses a cost-effective and efficient IoT-based smart water quality monitoring system that monitors the quality parameters uninterruptedly. The developed model is tested with three water samples and the parameters are transmitted to the cloud server for further action.

Water pollution is one of the biggest fears of green globalization. To ensure a safe supply of drinking water the quality needs to be monitored in real-time. In this project, we present a design and development of a low-cost system for real-time monitoring of the water quality in IoT(internet of things). The system consists of several sensors used to measure the physical and chemical parameters of the water. The parameters such as temperature, PH, turbidity, and flow sensor of the water can be measured. The core controller can process the measured values from the sensors. The Arduino model can be used as a core controller. Finally, the sensor data can be viewed on the internet using a WI-FI system.

Keywords: Arduino, Cloud Server, Controller, Sensors, Water Quality.

The Project work on

"PROCESS CONTROL IN BLAST FURNACE"

(Followed by **"Pulverized Coal Injection system"**)

In instrumentation department of Blast furnace

In partial fulfillment of the degree of
B. Tech
in
Electronics & Communication Engineering.

Submitted By

MEENIGA DOLENDRA VAMSI KRISHNA

Roll No. – 18106035

B. Tech VII Semester

Under guidance of

RAVI KISHORE.CH

Instrumentation department

RINL, Visakhapatnam Steel Plant

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

(Duration:23rd May 2022 to 18th June 2022)

Rashtriya Ispat Nigam Limited Rashtriya Ispat Nigam Limited Visakhapatnam Steel Plant Visakhapatnam Steel Plant Technical Training Center, Technical training Institute Visakhapatnam-530031

Reg.No. : 100010747

Certificate

It is to certify that Mr./Ms. **MEENIGA DOLENDRA VAMSI KRISHNA** student of

(Year / Course / Branch- Year / course / Branch) **3 / BE / B TECH / ECE** Student from

GURU GHASIDAS VISWA VIDYALAYA, BILASPUR has undergone

4 Week Training

t Visakhapatnam Steel Sanpatra Visakhapatnam Sanpatra Plant in **INSTRUMENTATION** _ Done from **23-05-2022** to **18-**
2022 Project Title The Project Title is **PROCESS CONTROL IN BLAST FURNACE** .

His conduct during the period of training
is **GOOD**

ace: Visahkhapatnam

ate: 22-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टणम इस्पात संयंत्र/RINL-Visakhapatnam Steel
विशाखपट्टणम – 530031/Visakhapatnam-530031

Abstract: -

Developed control strategy for blast furnace control is based on new modern technology and with latest sensors and radars too. The control system has two levels. At the basic level, classical control approaches are used. The process level is a combination of model based and AI approaches. Developed models are used in real time for furnace state estimation and prediction as well as for decision support. The efficiency system was applied on blast furnace. The blast furnace process control system in combination with the blast furnace optimization system creates a high level in intelligent blast furnace automation. The blast furnace process automation is a high accuracy process control with prompt online graphical information. It provides a stable, reproducible operation of the blast furnace with constant hot metal quality. The result is smooth blast furnace operation all the time, increased equipment lifetime, and reduced production costs and manual interaction. The blast furnace process automation normally consists of PLC and HMI. An expert system is used for the integrated Level-2 solutions for the blast furnace. This advanced process assistance system includes blast furnace control and real time data analysis and process optimization as well as deferred blast furnace data analysis. It allows operators to optimize hot metal production, and to report performance indicators and production figures. In overall process automation, computers, programmable controllers, and micro controllers are used which are connected in the form of a local area control network to perform all communications from the enterprise level down into the plant. The intelligent motor control systems, integrated with the control system, provide distributed control and additional maintenance data for the increased diagnostics and field equipment performance.

A process computer collects and calculates data from sensors provided at various positions of the blast furnace, and thus monitors the condition of the furnace in real time. When it detects any change which can adversely affect the stable operation of the blast furnace, it outputs action guidance for the furnace operators. The present-day blast furnace has nearly a thousand sensors installed in it. The progress of micro-electronics and data communication systems such as the data highway makes it possible to introduce distributed digital instrumentation.

INDUSTRIAL TRAINING REPORT

ON

METHODS AND INSTRUMENTS FOR LOCATING CABLES AND TRANSMISSION LINE FAULTS

Submitted in the partial fulfilment for the award of the

Degree of Bachelor of Technology

In

Electronics and communication engineering

By

BURRU VENKATA SIDDARTHA YADAV

(19106615)

Btech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT231

THIS CERTIFICATE IS AWARDED TO

BURRU VENKATA SIDDARTHA YADAV

VT Roll No – VT22ECIT231

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

INTRODUCTION

ABOUT NTPC:

NTPC IS INDIA'S LARGEST ENERGY CONGLOMERATE WITH ROOTS PLANTED WAY BACK IN 1975 TO ACCELERATE POWER DEVOLOPMENT IN INDIA. SINCE IT HAS ESTABLISHED ITSELF AS THE DOMINANT POWER MAJOR WITH PRESENCE IN THE ENTIRE VALUE CHAIN OF THE POWER GENERATION BUSINESS. FROM FOSSIL FUELS IT HAS FORAYED INTO GENERATING ELECTRICITY VIA HYDRO, NUCLEAR AND RENEWABLE ENERGY SOURCES. THIS FORAY WILL PLAY A MAJOR ROLE IN LOWERING CARBON FOOTPRINT BY REDUCING GREEN HOUSE GAS EMISSIONS. TO STRENGTHEN ITS CORE BUSSINESS, THE CORPORATION HAS DIVERSIFIED INTO THE FIELDS OF CONSULTANCY, POWER TRADING, TRAINNG OF POWER PROFESSIONALS, RURAL ELEXCTRIFICATION ASH UTILISATION AND COAL MINING AS WELL.

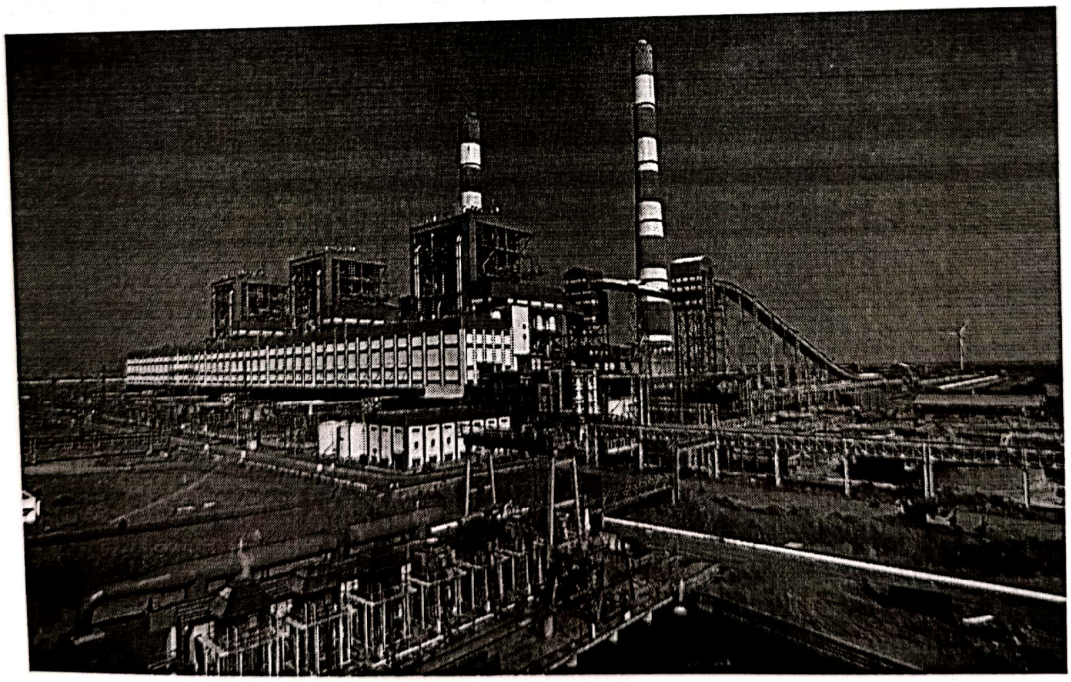


FIG-1

COAL BASED POWER STATION IN KUDGI BIHAR

REPORT ON INDUSTRIAL TRAINING

A STUDY ON ELECTRONIC INTERLOCKING SYSTEM

SUBMITTED IN PARTIAL FULUFILLMENT OF THE REQUIREMENT OF THE AWARD OF

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

SUBMITTED BY:

RAMBARKI PAVAN KUMAR (19106647)

TRAINEE NO:100010904

UNDER THE GUIDENCE OF

MR. A.B.V.K. RAMALINGESWARA RAO(AGM)

TRAFFIC DEPARTMENT

VISAKHAPATNAM STEEL PLANT

RASHTRIYA ISPAT NIGAM LIMITED.

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY,

GURU GHASIDAS VISHWAVIDYALAYA,

KONI, BILASPUR.

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100010904

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **RAMBARKI PAVAN KUMAR** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **TRAFFIC DEPARTMENT** विभागों मे

department from दि. **23-05-2022** से to **18-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **A STUDY ON ELECTRONIC INTERLOCKING SYSTEM** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam

दि./Date : 22-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबू/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टणम। इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टणम – 530031/Visakhapatnam-530031

1.ABSTRACT

Visakhapatnam steel plant is know for its mass production of steel that is widely distributed all around the country, to make this large scale production possible it is essential to deliver the required materials at required places and at the appointed times, in order to full fill these conditions we cannot always rely on the dumpers or trucks etc. to deliver these huge amounts in less time VSP uses loco's and to manage these loco's comes our **TRAFFIC DEPARTMENT** whose work is to control the loco's movement for which we use a system called SSI (solid state interlocking) and RRI(route relay interlocking), the main moto behind using the SSI and RRI is to reduce the traffic of loco's and to avoid any type of accidents that may cause loss to the plant. In this project we have studied about the Solid state interlocking system and route relay interlocking system, documented clearly along with an overview of different works taking place in all departments of steel plant.

TELECOMMUNICATION

AN INDUSTRIAL INTERNSHIP REPORT

submitted by

Mainak Biswas

(18106032)

BACHELOR OF TECHNOLOGY

in

ELECTRONICS AND COMMUNICATION ENGINEERING

भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprises)

General Manager Telecom District
Near Agrasen Chowk, Bilaspur (C.G.) 495001

No: EST-79/III/CERT/..04..... Bilaspur at Dated – ..06-06-20

Certificate

This is to certify That ...MAINAK...BISWAS....., S/D/O.....MIHIR KANTI BISWAS.....,a regular student .....G.G.V.....BILASPUR....., has successfully completed vocational training in this organization for Four week Advance Telecom as OCB/Broadband/C-DOT/Mobile/Lease Line etc subject. [From 09-05-2022 To 04-06-2022]

Her/His attendance, discipline, performance and overall conduct are found Good/Very Good/Excellent.

AGM (Admn/HR)
O/o BSNL GMTD BILASPUR (C.G)

Date : 06-06-2022

TABLE OF CONTENTS

INDUSTRIAL TRAINING REPORT

On

FRONT END DEVELOPMENT

Submitted in the partial fulfillment for the award of

the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

SYED MOHD AMAAN

19106662

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Deloitte.

Forage

Inspiring and empowering future professionals

Syed Mohd Amaan

Technology Virtual Experience Program

Certificate of Internship

June 20th, 2022

Over the period of June 2022, Syed Mohd Amaan has completed practical task modules in:

Web Development
HTML, CSS, Javascript
React
NodeJS
Angular

Tina McCreery
Chief Human Resources Officer, Deloitte

Tom Brunskill
CEO, Co-Founder of Forage

Enrolment Verification Code [illegible] | User Verification Code [illegible] | Issued by Forage

INTRODUCTION

Deloitte Touche Tohmatsu Limited , commonly referred to as Deloitte, is an international professional services network headquartered in London, England. Deloitte is the largest professional services network by revenue and number of professionals in the world and is considered one of the Big Four accounting firms along with EY (Ernst & Young), KPMG and PricewaterhouseCoopers (PWC).

The firm was founded by **William Welch Deloitte in London in 1845** and expanded into the United States in 1890. It merged with Haskins & Sells to form Deloitte Haskins & Sells in 1972 and with Touche Ross in the US to form Deloitte & Touche in 1989. In 1993, the international firm was renamed Deloitte Touche Tohmatsu, later abbreviated to **Deloitte**.

In 2002, Arthur Andersen's practice in the UK as well as several of that firm's practices in Europe and North and South America agreed to merge with Deloitte. Subsequent acquisitions have included Monitor Group, a large strategy consulting business, in January 2013.The international firm is a UK private company, limited by guarantee, supported by a network of independent legal entities

Deloitte provides audit, consulting, financial advisory, risk advisory, tax, and legal services with approximately 415,000 professionals globally. In FY 2021, the network earned revenues of US$50.2 billion in aggregate. As of 2020, Deloitte is the third-largest privately-owned company in the United States, according to *Forbes*. The firm has sponsored a number of activities and events including the 2012 Summer Olympics.

Controversies involving the firm, in addition to litigation surrounding a few of its audits, have included its involvement in a "potentially misleading" report on illicit tobacco trading in Australia, the fact that it suffered a major cyber-attack which breached client confidentiality as well as exposing extensive employee information in September 2017] its role as internal auditor of the insolvent contractor Carillion and its role as external auditor of Autonomy which was accused of "accounting improprieties" that contributed to an £8.8 billion write-down of value following its acquisition by Hewlett-Packard in 2011

ABOUT DELOITTE

"Deloitte" is the brand under which tens of thousands of dedicated professionals in independent firms throughout the world collaborate to provide audit & assurance,

INDUSTRIAL TRAINING REPORT

On

NTPC SIPAT

"USE OF THERMOGRAPHY IN DETECTING ELECTRICAL FAULTS IN ELECTRICAL SYSTEMS AND SWITCHYARDS"

Submitted in the partial fulfillment for the award

of the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

KOUSHIK GHOSH

Roll No.19106630

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT215

THIS CERTIFICATE IS AWARDED TO

KOUSHIK GHOSH

VT Roll No – VT22ECIT215

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

INTRODUCTION

NTPC is India's largest power utility with an installed capacity of 69,134.20 MW (including JVs), plans to become a 130 GW company by 2032. Established in 1975, NTPC aims to be the world's largest and best power major. NTPC has comprehensive Rehabilitation & Resettlement and CSR policies well integrated with its core business of setting up power projects and generating electricity. The company is committed to generating reliable power at competitive prices in a sustainable manner by optimising the use of multiple energy sources with innovative eco-friendly technologies thereby NTPC is contributing to the economic development of the nation and upliftment of the society.

NTPC is India's largest energy conglomerate with roots planted way back in 1975 to accelerate power development in India. Since then it has established itself as the dominant power major with presence in the entire value chain of the power generation business. From fossil fuels it has forayed into generating electricity via hydro, nuclear and renewable energy sources. This foray will play a major role in lowering its carbon footprint by reducing greenhouse gas emissions. NTPC became a Maharatna company in May 2010. As of January 2020, there are 10 Maharatnas CPSEs in India. NTPC is ranked No. 2 Independent Power Producer(IPP) in Platts Top 250 Global Energy Company rankings.

The total installed capacity of the company is 69,134.20 MW (including JVs) own stations include 23 coal based, 7 gas based, 1 Hydro 1 Wind 18 Solar and 1 Small hydro plant. Under the JV, NTPC has 9 coal based, 4 gas based, 8 hydro based and 5 renewable energy projects. The capacity will have a diversified fuel mix and by 2032, non-fossil fuel based generation capacity shall make up nearly 30% of NTPC's portfolio. NTPC has been operating its plants at high efficiency levels. As on 31.03.2020 the company had 16.78% of the total national capacity and it contributes 20.96% of total power generation due to its focus on high efficiency. In October 2004, NTPC launched its Initial Public Offering (IPO) consisting of 5.25% as a fresh issue and 5.25% as an offer for sale by the Government of India. NTPC thus became a listed company in November 2004 with the Government holding 89.5% of the equity share capital. In February 2010, the Shareholding of Government of India was reduced from 89.5% to 84.5% through a further public offer. Government of India has further divested 9.5% shares through OFS route in February 2013. With this, GOI's holding in NTPC has reduced from 84.5% to 75%. The rest is held by Institutional Investors, banks and Public. Presently, GOI holding in

The Project work on

"MATERIAL WEIGHING SYSTEMS IN BLAST FURNACE"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Cheepurupalli Bhaskar

GURU GHASIDAS VISHWAVIDYALAYA

Bilaspur, Chhattisgarh.

Under the Guidance of

H.R.M. DORA

Instrumentation department

RINL,Vishakapatnam Steel Plant

(Duration: 9th May 2022 to 4th June 2022)

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100009928

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **CHEEPURUPALLI BHASKAR** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **INSTRUMENTATION** विभागों मे

department from दि. **09-05-2022** से to **04-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **MATERIAL WEIGHING SYSTEMS IN BLAST FURNACE** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam
दि./Date : 16-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखापट्टणम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टणम – 530031/Visakhapatnam-530031

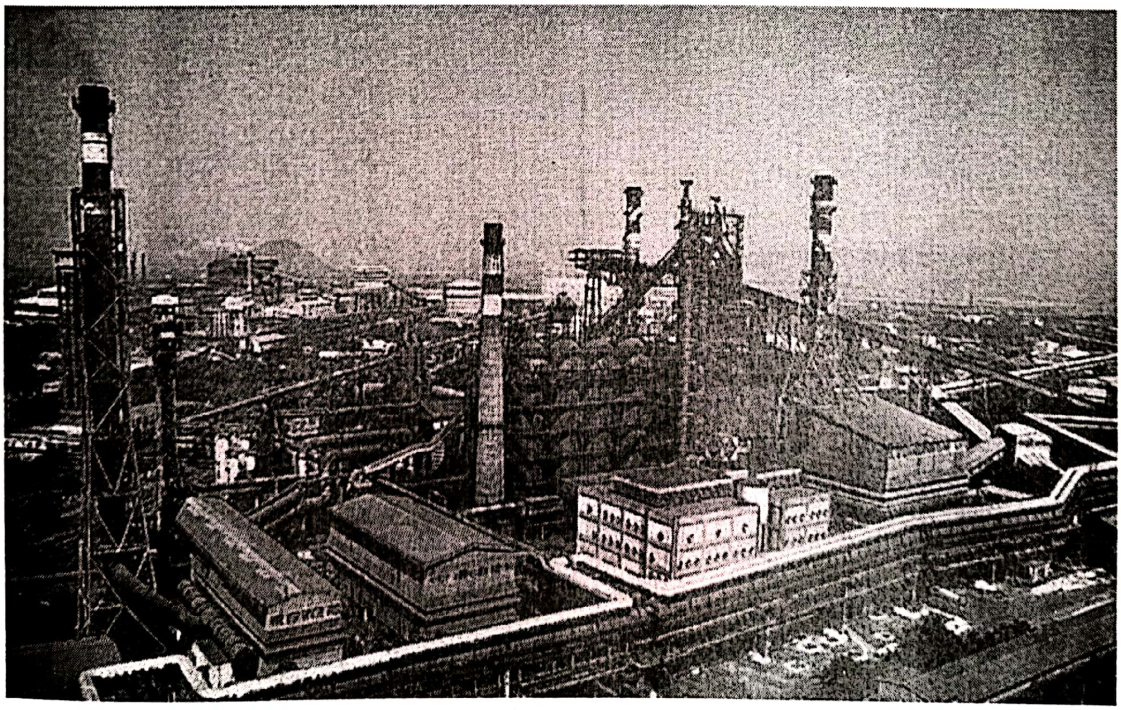
CHAPTER-1: INTRODUCTION

ABOUT ORGANISATION

Rashtriya Ispat Nigam Limited, the corporate entity of Visakhapatnam Steel Plant is a Navratna PSE under the Ministry of Steel. Visakhapatnam Steel Plant fondly called Vizag steel. It is the first shore based Integrated Steel Plant in the country and is known for its quality products delighting the customers. It is a market leader in long products and it caters to the needs of diverse Industrial sectors. The foundation was laid on 20th January 1971 by Smt. Indhira Gandhi. An agreement was signed by the Indian Government with erstwhile USSR on June 12th 1979 for cooperation of setting up a 3.4MT integrated steel plant to produce long structural products. VSP emphasizes on total automation, Seamless integration and efficient up gradation, resulting in wide range of long and structural products to meet the demands of the customers.

VSP has been the first integrated steel plant in the country to be certified by the following international standards:

- ISO 9001: For quality
- ISO 14001: For environment management
- OHSAS -18001: For occupational health and safety.
- It is also the first PSE to be certified
- ISO 50001: Energy Management Systems, and has acquired CMMI Level 3 Certification for software development.



INDUSTRIAL TRAINING REPORT

On

USE OF THERMOGRAPHY IN DETECTING ELECTRICAL FAULTS IN ELECTRICAL SYSTEMS AND SWITCHYARDS

Submitted in the partial fulfilment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Virendra Yadav

(19106672)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

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Ref No. RLI/SIPAT/CERT/2022/VT22ECIT216

THIS CERTIFICATE IS AWARDED TO

Virendra Yadav

VT Roll No – VT22ECIT216

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

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Date: 17.07.2022

G. Praveen Kumar
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Presently, GOI holding in NTPC is 51.10%. NTPC is not only the foremost power generator; it is also among the great places to work. The company is guided by the "People before Plant Load Factor" mantra which is the template for all its human resource related policies. In 2019, NTPC is recognized as "Laureate" for consistently ranking among "Top 50 Best Companies to

INDUSTRIAL TRAINING REPORT

On

Python Development (Django web framework)

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Sumeet Sharma

19106661

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

House No 117/22 Dev Colony

Rohtak 124001, Haryana
rahul.khatry@arctechlabs.com

www.arctechlabs.com

ArcTech Labs Ltd.

rahul.khatry@arctechlabs.com

To whosoever it may concern,

This is to certify that Mr Sumeet Sharma has done an internship in ArcTech Labs Ltd., India from 12th March 2022 to 12th June 2022.

He has worked at the post of Python Development (Django web framework) Intern. During the internship he demonstrated good project delivery and professional skills. His performance was very good and all the tasks were completed well.

We wish him all the best for the future.

Yours sincerely,

Rahul Khatry

Director, ArcTech Labs Ltd.

ABSTRACT

The objective of this internship is to learn something about industries practically and to be familiar with a working style of a technical worker to adjust simply according to industrial environment. This report deals with the equipment their relation and their general operating principle. Python, an interpreted language which was developed by Guido van Rossum came into implementation in 1989. The language supports both object oriented and procedure oriented approach. Python is designed to be a highly extensible language. Python works on the principle of "there is only one obvious way to do a task" rather than "there is more than one way to solve a particular problem". Python is very easy to learn and implement. The simpler syntax, uncomplicated semantics and approach with which Python has been developed makes it very easier to learn. A large number of python implementations and extensions have been developed since its inception

INDUSTRIAL TRAINING REPORT

On

"TELEPHONE EXCHANGE"

Submitted in the partial fulfillment for the award of

the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

PRIYANKA KASHYAP

ROLL NO.:-19106645

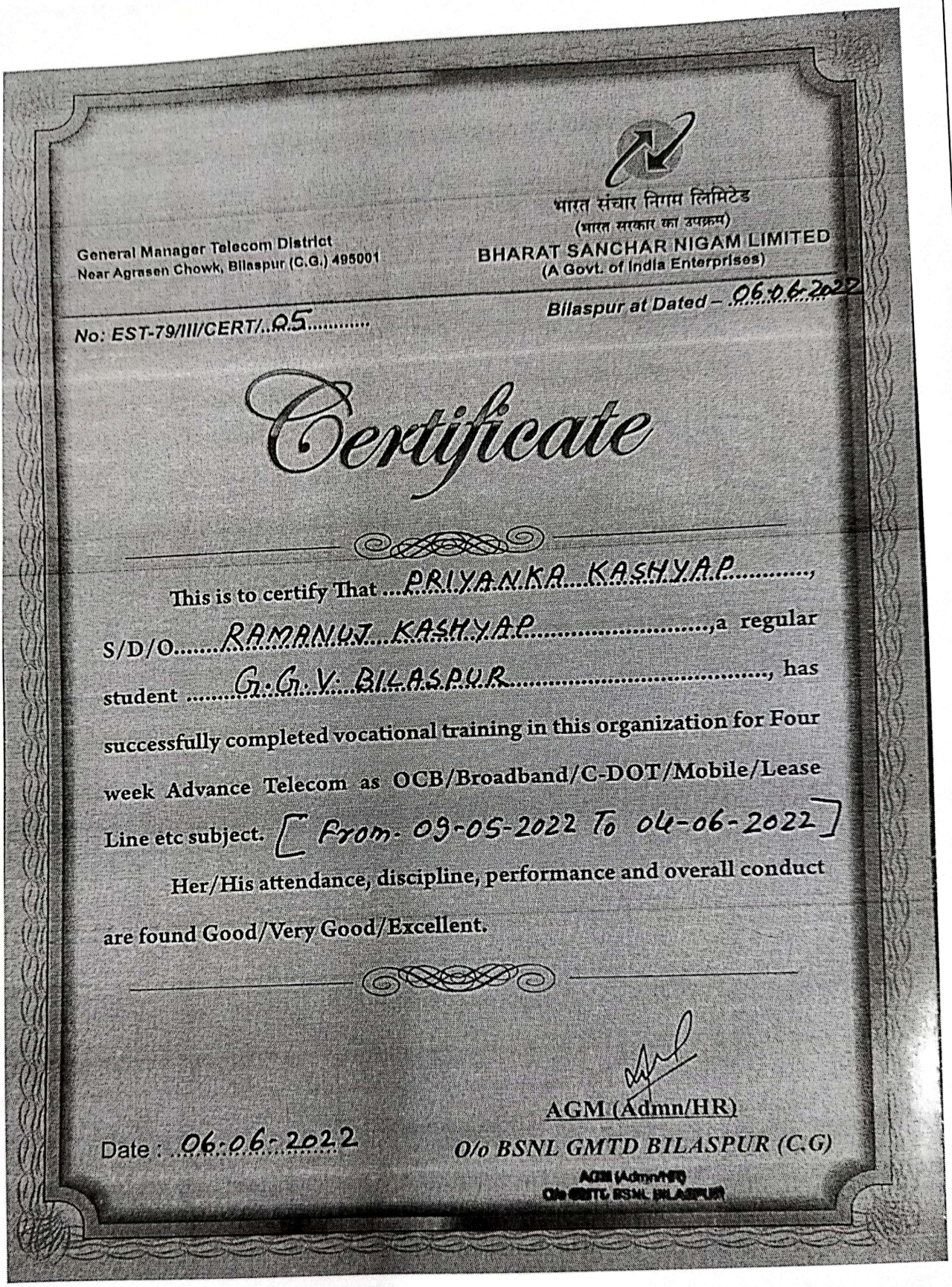
B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23



भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprises)

General Manager Telecom District
Near Agrasen Chowk, Bilaspur (C.G.) 495001

No: EST-79/III/CERT/..05.....

Bilaspur at Dated – 06.06.2022

Certificate

This is to certify That ...PRIYANKA KASHYAP....., S/D/O.....RAMANUJ KASHYAP.....,a regular student .....G.G.V. BILASPUR....., has successfully completed vocational training in this organization for Four week Advance Telecom as OCB/Broadband/C-DOT/Mobile/Lease Line etc subject. [From- 09-05-2022 To 04-06-2022]

Her/His attendance, discipline, performance and overall conduct are found Good/Very Good/Excellent.

AGM (Admn/HR)

Date : 06.06.2022

O/o BSNL GMTD BILASPUR (C.G)

ABSTRACT

Spending a period of four weeks with the Telecommunication Networking, The Report on how the BSNL Basic Telecom work and how to exchange work and how the company work with telecommunication Network. This Report also contain the basic telecommunication that work with all team work of employees and the exchange work. I was in direct present and , I realized that it is very difficult to understand the behavior of customers. I am saying this because even though I was associated with brand, sometimes it was difficult to convince the custom BSNL has a Quality telecommunication system which is demonstrated through its ability to consistently provide product and services that meets customer and applicable regulatory requirements. It aims to enhance customer satisfaction through its effective services.

BSNL Mobile is the major service provider of GSM cellular mobile services under the brand name Cellone. BSNL provides complete telecom services solution to enterprise customers including MPLS, P2P and internet leased lines. It provides fixed line services and landline using CDMA technology and its extensive optical fiber network. BSNL provides internet access services through dial-up connection as prepaid, Netone as postpaid and Dataone as BSNL Broadband.

INDUSTRIAL TRAINING REPORT

On

"FPGA Device Interfacing"

Submitted in the partial fulfillment for the award of

the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Rishabh Upadhyay

(19106649)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारतीय प्रौद्योगिकी संस्थान
काशी हिन्दू विश्वविद्यालय
INDIAN INSTITUTE OF TECHNOLOGY
BANARAS HINDU UNIVERSITY
...ing the nation since 1919
प्रशिक्षण एवं प्रस्थापना प्रकोष्ठ TRAINING AND PLACEMENT CELL
VARANASI-221 005
Phone: (0542) 7165958, 2369162 Website : iitbhu.ac.in/tpo E-mail: tpo@iitbhu.ac.in

No. : 2558

TRAINING CERTIFICATE

Name of the Student ....RISHABH UPADHYAY.....

Father's Name ....DR. KRISHNA NAND UPADHYAY Mother's Name ...MAYA UPADHYAY.....

Name of the Institute/College ....GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

Course ....B.TECH..... Branch .ELECTRONICS & COMM. ENG Semester ....VI.....

Week / Month	Date		Actual working days put in	Remarks	Signature of the Supervisor
	From	To			
1st	19/05/2022	31/05/2022	9	He was present for 30 days	29/6/2022
2nd	01/06/2022	29/06/2022	21		
3rd					
4th					
5th					
6th					
7th					
8th					

Conduct ....Rishabh is a sincere & punctual student.....

Other remarks, if any ...Rishabh has accomplished given task well within time and he is self motivated.....

29/6/22

Signature of Head of the Department/ Coordinator of the School
(with Seal)

आचार्य व विभागाध्यक्ष / PROFESSOR & HEAD
इलेक्ट्रानिकी अभियान्त्रिकी विभाग / Department of Electronics Engineering
भारतीय प्रौद्योगिकी संस्थान (का.हि.वि.) / Indian Institute of Technology (BHU)
वाराणसी / Varanasi-221005 (INDIA)

29/6/22

Training and Placement Officer
(with Seal)

प्रभारी आचार्य / Professor Incharge
प्रशिक्षण एवं प्रस्थापना प्रकोष्ठ
Training and Placement Cell
भारतीय प्रौद्योगिकी संस्थान
Indian Institute of Technology
वाराणसी / Varanasi-221005

CHAPTER 1: OVERVIEW OF FPGA

1.1: INTRODUCTION

The Nexys 4 DDR board is a complete, ready-to-use digital circuit development platform based on the latest Artix-7™ Field Programmable Gate Array (FPGA) from Xilinx. With its large, high-capacity FPGA (Xilinx part number XC7A100T-1CSG324C), generous external memories, and collection of USB, Ethernet, and other ports, the Nexys4 DDR can host designs ranging from introductory combinational circuits to powerful embedded processors. Several built-in peripherals, including an accelerometer, temperature sensor, MEMs digital microphone, a speaker amplifier, and several I/O devices allow the Nexys4 DDR to be used for a wide range of designs without needing any other components.

1.2: FEATURES:-

- 15,850 logic slices, each with four 6-input LUTs and 8 flip-flops
- 4,860 Kbits of fast block RAM
- Six clock management tiles, each with phase-locked loop (PLL)
- 240 DSP slices
- Internal clock speeds exceeding 450 MHz
- On-chip analog-to-digital converter (XADC)
- 16 user switches
- USB-UART Bridge
- 12-bit VGA output
- 3-axis accelerometer
- 128MiB DDR2
- Pmod for XADC signals
- 16 user LEDs
- Two tri-color LEDs
- PWM audio output
- Temperature sensor
- Serial Flash
- Digilent USB-JTAG port for FPGA programming and communication
- Two 4-digit 7-segment displays
- Micro SD card connector
- PDM microphone
- 10/100 Ethernet PHY
- Four Pmod ports
- USB HID Host for mice, keyboards and memory sticks

INDUSTRIAL TRAINING REPORT

On

"SIGNAL ENGINEERING AND TELECOMMUNICATION AT SOUTH EAST CENTRAL RAILWAY, BILASPUR"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Vikas bisariya

(19106671)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

SOUTH EAST CENTRAL RAILWAY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. VIKAS BISARIYA** Student of 6th Semester **Electronic & Communication** Engineering from **Institute of Technology Guru Ghasidas Vishwavidyalaya, Bilaspur C.G. (Central University)** has attended Bilaspur Division of South East Central Railway for Vocational Training from Dated 13/06/2022 to 02/07/2022. in :-

1. **UTS**
2. **PRS**
3. **IPIS**
4. **TELEPHONE EXCHANGE**
5. **RAILNET**
6. **OFC**
7. **BATTERY MAINTENANCE**
8. **IPS**
9. **STM**

He was found sincere, laborious, and interested to the task given to him.

Date: 04/7/22

Sr. Div. Signal & Tele. Engineer (Co.Ord.)
South East Central Railway/Bilaspur

SOUTH EAST CENTRAL RAILWAY, BILASPUR

ABSTRACT

This report takes a pedagogical stance in demonstrating how results from theoretical computer science may be applied to yield significant insight into the behavior of the devices computer systems engineering practice seeks to put in place, and that this is immediately attainable with the present state of the art.

The focus for this detailed study is provided by the type of solid state signaling and various communication systems currently being deployed throughout mainline railways. Safety and system reliability concerns dominate in this domain. With such motivation, two issues are tackled: the special problem of software quality assurance in these data-driven control systems, and the broader problem of design dependability. In the former case, the analysis is directed towards proving safety properties of the geographic data which encode the control logic for the railway interlocking; the latter examines the fidelity of the communication protocols upon which the distributed control system depends.

INDUSTRIAL TRAINING REPORT

On

" METHODS AND INSTRUMENTS FOR LOCATING CABLE AND TRANSMISSION LINE FAULTS "

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

DEEPAK

(ROLL NO.-19106620)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Project report : for vocational trainingprogram (VT-2022)

PROJECT NAME :- METHODS AND INSTRUMENTS FOR LOCATING CABLE AND TRANSMISSION LINE FAULTS

NTPC regional learning institute (RLI)
sipat,chattishgarh

GURU GHASIDAS VISHWAVIDYALAYA

Introduction

About ntpc:

NTPC is india's largest energy conglomerate with roots planted way back in 1975 to accelerate power devolopment in india. Since it has established itself as the dominant power major with presence in the entire value chain of the power generation business. From fossil fuels it has forayed into generating electricity via hydro, nuclear and renewable energy sources. This foray will play a major role in lowering carbon footprint by reducing green house gas emissions. To strengthen its core bussiness, the corporation has diversified into the fields of consultancy, power trading, trainng of power professionals, rural elexctrification ash utilisation and coal mining as well.

INDUSTRIAL TRAINING REPORT

On

"Chhattisgarh State Power Distribution Company Limited"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Prasanjit Saha

19106642

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CHHATTISGARH STATE POWER DISTRIBUTION CO. LTD.

(A Government of Chhattisgarh Undertaking)
(A SUCCESSOR COMPANY OF CSEB)

No. EE/City Dn.-West /Estt/ 937 *Bilaspur, dated* 22-06-2022

CERTIFICATE

This is to certify that the student of Guru Ghasidas University(C.G.) of Electronics & Communication Engineering Branch 6th semester, ***Shri Prasanjit Saha,*** *has undergone Vocational Summer Internship Training under this Organization during the period from 24th May 2022 to 22th June 2022.*

He has shown keen interest in learning various activities of this Organization, viz. maintenance and operation of LT/HT Line/Sub-station equipments etc.

His Performance during the Vocational Training was very good.

Executive Engineer
Executive Engineer (City Dn.-II) West,
City Dn. II (West)
C.S.P.D.C.L., Bilaspur
C.S.P.D.C.L., Bilaspur

INDEX

INDUSTRIAL TRAINING REPORT

On

MONITORING OF GAS EMISSION PARAMETERS FOR THERMAL POWER PLANTS.

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

ARPIT ANAND

ROLL NO.-19106611

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT248

THIS CERTIFICATE IS AWARDED TO

Arpit Anand

VT Roll No – VT22ECIT248

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

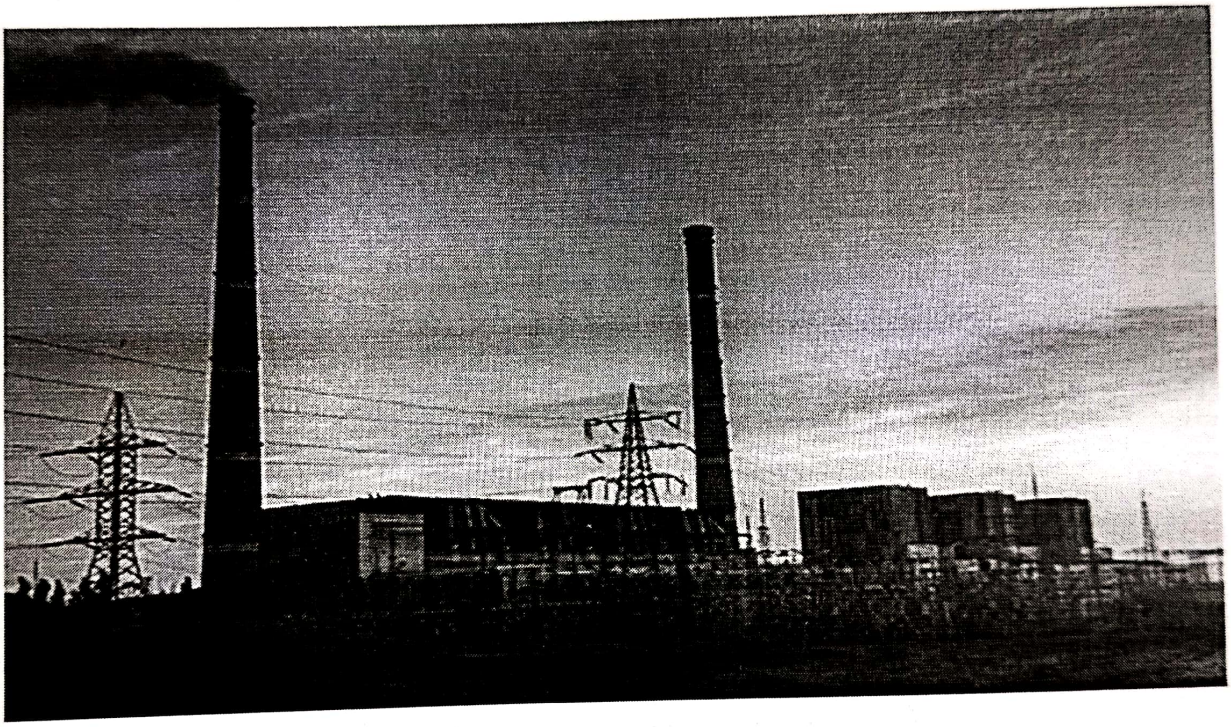
A K Tripathi
GM & Head (RLI-Simulator)

1. ABOUT POWER SECTOR

1.1 INTRODUCTION

Power is among the most critical components of infrastructure, crucial for the economic growth and welfare of nations. The existence and development of adequate power infrastructure is essential for sustained growth of the Indian economy.

India's power sector is one of the most diversified in the world. Sources of power generation range from conventional sources such as coal, lignite, natural gas, oil, hydro and nuclear power to viable non-conventional sources such as wind, solar, and agricultural and domestic waste. Electricity demand in the country has increased rapidly and is expected to rise further in the years to come. In order to meet the increasing demand for electricity in the country, massive addition to the installed generating capacity is required.



1.2 MARKET SIZE

India is the third-largest producer and second-largest consumer of electricity worldwide, with an installed power capacity of 395.07 GW, 1. Indian power sector is undergoing a significant change that has redefined the industry outlook. Sustained economic growth continues to drive electricity demand in India. The Government of India's focus on attaining 'Power for all' has accelerated capacity addition in the country. At the same time, the competitive intensity is increasing at both the market and supply sides (fuel, logistics, finances, and manpower).

as of January 2022.

India is the third-largest producer and second-largest consumer of electricity worldwide, with an installed power capacity of 395.07 GW, as of January 2022.

The renewable energy capacity addition stood at 8.2 GW for the first eight months of FY22 against 3.4 GW for the first eight months of FY21.

INDUSTRIAL TRAINING REPORT

On

Submitted in the partial fulfillment for the award of the Degree of

Bachelor of Technology

MONITORING OF GAS EMISSION PARAMETERS FOR THERMAL POWER PLANTS -Sox, Nox, SPM - EQUIPMENTS"

In

Electronics and Communication Engineering

By

ANISH KUMAR

Roll no-19106608

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT247

THIS CERTIFICATE IS AWARDED TO

Anish Kumar

VT Roll No – VT22ECIT247

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

1.0 ABOUT POWER SECTOR

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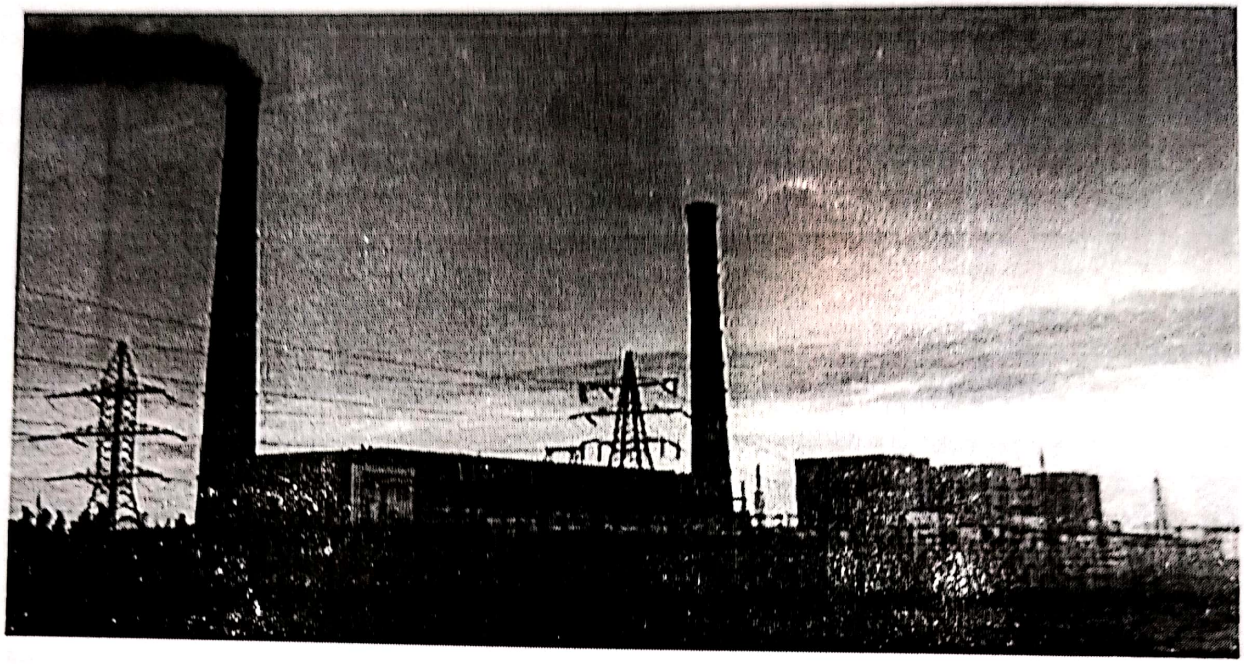
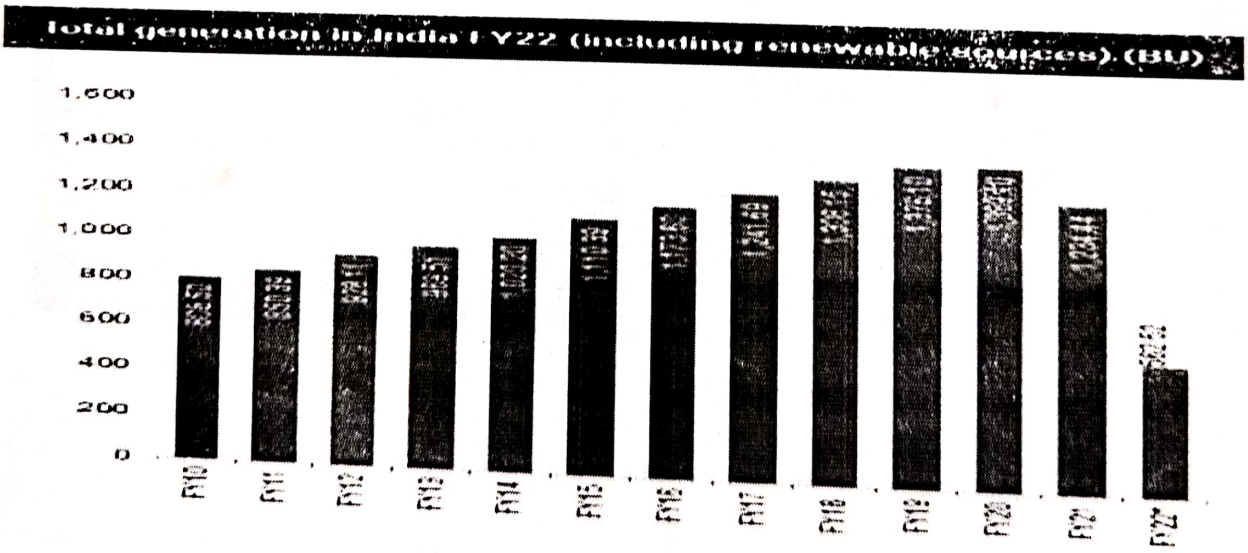


1.2 MARKET SIZE



1. Indian power sector is undergoing a significant change that has redefined the industry outlook. Sustained economic growth continues to drive electricity demand in India. The Government of India's focus on attaining 'Power for all' has accelerated capacity addition in the country. At the same time, the competitive intensity is increasing at both the market and supply sides (fuel, logistics, finances, and manpower).

INDUSTRIAL TRAINING REPORT

On

"BILASPUR DIVISION OF SOUTH EAST CENTRAL RAILWAY"

Submitted in the partial fulfillment for the award of the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Yash Pandey

(18106059)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

SOUTH EAST CENTRAL RAILWAY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. YASH PANDEY** Student of 6th Semester **Electronics & Communication** Engineering from **Institute of Technology Guru Ghasidas Vishwavidyalaya, Bilaspur C.G. (Central University)** has attended Bilaspur Division of South East Central Railway for Vocational Training from Dated 13/06/2022 to 02/07/2022. in :-

1. **UTS**
2. **PRS**
3. **IPIS**
4. **TELEPHONE EXCHANGE**
5. **RAILNET**
6. **OFC**
7. **BATTERY MAINTENANCE**
8. **IPS**
9. **STM**

He was found sincere, laborious, and interested to the task given to him.

Date: 04/07/22

Sr. Div. Signal & Tele., Engg. (CO)

SOUTH EAST CENTRAL RAILWAY BILASPUR

Sr. Divl. Sig. & Tele. Engineer (Co.Ord.)
दक्षिण पूर्व मध्य रेलवे/बिलासपुर
South East Central Railway/Bilaspur

[1] INTRODUCTION TO IPIS

The Passenger Information System (PIS), which includes an Interactive Voice Response System (IVRS), Pre Recorded Announcement and Auto Announcement System, Train Information Display, Coach Guidance Display, etc., provides passengers with all train-related information. Introduction The Integrated Passenger Information System (IPIS) is a computer-based single control and data entry system that gives passengers audio and visual information via PC-based announcement systems and various Train Indicator Board types spread throughout the entire station with the feature of networking and operation from a central location. Both the operator and the passengers find this system to be more convenient.

Structure of the System The following units and subsystems make up IPIS:

1. A control panel
2. Main hub for data communication
3. Data Platform Controller (PDC)
4. Main data switch (CDS)
5. Message boards
6. Quick-access display board (AGDB)
7. Coach Directional Message Board (CGDB)
8. Display
9. LED/LCD

1.1 CONTROL CONSOLE

This system has a console unit that is completely redundant. The second control console unit becomes operational in the event that the first control console unit fails. Through a LAN connection, there is constant data synchronization between these two Operator consoles. For redundancy, visual and audio signals are switched manually from one control console unit to the next. This switch has one output port that goes to the CCTV network and two input ports for video signals coming from two control console devices. Additionally, it includes one output port that connects to the audio announcement network as well as two audio ports originating from two Control console units.Control Console Unit provides PC-based voice announcements. displaying train information on various types of Display boards, coach guidance systems, and making the announcement. It shall be possible to upload the database, like train information, text messages, images, etc., from the CDC to the display board(s) controller on the same communication link for train arrival/departure display boards.

INDUSTRIAL VOCATIONAL TRAINING REPORT

On

"BILASPUR DIVISION OF SOUTH EAST CENTRAL RAILWAYS"

Submitted in the partial fulfillment for the award of the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

B Ashish

(18106015)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES OF ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CERTIFICATE

SOUTH EAST CENTRAL RAILWAY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. B. ASHISH** Student of 6th Semester **Electronics & Communication** Engineering from **Institute of Technology Guru Ghasidas Vishwavidyalaya, Bilaspur C.G. (Central University)** has attended Bilaspur Division of South East Central Railway for Vocational Training from Dated 13/06/2022 to 02/07/2022. in :-

1. **UTS**
2. **PRS**
3. **IPIS**
4. **TELEPHONE EXCHANGE**
5. **RAILNET**
6. **OFC**
7. **BATTERY MAINTENANCE**
8. **IPS**
9. **STM**

He was found sincere, laborious, and interested to the task given to him.

Date: 04/07/22

Sr. Divl. Sig. & Tele. Engineer (Co Ord.)
SOUTH EAST CENTRAL RAILWAY ,BILASPUR
South East Central Railway Bilaspur

[1] INTRODUCTION TO IPIS

All train-related information is provided to the passengers through a Passenger Information System (PIS) which includes an Interactive Voice Response System (IVRS), Prerecorded Announcement and Auto Announcement System, Train information display, Coach guidance display, etc. Introduction The Integrated Passenger Information System (IPIS) is computer-based single control and data entry system providing audio and visual information to passengers through PC based announcement system and different types of Train Indicator Boards spanning over the entire station with the feature of networking and operation from a centralized location. This system is more convenient for the operator as well as the passengers.

System Architecture IPIS consists of the following units/sub-systems:

1. Control console
2. Main data communication hub
3. Platform Data Controller (PDC)
4. Central data switch (CDS)
5. Display boards
6. At-a-glance display Board (AGDB)
7. Coach Guidance Display Board (CGDB)
8. LED/LCD Display

1.1 CONTROL CONSOLE

This system has the provision of a fully redundant console unit in case of failure of the first control console unit; the second control console unit becomes Operative. There is continuous data synchronization between these two Operator consoles through a LAN link. changeover of video & audio signals from one control console unit to another Is through a manual switch for redundancy. This switch has two input ports for Video signals coming from two control console units and one output port that Goes to the CCTV network. It also has two audio ports coming from two Control console units and one output port that goes to the audio announcement Network. Control Console Unit provides PC-based voice announcements. displaying train information on various types of Display boards, coach guidance systems, and making the announcement. It shall be possible to upload the database, like train information, text messages, images, etc., from the CDC to the display board(s) controller on the same communication link for train arrival/departure display boards.

A Report

On

INFOCOM SERVICES AT ONGC

BY

Damodar Guri

Bachelor of Engineering

ELECTRONICS & COMMUNICATIONS

INTERNSHIP AT: ONGC, AHMEDABAD

Duration: 23/05/2022 To 05/07/2022

Mentor: V.V.Machhar (DGM E&T)

Oil and Natural Gas Corporation Limited
Ahmedabad Asset, Asaraj Bhawan, Chandkheda, Ahmedabad 382 424 Gujarat
Phone: +91 - 079 - 23290250 / 23290300 Fax: +91 - 079 - 23291764

No. AMD/HRD/TRG/Cert/2022/46

Date August 03, 2022

Certificate

This is to certify that Mr. DAMODAR GURU pursuing B.Tech (Electronics and Communication) from GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR has undergone Summer Internship at Oil and Natural Gas Corporation Limited, Ahmedabad Asset, from May 23, 2022 – July 05, 2022.

He has successfully completed his training at Infocom Section, ONGC - AHMEDABAD ASSET.

During the training he took keen interest in the assigned work. We wish him success in all his academic endeavours and in his life.

Sr. HR Executive
ONGC, AHMEDABAD ASSET

PRAYUDATTA PATEL
Sr. HR Executive
ONGC, Ahmedabad Asset

CONTENTS

INTERNSHIP REPORT ON

ANGULAR WEB APPLICATION DEVELOPMENT

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT OF THE AWARD OF

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

SUBMITTED BY:

KEERTHI SAI SATHWIK

UNDER THE GUIDANCE OF

MR. Lokesh Singh @Accenture

Suven Consultants & Technology Pvt Ltd.

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY,

GURU GHASIDAS VISHWAVIDYALAYA,

KONI, BILASPUR.

Suven Consultants & Technology Pvt. Ltd.

Official member to HackerRank shine IRA

CERTIFICATE OF INTERNSHIP

This is to certify that **Keerthi Sai Sathwik** has successfully completed **4 weeks (or 140 hrs) Angular** Coding Internship.

1) Basic Calculator App
2) CRUD App with Angular - Php & MySQL
3) E-Commerce Web App

The projects were assessed by AI Engine trained by mentors as listed on **https://mentor.suvenconsultants.com**

Your performance was **Commendable** - in the Online Internship. Wishing you all the best for more internships and a great career.

Your Internship Profile can be viewed on https://internship.suvenconsultants.com/user?u=a2VlcnRoaXNhaXNhdGh3aWtzQHNjdHBs

Date of Issue: 18-08-2022

This is auto generated by our ai engine

Rocky Jagtiani

Domain Expert: Rocky Jagtiani
Technical Head - SCTPL
https://suvenconsultants.com

Domain Expert: Niraj Sharma
UI/UX expert and Software Engineer
NeoSOFT Technologies

Domain Expert: Tarik Sheth
MCP,HP(AIS),CSTE,CSQA,CSTM
VP(in Investment Banking MNC)

Companies Recruiting ... & Many More

atech Kingston SPORTE IT'S THOUGHTFUL IT'S Rustomjee GIRAAND PIRAMAL KenBlanchard iksula Tech Mahindra Deloitte.

1. ABSTRACT

Angular is an open-source, JavaScript framework written in TypeScript. Google maintains it, and its primary purpose is to develop single-page applications. As a framework, Angular has clear advantages while also providing a standard structure for developers to work with. It enables users to create large applications in a maintainable manner. JavaScript is the most commonly used client-side scripting language. It is written into HTML documents to enable interactions with web pages in many unique ways. As a relatively easy-to-learn language with pervasive support, it is well-suited to develop modern applications. But JavaScript is not ideal for developing single-page applications that require modularity, testability, and developer productivity These days, we have a variety of frameworks and libraries designed to provide alternative solutions. With respect to front-end web development, Angular addresses many, if not all, of the issues developers face when using JavaScript on its own.

INDUSTRIAL TRAINING REPORT

On

" VOCATIONAL TRAINING IN TELECOM "

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

PRAVEEN THAKRE
18106041

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

BSNL

Connecting India

BHARAT SANCHAR NIGAM LIMITED

(A Govt. of India Enterprise)

Betul - M.P.

CERTIFICATE FOR BASIC LEVEL VOCATIONAL TRAINING IN TELECOM

This is to Certify Mr./ ~~Miss~~ Praveen Thakur

Student of I.T. G.G.V. Bilaspur Pursuing B.Tech (ECE)

has Suceesfully completed Vocational Training of 1/2//3/~~4~~ week in Basic telecom with effect from 20.05.2022 at Betul BSNL

His/Her Performance during this training has been

Excellent

(Choose all fill on based on the performance in test)

BSNL Wishes his/her all the best for a bright future.

Place: Betul

Date: 24.06.2022

A.G.M.(Admin)
o/o T.D.M.Betul

Index

Site Visit

BTS Main Sections

- POWER SECTION
- POWER PLANT
- BTS MACHINE
- TOWER & ANTENNA

BTS Machine Parts:

- POWER CARDS
- BB2F
- TRX
- BOIA CARD
- ALARM EXTENSION SYSTEM

INDUSTRIAL TRAINING REPORT

On

"Embedded System Design and IOT"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

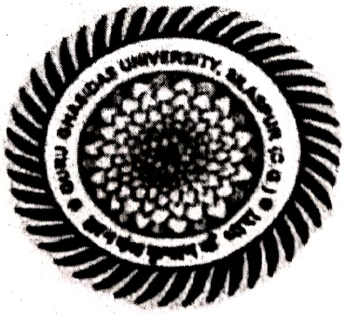
Electronics and Communication Engineering

By

Sandhya

(Roll No.- 19106656)

B. Tech, VII Semester



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CERTIFICATE NO : CERT_JBZ9FFNX

CIN NO : U80900TN2012PTC083936

PANTECHSOLUTIONS
Technology Beyond Our Dreams

CERTIFICATE
OF INTERNSHIP

This is to certify that

SANDHYA (GGU BILASPUR)

has successfully completed

INTERNSHIP ON EMBEDDED SYSTEM DESIGN AND IOT (30 DAY'S)

at Pantech Prolabs India Pvt Ltd

04-07-2022
DATE
OF ISSUE

M.K.JEEVARAJAN
DIRECTOR
PANTECHSOLUTIONS
www.pantechsolutions.net

ABSTRACT

Practical exposure in the field of embedded system and Internet of Things is extremely important as it gives close view of the real electronic world issues. It helps to cover all parts that remind uncovered in the classroom. It helps to gain experience. Just theoretical knowledge is not sufficient for the success of any engineer student. So once should have practical knowledge about each theory of life.

I learnt lot of new things from this Internship which could never have been learnt from theory classes.

If any finding and recommendation go in any way to prove some new ground in helping the commodity future sector. I sell be my efforts have dully served the purpose. In the upcoming pages and attempt has been made to present report covering different aspect of my training.

INDUSTRIALTRAINING REPORT

On

"Telecom Technology And Network"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Mayank

(18106034)

B.Tech,VIISemester

DEPARTMENTOFELECTRONICSANDCOMMUNICATIONENGINEERINGSC

HOOLOFSTUDIESINENGINEERINGANDTECHNOLOGY

GURUGHASIDASVISHWAVIDYALAYA,BILASPUR(C.G.)

SESSION:2022-23

TABLE OF CONTENTS

Certificate Number

ALTOFNB416-2022-1633001

ALTOFNB416-2022-1633001

ADVANCED LEVEL TELECOM TRAINING CENTRE (ALTTC), GHAZIABAD

(UNO'S ITU CENTRE OF EXCELLENCE)

APEX TRAINING INSTITUTE OF BSNL(A GOVT. OF INDIA ENTERPRISE)

A Joint Venture Of International Telecommunication Union, Geneva, UNDP And The Government Of India In 1975

CERTIFICATE

This is to Certify that Mr./Ms.

MAYANK , Student from

Guru Ghasidas Vishwavidyalaya , Bilaspur, Chhattisgarh

has successfully completed the following Course conducted by

Bharat Sanchar Nigam Limited

VOCATIONAL TRAINING IN TELECOM TECHNOLOGY AND NETWORK (04 week)

with effect from **23.05.2022** *TO* **17.06.2022**

at **ALTTC, Ghaziabad**

We wish him/her all the best for a bright future.

20.06.2022

DATE

Dy. General Manager (CFA)
(ALTTC)

INDUSTRIAL TRAINING REPORT

ON

" BASIC TELECOM "

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

SMRITI HALDER

(Roll No. : 19106660)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION : 2022-23

भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprises)

General Manager Telecom District
Near Agrasen Chowk, Bilaspur (C.G.) 495001

Bilaspur at Dated – 06.06.2022

No: EST-79/III/CERT/..06.....

Certificate

This is to certify That .....SMRITI HALDAR.....,

S/D/O.....SUKUMAR HALDAR.....,a regular

student .....G.G.V. BILASPUR....., has

successfully completed vocational training in this organization for Four

week Advance Telecom as OCB/Broadband/C-DOT/Mobile/Lease

Line etc subject. [From. 09-05-2022 To 04-06-2022]

Her/His attendance, discipline, performance and overall conduct

are found Good/Very Good/Excellent.

AGM (Admn/HR)

Date : 06-06-2022

O/o BSNL GMTD BILASPUR (C.G)

AGM (Admn/HR)
O/o GMTD BSNL BILASPUR

ABSTRACT

Spending a period of four weeks with the BSNL. The report is on how the BSNL Basic Telecom Network work and how to exchange work and how the company work with telecommunication Network.

Previously electro-mechanically exchange for use in India namely Strowger type exchange and cross bar exchange. These Manual telephone exchanges suffered from some disadvantages. To overcome the same automatic exchange was introduced in this system.

In this system 1980's PITHROTHA LTD introduced "C-DOT' exchange in India. Besides C-DOT exchange ILT exchange, E-1OB exchange also proved of mile stone in Telecommunication Sector to replace electromechanical exchange, which were most sophisticated and modern latest techniques electronics exchanges. There after it was OCB-283 exchange which proved very important exchange in this series to replace electromechanical exchange.

Now, it is "WLL & "GSM" mobiles which is also proved a mile stone in telecommunication sector. It was 31st March 2002 when BSNL started these GSM mobile and today it has provided almost 35 lakh mobiles in all over country.

INDUSTRIALTRAINING REPORT

On

"USE OF THERMOGRAPHY IN DETECTING ELECTRICAL FAULTS IN ELECTRICAL SYSTEMS AND SWITCHYARDS"

Submitted in the partial fulfillment for the award

of the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

DISHA SHUKLA

(Roll No. – 19106622)

B.Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR(C.G.)

November 2022, SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT219

THIS CERTIFICATE IS AWARDED TO

Disha Shukla

VT Roll No – VT22ECIT219

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

ABSTRACT

Electrical power system deals with various new technologies; also most part of electrical system in various industrial applications is automated. To maintain the reliability it is essential to carry out maintenance procedures. Temperature is one of the important parameter that should be taken into account in the maintenance, because higher temperatures indicate loss of energy in the form of heat. As temperature audits have much importance in the maintenance, now a day Thermo-graphic audits are carried out in many industries. Thermography is nothing but temperature profiling of a surface of electrical equipment. One of the major advantages of this type of technique is that this is contactless monitoring of electrical equipment without actually shutting down the equipment which gives reliable and fast prediction of faulty part of the system. In this paper image processing techniques are used for the analysis of thermal images of the faulty equipments. This paper deals with the study and analysis of Thermography as one of the fault prediction technique.

Keywords: Electrical equipments; heat loss; Thermography.

INDUSTRIAL TRAINING REPORT

On

EAST CENTRAL RAILWAY

From

DRM office, Sonpur

(Signal & Telecommunication department)

Submitted in the partial fulfillment for the award of the
Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

ALOK ADITYA

(Roll no.- 18106004)

B.Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

EAST CENTRAL RAILWAY

CERTIFICATE

Ref No. 85/2022

It is certified that *Mr. Alok Aditya* (Roll. No.GGV/18/1027) 6th Sem., B.Tech. (ECE) of *Guru Ghasidas Vishwavidyalay, Bilaspur* has been imparted **Internship** at *S&T Deptt. ECR, Sonpur* from 01.06.2022 to 05.07.2022.

The student has undergone training in core activities of Railways like: **Railnet Networking, VoIP based Exchange, Optical Fibre Communication System, Quad Cable Communication system, PRS/UTS working system, Mobile Train Radio Communication, Signal Interlocking system, Basic Signalling system etc.** during this session.

I wish him all success in life.

6/7/2022

(Prabhat Kumar)
Asstt. Personnel Officer/MPP
East Central Railway, Hajipur

Place: Hajipur
Date : 06.07.2022

ABSTRACT

This report takes a pedagogical stance in demonstrating how results from theoretical computer science may be applied to yield significant insight into the behavior of the devices computer systems engineering practice seeks to put in place, and that this is immediately attainable with the present state of the art.

The focus for this detailed study is provided by the type of solid state signaling and various communication systems currently being deployed throughout mainline railways. Safety and system reliability concerns dominate in this domain. With such motivation, two issues are tackled: the special problem of software quality assurance in these data-driven control systems, and the broader problem of design dependability. In the former case, the analysis is directed towards proving safety properties of the geographic data which encode the control logic for the railway interlocking; the latter examines the fidelity of the communication protocols upon which the distributed control system depends.

VLSI DESIGN

A Summer training report Submitted in Partial Fulfillment of the Requirement of The Degree

Of

BACHELOR OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

Completed at

INTERNSHALA

Duration

28 JUNE to 08 AUGUST,2022

Submitted By

GURINDAPALLI VENKATARATNAM

(18106025)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES – ENGINEERING & TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.) - 495009

CONTENT

Certificate of Training

GURINDAPALLI VENKATARATANAM

from Guru Ghasidas Vishwavidyalaya, Bilaspur has successfully completed a 6-week online training on **VLSI Design**. The training consisted of Introduction to VLSI, HDL Coding Concepts, Combinational Circuits, Sequential Circuit Design, Finite State Machines, System Design using FPGA, and Case Studies & Final Project modules.

We wish GURINDAPALLI all the best for future endeavours.

Sarvesh Agrawal

FOUNDER & CEO, INTERNSHALA

INDUSTRIAL TRAINING REPORT

On

"RANGE OPERATIONS"

Submitted in the partial fulfillment for the award of

the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Prudhvi Nagendra Babu

18106043

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND

TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारत सरकार
अंतरिक्ष विभाग
सतीश धवन अंतरिक्ष केंद्र शार
श्रीहरिकोटा रेंज डा.घ. 524 124
श्री पोट्टि श्रीरामुलु नेल्लूर जिला, आं.प्र., भारत
दूरभाष : +91-8623 245060 (6 जं)
फैक्स : +91-8623 222099

सत्यमेव जयते

Goverment of India
Department of Space
Satish Dhawan Space Centre SHAR
Shriharikota Range P.O. 524 124
SPSR Nellore Dist., AP., India
Telephone : +91-8623 245060 (6 Lines)
Fax : +91-8623 222099

प्रबंधन प्रणाली क्षेत्र MANAGEMENT SYSTEMS AREA
मानव संसाधन विकास प्रभाग HUMAN RESOURCE DEVELOPMENT DIVISION
(Phone No. 08623 – 225047, Fax No – 225577)

No. HRDD/STU/I/PRJ2022036 Date: 03/06/2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. PRUDHVI NAGENDRA BABU** (Reg. No. GGV/19/1233) pursuing **B.Tech III Year (Electronics & Communication Engineering)** from **Guru Ghasidas Vishwavidyalaya, Chattisgarh** has undergone **Internship** training at **Range Operations (RO)** facilities in **SDSC SHAR, Sriharikota** from **04/05/2022 to 03/06/2022.**

During the above period, his character and conduct were found to be **Very Good.**

(P. Gopi Krishna)
Group Director, MSG
पी. गोपी कृष्णा P. Gopi Krishna
समूह निदेशक Group Director
एमएसजी MSG
एसडीएससी शार SDSC SHAR

ABSTRACT

RADAR is an electromagnetic system for the detection and location of target objects such as aircraft, ships, spacecraft, vehicles, people, and the natural environment which can refl ect a signal back. It uses electromagnetic radio waves to determine the angle, range, or velocity of objects. RADAR was developed by various nations before and during Second World War. RADAR is a classic example of an electronic engineering system that utilizes many of the specialized elements of technology practiced by electrical engineers, including signal processing, data processing, waveform design, electromagnetic scattering, detection, parameter estimation, information extraction, antennas, propagation transmitters, and receivers. This paper gives an outline of RADAR principle and some of the RADAR applications, which range from air traffic control, forest and climate monitoring and the monitoring of natural disasters to name just a few.

P. Nagendra babu

P. Nagendra babu

VLSI DESIGN

A Summer training report Submitted in Partial Fulfillment of the Requirement of The Degree of

BACHELOR OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

Completed at

INTERNSHALA

Duration

12 JUNE to 23 JULY, 2022

Submitted By

RACHAPUDI PAVAN (18106044)

Department of Electronics Engineering

GURU GHASIDAS VISHWAVIDYALAYA,

BILASPUR.

CONTENT

INTERNSHALA TRAININGS

Certificate of Training

RACHAPUDI PAVAN

from Guru Ghasidas Vishwavidyalaya ,Bilaspur. has successfully completed a 6-week online training on VLSI Design. The training consisted of Introduction to VLSI, HDL Coding Concepts, Combinational Circuits, Sequential Circuit Design, Finite State Machines, System Design using FPGA, and Case Studies & Final Project modules.

We wish RACHAPUDI all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2022-07-23 Certificate no. : 95248568-DE16-040B-2510-F5321E57F888

For certificate authentication, please visit https://trainings.internshala.com/verify_certificate

INDUSTRIAL TRAINING REPORT

On

"Operation and Maintenance work of City Division"

Submitted in the partial fulfillment for the award of the Degree

Bachelor of Technology

In

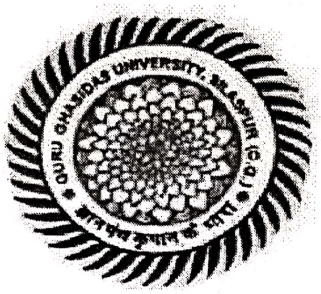
Electronics and Communication Engineering

By

Kamal Singh

19106626

B. Tech, VII Semester



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CHHATTISGARH STATE POWER DISTRIBUTION COMPANY LIMITED

(A Government of Chhattisgarh Undertaking)
(A Successor Company of CSEB)
OFFICE OF E.E.CITY DN. (EAST), TORWA, BILASPUR – 495 004

NO.EE/City/East/Estt/

Bilaspur, Dtd.

CERTIFICATE

This is to certify that Mr./Ms **KAMAL SINGH S/o DEEPAK SINGH**, Student of 6TH **SEMESTER (ELECTRONICS & COMMUNICATION ENGINEERING)** of **GURU GHASIDAS UNIVERCITY, BILASPUR** has attended the vocational training at under E.E.City Dn. (East) Division ,Bilaspur during **09.06.2022 TO 08-07-2022.**

He/She has attended the training regularly and shown keen interest to learn Operation and Maintenance work of City Division.

E.E. City Dn:(East)
C.S.P.D.C.L.Bilaspur
Executive Engineer
City Dn.-I (East)
CSPDCL, Bilaspur

TABLE OF CONTENT

INDUSTRIAL TRAINING REPORT

On

"Automation in Blast Furnace"

Submitted in the partial fulfillment for the award

of the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

AKHILENDRA SAMSANI

(18106049)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Rashtriya Ispat Nigam Limited Rashtriya Ispat Nigam Limited Visakhapatnam Steel Plant Visakhapatnam Steel Plant Technical Training Center, Technical training Institute Visakhapatnam-530031

Reg.No. : 100010764

Certificate

It is to certify that Mr./Ms. **AKHILENDRA SAMSANI** student of

(Year / Course / Branch- Year / course / Branch) **3 / BE / B TECH / ECE** Student from

GURU GHASIDAS VISWA VIDYALAYA, BILASPUR has undergone

4 Week training

at Visakhapatnam Steel Plant at Visakhapatnam Steel **INSTRUMENTATION** Department

from dt. Done from **23-05-2022** to **18-06-2022**

The project title is The Project Title is **AUTOMATION IN BLAST FURNACE .**
His conduct during the period of training
is **GOOD _**

Place: Visahkhapatnam
Date: 22-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टनम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टनम – 530031/Visakhapatnam-530031

ABSTRACT

The blast furnace process control system in combination with the blast furnace optimization system creates a high level in intelligent blast furnace automation. The blast furnace process automation is a high accuracy process control with prompt online graphical information. It provides a stable, reproducible operation of the blast furnace with constant hot metal quality. The result is smooth blast furnace operation all the time, increased equipment lifetime, and reduced production costs and manual interaction.

The blast furnace process automation normally consists of PLC (programmable logic controller) and HMI (human machine interface) systems at Level-1 automation which are the control for all critical processes. These control means are completed by Level-2 solutions (process models, expert systems, and program tools), covering either the overall BF operation or specific parts of the ironmaking process (hot blast stoves, blast furnace charging etc.). An expert system is used for the integrated Level-2 solutions for the blast furnace. This advanced process assistance system includes blast furnace control and real time data analysis and process optimization as well as deferred blast furnace data analysis. It allows operators to optimize hot metal production, and to report performance indicators and production figures.

In overall process automation, computers, programmable controllers, and micro controllers are used which are connected in the form of a local area control network to perform all communications from the enterprise level down into the plant. The intelligent motor control systems, integrated with the control system, provide distributed control and additional maintenance data for the increased diagnostics and field equipment performance.

A process computer collects and calculates data from sensors provided at various positions of the blast furnace, and thus monitors the condition of the furnace in real time. When it detects any change which can adversely affect the stable operation of the blast furnace, it outputs action guidance for the furnace operators. The present-day blast furnace has nearly a thousand sensors installed in it. The progress of micro-electronics and data communication systems such as the data highway makes it possible to introduce distributed digital instrumentation.

INDUSTRIAL TRAINING REPORT ON

"PROCESS CONTROL IN BLAST FURNACE"

(Followed by "Pulverized Coal Injection system")

In instrumentation department of BF

By

BALDA DINESH (18106016)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

GURU GHASIDAS VISWAVIDYALAYA

Bilaspur, Chhattisgarh.

Under the Guidance of

RAVI KISHORE.CH

Instrumentation department

RINL, Visakhapatnam Steel Plant

(Duration:23rd May 2022 to 18th June 2022)

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100010905

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **BALDA DINESH** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **INSTRUMENTATION** विभागों मे

department from दि. **23-05-2022** से to **18-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **PROCESS CONTROL IN BLAST FURNACE** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam
दि./Date : 22-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टनम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टनम – 530031/Visakhapatnam-530031

Index

VLSI DESIGN

A Summer training report Submitted in Partial Fulfillment of the Requirement of The Degree of

BACHELOR OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

Completed at

INTERNSHALA

Duration

02 JULY to 13 AUGUST,2022

Submitted By

DIDDIGI SAIKIRAN (18106021)

Department of Electronics Engineering

GURU GHASIDAS VISHWAVIDYALAYA,

BILASPUR.

CONTENT

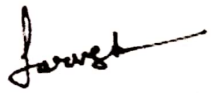
INTERNSHALA TRAININGS

Certificate of Training

DIDDIGI SAIKIRAN

from Guru Ghasidas Vishwavidyalaya ,Bilaspur. has successfully completed a 6-week online training on **VLSI Design**. The training consisted of Introduction to VLSI, HDL Coding Concepts, Combinational Circuits, Sequential Circuit Design, Finite State Machines, System Design using FPGA, and Case Studies & Final Project modules.

We wish DIDDIGI all the best for future endeavours.



Sarvesh Agarwal

FOUNDER & CEO, INTERNSHALA

Date of certification: 2022-08-13 Certificate no.: 95248568-DE16-040B-2518-F5321E57F8B8

For certificate authentication, please visit https://trainings.internshala.com/verify_certificate

INDUSTRIAL TRAINING REPORT

On

"Study Project on Process Instrumentation"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

POLA SAI KUMAR

(18106038)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

RINL VIZAG STEEL Pride of Steel
A Navratna Company

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100009203

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **POLA SAIKUMAR** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **INSTRUMENTATION** विभागों मे

department from दि. **23-05-2022** से to **18-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **STUDY OF PROCESS INSTRUMENTATION IN STM** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam
दि./Date : 22-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान्/Technical Training Institute
आर आई एन एल विशाखपट्टणम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टणम – 530031/Visakhapatnam-530031

ABSTRACT

The project work includes collecting specifications and features different instruments, sensors like Thermocouple, RTD, HMD (HOT METAL DETECTOR), Radiation pyrometers, and dead weight testers. Control system like switches, pressure transmitters, Butterfly valves, I/P convertors, Positioners and Air regulators. Relay logic and PLC, PID controllers and Safety interlocks which are used for both measurement and control of essential process variables, microcontroller operations as well as logical operations in STM (Structural Mill) can be performed.

STUDY PROJECT ON SIEMENS PLC

The Project Report submitted to the Technical Training Institute, Visakhapatnam Steel Plant, Visakhapatnam in partial fulfillment of Training Program.

BY

K. A. R. HARSHA VARDHAN

TRAINEE No:100008567

Under the Esteemed Guidance of

SHRI ASHOK KUMAR NAIK

AGM (ETL) Dept.

ELECTRO TECHNICAL LABORATORY (ETL) Dept.

RASHTRIYA ISPAT NIGAM LIMITED,

Visakhapatnam, A. P

CERTIFICATE

This is to certify that the project work entitled "STUDY PROJECT ON SIEMENS PLCs" IN SMS-1/CONV" has been carried out by **Mr. K.A.R. Harsha Vardhan** under my guidance, in partial fulfillment of requirements for Management Trainee Training program. The candidate worked right under my supervision and guidance.

अशोक कुमार नायक
ASHOK KUMAR NAIK
सहायक महा प्रबंधक (ई टी एल)
Asst. General Manager (ETL)
ई टी एल विभाग, ETL Deptt.
राष्ट्रीय इस्पात निगम लिमिटेड, विशाखापत्तनम इस्पात संयंत्र
RINL, Visakhapatnam Steel Plant
विशाखपट्टणम-530 031 (भारत) Visakhapatnam-530 031

Sign. ASHOK KUMAR NAIK
AGM (ETL)
ELECTRO TECHNICAL LABORATORY
Visakhapatnam Steel Plant.

ABSTRACT

Programmable Logic Controllers (PLC) and Programmable Automation Controllers (PAC) are process and control implementations that cover everything from test labs and fabrication plants to military and medical electronics to basic data acquisition. They leverage various sensor types and feedback mechanisms to monitor and control the local environment and system/machine interactions by collecting, storing, and analyzing data. Acquiring data from sensors involve precision measurement and the processing of very low values or small changes in analog voltages/currents.

In the project we had studied about the PLCs and uses in industrial operations and, we studied about hardware and software components. In SMS-1 convertor PLCs are more important.

VOCATIONAL INDUSTRIAL TRAINING ON

A STUDY ON ELECTRONIC INTERLOCKING SYSTEM

Submitted on partial fulfillment of the requirement of the award of

BACHELORS OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

This report is prepared and submitted by **L SAI KIRAN (100010514)** based on the observations and learnings throughout the duration of the training, under the guidance of **MR. A.B.V.K. RAMALINGESWARA RAO(AGM)**

TRAFFIC DEPARTMENT

VISAKHAPATNAM STEEL PLANT

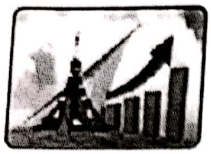
RASHTRIYA ISPAT NIGAM LIMITED

SCHOOL OF STUDIES OF ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA

KONI, BILASPUR, CHHATTISGARH.

CERTIFICATE



VIZAG STEEL
Pride of Steel
A Navratna Company

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100010514
प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **LANDA SAI KIRAN** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **TRAFFIC DEPARTMENT** विभागों मे

department from दि. **06-06-2022** से to **02-07-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **A STUDY ON ELECTRONIC INTERLOCKING SYSTEM** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam
दि./Date : 06-07-2022

Signature of Training Co-Ordinator
Assistant General Manager (Training)
Technical Training Institute
Visakhapatnam Steel Plant
Visakhapatnam-530031

ABSTRACT

Steel, everybody wants steel for the goods that they manufacture and that necessity is the key for the huge amount of production of steel.

Visakhapatnam steel plant(VSP) is one of the organizations that produces a huge amount of steel and it is very well known, this manufactured steel and in the process of manufacturing steel the should be movement of the final and intermediate products and there where traffic department comes in picture, because always we cant use dumpers, trucks to carry those heavy products and to over come that issue the people in traffic department use locomotives and wagons to transport the material to the designated places on time and the people in yards related with traffic department operate those locomotives and make sure safety measures and that's where **INTERLOCKING SYSTEM** arises and there exist two types **SSI (solid state inter- locking) and RRI(route relay interlocking),** the main moto behind using the SSI and RRI is to reduce the traffic of loco's and to avoid any type of accidents that may cause loss to the plant. In this project we have studied about the Solid-state interlocking system and route relay interlocking system, documented clearly along with an overview of different works taking place in all departments of steel plant.

INDUSTRIAL TRAINING REPORT

On

“BHARAT HEAVY ELCTRICALS LIMITED”

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

ALLU HEMANTHA REDDY

19106603

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
रामचंद्रापुरम, हैदराबाद
मानव संसाधन विकास केंद्र

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM, HYDERABAD-502032
Human Resource Development Centre

Ref No: 22ENGG4344 **Date :** 08-06-2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr./Ms./Mrs. ALLU HEMANTHA REDDY with college id no: GGV/19/1021 studying in INSTITUTE OF TECHNOLOGY, GURU GHASIDAS VISHWAVIDYALAYA pursuing B.E/B.Tech/MBA in ELECTRONICS AND COMMUNICATION discipline had undergone project training from 10TH MAY 2022 to 8TH JUNE 2022. The title of the project as per our records is TO DEVELOP PLC LOGIC ON BRG DRILLING MACHINE

Project training in-charge

डी आर शिव शंकर
D.R. SHIVA SHANKAR
उप अभियंता, एच आर डी सी
Dy. Engineer, HRDC
BHEL-HPEP, HYD-32

ABSTRACT

Programmable logic controller (PLC System) is a computer system, basically designed to perform logical decision making for industrial control applications. The simplicity of reprogramming a PLC system, when modifications were required in the existing control, as compared to the cumbersome process of rewiring a hardwired control panel has been widely accepted. The PLC system is composed of electronic circuitry with a microprocessor centered.

In hardwired control, it is the wiring between individual elements such as sensor contacts, valves, solenoids etc. that defines the “control program”. Any modifications to the “program” involve rewiring the circuit.

In PLC systems, the construction of the controller and wiring are independent of program execution

गुरु घासीदास विश्वविद्यालय, बिलासपुर
Guru Ghasidas Vishwavidyalaya, Bilaspur
A Central University established by the Central University Act 2009 No. 25 of 2009

CSPDCL
छत्तीसगढ़ स्टेट पॉवर डिस्ट्रीब्यूशन कंपनी लिमिटेड

INDUSTRIAL TRAINING REPORT In "C.S.P.D.C.L"

Submitted In Partial Fulfilment for the Award of The Degree of

BACHELOR OF TECHNOLOGY

In

ELECTRONICS & COMMUNICATION ENGINEERING

By

SABIT RANJAN SAHOO

Roll No.: 19106665

B.Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CHHATTISGARH STATE POWER DISTRIBUTION CO. LTD.
(A Government of Chhattisgarh Undertaking)
(A SUCCESSOR COMPANY OF CSEB)

No. EE/City Dn.-West /Estt/ 936 *Bilaspur, dated* 22-06-2022

CERTIFICATE

This is to certify that the student of Guru Ghasidas University(C.G.) of Electronics & Communication Engineering Branch 6th semester, ***Shri Sabit Ranjan Sahoo,*** *has undergone Vocational Summer Internship Training under this Organization during the period from 24th May 2022 to 22th June 2022.*

He has shown keen interest in learning various activities of this Organization, viz. maintenance and operation of LT/HT Line/Sub-station equipments etc.

His Performance during the Vocational Training was very good.

Executive Engineer (City Dn.-II) West,
C.S.P.D.C.Ltd., Bilaspur

Executive Engineer
City Dn. II (West)
C.S.P.D.C.L., Bilaspur

Project Abstract

The primary objective of this training program is to offer undergraduate students a unique opportunity to engage in the practical application of engineering concepts in real-world scenarios. Through active participation, observation, and hands-on experiences, students gain valuable insights into the practical implications of engineering principles.

During the course of this training program, the focus was on the critical role that electricity plays in our daily lives. The training exposed the participants to the intricacies of substations and their operational mechanisms. Furthermore, it provided a comprehensive understanding of how electrical transmission and distribution systems function in different regions of Chhattisgarh.

One of the key takeaways from this training is the recognition of the pivotal role played by substations in the entire electricity supply chain. Substations are the linchpin that ensures the smooth and efficient flow of electricity, from generation to the end-user. Understanding the importance of substations underscores the necessity of implementing various protective measures to safeguard them against potential faults or disruptions.

Chhattisgarh State Power Distribution Company Ltd. (CSPDCL) emerges as a central player in this context. The organization's commitment to delivering a consistent and reliable power supply across every nook and cranny of the state is evident. Their dedication to maintaining the integrity of the power distribution system is commendable and reinforces the significance of a stable electricity supply in our lives.

I extend my gratitude to my class teachers for informing me about this invaluable initiative. Additionally, I would like to express my heartfelt thanks to **Mrs. Sanchari Singh Chauhan**, Assistant Engineer (HTM & Const.), and all the other staff members who diligently organized and administered the training program. Their guidance and expertise have been instrumental in enhancing my understanding of the practical aspects of electrical engineering.

In conclusion, this training program has been an enlightening journey that has allowed me to bridge the gap between theoretical knowledge and practical application in the field of engineering. It has underscored the vital role of electricity and substations in our daily lives and reinforced the importance of proactive measures to ensure a seamless power supply.

INDUSTRIAL TRAINING REPORT

On

"USE OF THERMOGRAPHY IN DETECTING ELECTRICAL FAULTS IN ELECTRICAL SYSTEMS AND SWITCHYARDS"

Submitted in the partial fulfilment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

ASHUTOSH KUMAR

(**19106613**)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT221

THIS CERTIFICATE IS AWARDED TO

Ashutosh Kumar

VT Roll No – VT22ECIT221

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

Abstract

Electrical systems and switchyards play a critical role in power generation and distribution, making their continuous and reliable operation of utmost importance. However, these systems are susceptible to various faults and anomalies that can lead to costly downtime, safety hazards, and reduced efficiency. To address these challenges, this project explores the application of thermography as a non-invasive and effective technique for detecting electrical faults in these systems. Thermography, the science of capturing and analysing infrared radiation, provides valuable insights into the thermal behaviour of electrical components. By detecting variations in temperature, thermography can identify potential issues such as loose connections, overloads, and imbalanced loads, which are often precursors to electrical failures. This technology offers the advantage of early fault detection, allowing maintenance teams to intervene proactively and prevent costly breakdowns.

The project involves the deployment of thermal imaging cameras to capture infrared images of electrical components within the NTPC electrical systems and switchyards. These images are then analysed using specialised software to identify temperature anomalies and hotspots. The findings are compared to baseline data to determine the severity of faults and prioritise maintenance activities. Through a series of experiments and case studies, the project demonstrates the practical utility of thermography in detecting electrical faults, reducing downtime, enhancing safety, and optimising maintenance schedules. Additionally, it highlights the potential for cost savings and improved operational efficiency within the NTPC facilities.

INDUSTRIAL TRAINING REPORT

On

"DEVELOPING A PLC LOGIC ON BR6 DRILLING MACHINE"

Submitted in the partial fulfilment for the award

of the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

A CHANDU ABHISHEK KUMAR

19106601

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
रामचंद्रापुरम, हैदराबाद
मानव संसाधन विकास केंद्र

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM, HYDERABAD-502032
Human Resource Development Centre

Ref No: 22ENG64339 **Date :** 08-06-2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr./Ms./Mrs. A. CHANDU ABHISHEK KUMAR with college id no: GGV/19/1001 studying in INSTITUTE OF TECHNOLOGY, GURU GHASIDAS VISHWAVIDYALAYA pursuing B.E/B.Tech/MBA in ELECTRONICS AND COMMUNICATION discipline had undergone project training from 10TH MAY 2022 to 8TH JUNE 2022. The title of the project as per our records is "TO DEVELOP PLC LOGIC ON BRG DRILLING MACHINE"

Project training in-charge

डी.आर. शिव शंकर
D.R. SHIVA SHANKAR
उप अभियंता, एच आर डी सी
Dy. Engineer / HRDC
बी.एच.ई.एल.-एचपीईपी, हैदराबाद 32 BHEL-HPEP, HYD-32

ABSTRACT

Programmable logic controller (PLC System) is a computer system, basically designed to perform logical decision making for industrial control applications. The simplicity of reprogramming a PLC system, when modifications were required in the existing control, as compared to the cumbersome process of rewiring a hardwired control panel has been widely accepted. The PLC system is composed of electronic circuitry with a microprocessor centered.

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In PLC systems, the construction of the controller and wiring are independent of program execution

INDUSTRIAL TRAINING REPORT

ON

"USE OF THERMOGRAPHY IN DETECTING ELECTRICAL FAULTS IN ELECTRICAL SYSTEMS AND SWITCHYARD"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of technology

In

Electronics and Communication Enginnering

BY

Deepanshu Patel

(19106621)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR(C.G)

SESSION: 2022-2023

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT218

THIS CERTIFICATE IS AWARDED TO

Deepanshu patel

VT Roll No – VT22ECIT218

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

ABSTRACT

Electrical systems and switchyards are critical components of modern industrial infrastructure, ensuring the reliable transmission and distribution of electrical power. However, these systems are susceptible to various faults and anomalies that can compromise their efficiency, safety, and longevity. Timely detection of these faults is imperative to prevent costly downtime, equipment damage, and potential hazards. Thermal imaging, also known as thermography, has emerged as a powerful and non-invasive tool for detecting and diagnosing electrical faults.

This abstract presents an overview of the application of thermography in the detection of electrical faults within electrical systems and switchyards. Thermography involves the use of infrared cameras to capture temperature variations and anomalies in electrical components, thereby revealing hidden problems that are often not visible to the naked eye. In this paper, we delve into the following key aspects:

Principle of Thermography: We explore the fundamental principles of thermography, emphasizing its reliance on the thermal signatures of electrical equipment. When electrical components develop faults or experience abnormal conditions, they typically generate excess heat, which can be detected through thermal imaging.

Principle of Thermography: We explore the fundamental principles of thermography, emphasizing its reliance on the thermal signatures of electrical equipment. When electrical components develop faults or experience abnormal conditions, they typically generate excess heat, which can be detected through thermal imaging.

Benefits of Thermography: The advantages of using thermography for electrical fault detection are manifold. We elucidate how this technology enables predictive maintenance, reduces unplanned downtime, enhances worker safety, and minimizes operational costs by preventing catastrophic failures

Case Studies: We present real-world case studies highlighting successful implementations of thermography in detecting electrical faults. These cases demonstrate how thermography has been instrumental in identifying and rectifying issues in various electrical systems and switchyards..

Challenges and Considérations: While thermography is a powerful tool, it is not without challenges. We discuss considerations such as camera selection, environmental factors, and operator training to maximize the effectiveness of thermographic inspections

Future Directions: Finally, we touch upon potential advancements in thermography technology and its integration with other monitoring systems, such as machine learning algorithms, for more accurate and automated fault detection.

INDUSTRIAL TRAINING REPORT

On

"USE OF THERMOGRAPHY IN DETECTING ELECTRICAL FAULTS IN ELECTRICAL SYSTEMS AND SWITCHYARDS"

Submitted in the partial fulfillment for the award of the
Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Giriraj Gautam

(19106623)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT217

THIS CERTIFICATE IS AWARDED TO

Giriraj Gautam

VT Roll No – VT22ECIT217

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

OVERVIEW

The report studies and discusses how Thermography aids in the fault detection of Electrical systems and Switchyards used in many industrial spaces, power utility plants like NTPC. Thermography is widely used for various research and industrial applications to detect heat temperatures and change in signature or concentrations of heat emitted by the continuous functioning electrical equipment. NTPC is India's largest power utility with an installed capacity of 69,134.20 MW (including JVs), plans to become a 130 GW company by 2032. Established in 1975, NTPC aims to be the world's largest and best power major. NTPC has comprehensive Rehabilitation & Resettlement and CSR policies well integrated with its core business of setting up power projects and generating electricity. The company is committed to generating reliable power at competitive prices in a sustainable manner by optimising the use of multiple energy sources with innovative eco-friendly technologies thereby NTPC is contributing to the economic development of the nation and upliftment of the society.

INDUSTRIAL TRAINING REPORT

On

"Operation and Maintenance work of City Division"

Submitted in the partial fulfillment for the award of the Degree

Bachelor of Technology

In

Electronics and Communication Engineering

By

Hemant Kumar

19106624

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CHHATTISGARH STATE POWER DISTRIBUTION COMPANY LIMITED

(A Government of Chhattisgarh Undertaking)
(A Successor Company of CSEB)
OFFICE OF E.E.CITY DN. (EAST), TORWA, BILASPUR – 495 004

NO.EE/City/East/Estt/ Bilaspur, Dtd.

CERTIFICATE

This is to certify that Mr./Ms **HEMANT KUMAR S/o SANTRAM,** Student of 6TH **SEMESTER (ELECTRONICS & COMMUNICATION ENGINEERING)** of **GURU GHASIDAS UNIVERCITY, BILASPUR** has attended the vocational training at under E.E.City Dn. (East) Division ,Bilaspur during **09.06.2022 TO 08-07-2022.**

He/She has attended the training regularly and shown keen interest to learn Operation and Maintenance work of City Division.

E.E. City Dn:(East)
C.S.P.D.C.L Bilaspur

Executive Engineer
City Dn.-I (East)
CSPDCL, Bilaspur

1.ABSTRACT

Electricity is the most important thing in our daily life. which is usage in every sector. Electricity is generated through various methods, from **conventional (Thermal, Nuclear & Hydro) and renewable sources (Wind, Solar, Biomass etc.)**. However, Major production of Electricity is achieved through coal a thermal power plant which is around 75% of the total power generation.

CSPDCL is a power distributor in Chhattisgarh state. It is managed and controlled by state government. Torwa zone (Bilaspur) is the one of the electricity distributor zone/branch of CSPDCL. Zone have different substations which converted 33KV to 11KV and 11KV lines are distributed in local areas through different feeders. On that substation different components is there which helps to step-down the electricity and distribute it in local areas. Single line diagram is the symbolic representation of the substation. Where different elements are represent in symbol. Power transformer is the main element in the substation. It is called the heart of substation. It is step down the power and Substation transformers are rated by their primary and secondary voltage relationship. Current transformer(CT) and Potential transformer(PT) are also other type of transformer, Current transformers are used for **protection, measurement and control** in high-voltage electrical substations and the electrical grid and A potential transformer is mainly used **to measure high alternating voltage in a power system.** Insulators are essential to the safe and stable distribution of electricity, post and disk insulators are mainly used in substation. Lighting arrestor, these arrestors protect against both lightning and over-voltages, when the electrical device has more current in the system. VCB stands for **vacuum circuit breaker**, Its basic functionality is to interrupt current flow after a fault is detected. A vacuum circuit breaker is a kind of circuit breaker where the arc quenching takes place in vacuum medium**.**

INDUSTRIAL TRAINING REPORT

On

"To develop PLC logic on BR6 drilling machine"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

KOLLU SYAM PRABHATH BHUSHAN VARMA

(Roll No.19106629)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
रामचंद्रापुरम, हैदराबाद
मानव संसाधन विकास केंद्र

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM, HYDERABAD-502032
Human Resource Development Centre

Ref No: 22ENGG4347 **Date :** 08/06/2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr./Ms./Mrs. KOLLU SYAM PRABHATH BHUSHAN VARMA with college id no: GGV/19/1140 studying in INSTITUTE OF TECHNOLOGY, GURU GHASIDAS VISHWAVIDYALAYA pursuing B.E/B.Tech/MBA in ELECTRONICS AND COMMUNICATION ENGG. discipline had undergone project training from 10th MAY 2022 to 8th JUNE 2022. The title of the project as per our records is TO DEVELOP PLC LOGIC ON BRG DRILLING MACHINE

Project training in-charge

ABSTRACT

The cutting speed and drilling depth of a drilling machine while drilling manually is very difficult to measure. In many cases, after completing the drilling work, it is also very difficult to measure the depth; especially for thin holes. However, this paper aimed to design and fabricate an automated drilling machine based on PLC to produce holes of any diameter and depth on the work piece. The automatic drilling machine performed the drilling operations accurately according to the drilling depth and cutting speed. The mechanical movement of the drilling machine is controlled with induction motor, the cutting time input through the Human Machine Interface (HMI) with respect to drilling depth. The control circuit is designed with Programmable Logic Controller (PLC) and its control logic plays vital role to automate the drilling machine. At the end of this project, the result shows that the designed automated system was able to run the drilling process independently on the desired sequence.

Industrial Vocational Training Report

“NALA ROBOTICS LLP ”

Submitted in the partial fulfilment for the award of degree of

Bachelor of Technology

In

Electronics and Communication Engineering

By

MAMILLAPALLI JAYA VENKATA SAI
(ROLL NO. 19106634)

B. Tech, VIIth Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Date: 01-Jul-2022

TO WHOM SOEVER IT MAY CONCERN

Sub: Summer Internship- Reg.

This is to certify that Mr. Jaya Venkata Sai Mamillapalli from INSTITUTE OF TECHNOLOGY GURU GHASIDAS UNIVERSITY Bilaspur. has successfully completed his internship at NALA Robotics LLP. from 04th May 2022 to 30th June 2022.

During his internship, he worked as an "Embedded Engineer- Trainee". As Embedded Engineer-Trainee he performed day-to-day activities as guided by his supervisor.

During Internship we found him sincere, hardworking and inquisitive. he worked well as part of a team during his tenure.

Yours truly,
For NALA Robotics

Balaji Koneru
General Manager

Introduction of embedded systems

Embedded systems are some specific systems which are designed to perform a specific task. The task or work provided to these system are very specific and remain same as once defined by programmer. Micro controllers are used in and as embedded systems. As for example automatic street light, home automation system, a simple automated electric stove etc.

Training content

How to Design PCB

Designing of development board

Interfacing with Atmega 8A

LED Interfacing

Switch Interfacing

LM35

LCD Interfacing

DC motor

Stepper motor

IR Sensor

L293D

Scope of Embedded systems:-

Embedded systems are used in navigation tools like global positioning system (GPS), automated teller machines (ATMs), networking equipment, digital video cameras, mobile phones, aerospace applications, telecom applications, etc.

Introduction to Electronics Components

Resistor

Capacitor

Multi-meter

Power Supply

Resistor:-

A resistor is a passive electronic component that we use in electronic circuits either to limit current through an active component or to reduce voltage in the circuit (by dropping voltage across the resistor)

Ratings:-

1. **Resistance**

INDUSTRIAL TRAINING REPORT

On

"Operation and Maintenance work of City Division"

Submitted in the partial fulfillment for the award of the Degree

Bachelor of Technology

In

Electronics and Communication Engineering

By

Jyotish Kumar

19106625

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY
GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

CHHATTISGARH STATE POWER DISTRIBUTION COMPANY LIMITED

(A Government of Chhattisgarh Undertaking)
(A Successor Company of CSEB)
OFFICE OF E.E.CITY DN. (EAST), TORWA, BILASPUR – 495 004

NO.EE/City/East/Estt/

Bilaspur, Dtd.

CERTIFICATE

This is to certify that Mr./Ms **JYOTISH KUMAR S/o JAYPAL,** Student of **6TH SEMESTER (ELECTRONICS & COMMUNICATION ENGINEERING)** of **GURU GHASIDAS UNIVERCITY, BILASPUR** has attended the vocational training at under E.E.City Dn. (East) Division ,Bilaspur during **09.06.2022 TO 08-07-2022.**

He/She has attended the training regularly and shown keen interest to learn Operation and Maintenance work of City Division.

E.E. City Dn:(East)
Executive Engineer
City Dn.-I (East)
CSPDCL, Bilaspur

Exe. Dy. C. Bilaspur

1.ABSTRACT

Electricity is the most important thing in our daily life. which is usage in every sector. Electricity is generated through various methods, from **conventional (Thermal, Nuclear & Hydro) and renewable sources (Wind, Solar, Biomass etc.)**. However, Major production of Electricity is achieved through coal a thermal power plant which is around 75% of the total power generation.

CSPDCL is a power distributor in Chhattisgarh state. It is managed and controlled by state government. Torwa zone (Bilaspur) is the one of the electricity distributor zone/branch of CSPDCL. Zone have different substations which converted 33KV to 11KV and 11KV lines are distributed in local areas through different feeders. On that substation different components is there which helps to step-down the electricity and distribute it in local areas. Single line diagram is the symbolic representation of the substation. Where different elements are represent in symbol. Power transformer is the main element in the substation. It is called the heart of substation. It is step down the power and Substation transformers are rated by their primary and secondary voltage relationship. Current transformer(CT) and Potential transformer(PT) are also other type of transformer, Current transformers are used for **protection, measurement and control** in high-voltage electrical substations and the electrical grid and A potential transformer is mainly used **to measure high alternating voltage in a power system.** Insulators are essential to the safe and stable distribution of electricity, post and disk insulators are mainly used in substation. Lighting arrestor, these arrestors protect against both lightning and over-voltages, when the electrical device has more current in the system. VCB stands for **vacuum circuit breaker**, Its basic functionality is to interrupt current flow after a fault is detected. A vacuum circuit breaker is a kind of circuit breaker where the arc quenching takes place in vacuum medium**.**

STUDY OF CCTV SURVEILLANCEIN VSP

PROJECT REPORT

A Project Report submitted in partial fulfillment of the

requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

SUBMITTED BY

T MALLU NAIDU

Under the esteemed guidance of

KRAMESH (D.M)

TELECOM DEPARTMENT

VISAKHAPATNAM STEEL PLANT

RASHTRIYA ISPAT NIGAM LIMITED

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100009338

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **TAMMINAINA MALLU NAIDU** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **TELECOMMUNICATIONS DEPARTMENT** विभागों मे

department from दि. **23-05-2022** से to **18-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **CC TV SURVEILLANCE** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam

दि./Date : 22-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टणम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टणम – 530031/Visakhapatnam-530031

ABSTRACT

The project is based on the “Video surveillance on transportation of raw materials through road from Gangavaram port to Visakhapatnam steel plant”.Visakhapatnam Steel Plant has expanded its production capacity to 7.3 MT of crude steel and is further going to expand to 20 MT in due course of time.So, raw material requirement has also increased. Most of the raw materials are transported to Visakhapatnam Steel Plant by Indian Railway, some by road and some of them through Gangavaram port. At present raw materials are transported to Visakhapatnam Steel Plant from Gangavaram port through Closed Conveyor (CC) belt system. Indian Railway and Gangavaram Port may not be able to meet the increasing demand for transportation of raw material to steel plant. So, inorder to meet the additional of raw material from Gangavaram port, VSP and Gangavaram port management have decided to transport the raw material through road also. So, for surveillance and video monitoring the truck movement from Gangavaram port road weigh bridge to raw material yard inside the Steel plant premises, Steel plant wants to install CCTV system.Since the area where cameras are to be installed for surveillance are not suitable for trenching and laying cables, so wireless surveillance system is proposed.The present work is to design a complete solution for this purpose.

INDUSTRIAL TRAINING REPORT

On

Methods and instruments for locating cable and transmission line faults

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Murshid Raza
Roll no. 19106635

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT229

THIS CERTIFICATE IS AWARDED TO

Murshid Raza

VT Roll No – VT22ECIT229

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

INTRODUCTION

About NTPC:

NTPC is india's largest energy conglomerate with roots planted way back in 1975 to accelerate power development in india. Since it has established itself as the dominant power major with presence in the entire value chain of the power generation business. From fossil fuels it has forayed into generating electricity via hydro, nuclear and renewable energy sources. This foray will play a major role in lowering carbon footprint by reducing green house gas emissions. To strengthen its core business, the corporation has diversified into the fields of consultancy, power trading, training of power professionals, rural elexctrification ash utilisation and coal mining as well.

Fig.-1 Coal based power station in kudgi Bihar

NTPC became a maharathna company in may 2010. As of January 2020, there are 10 maharatna cpses in india ntpc is ranked no. 2 independent power producer (ipp) in plants top 250 global energy company rankings.

STUDY OF WIRELESS IP CCTV SYSTEM IN VSP

PROJECT REPORT

A Project Report submitted in partial fulfilment of the

requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

SUBMITTED BY

Sadasivuni Sai Rahul

Under the esteemed guidance of

KANHAIYA SINGH

SENIOR MANAGER (Telecom)

VISAKHAPATNAM STEEL PLANT

RASHTRIYA ISPAT NIGAM LIMITED

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

GURU GHASIDAS VISHWAVIDYALAYA, C.G.

RINL VIZAG STEEL Pride of Steel
A Navratna Company

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100009253

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **SADASIVUNI SAI RAHUL** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **TELECOMMUNICATIONS DEPARTMENT** विभागों मे

department from दि. **09-05-2022** से to **04-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **IP BASED SURVEILLANCE CCTV SYSTEM** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam
दि./Date : 16-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टणम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टणम – 530031/Visakhapatnam-530031

ABSTRACT

The project is based on the “Video surveillance on transportation of raw materials through road from Gangavaram port to Visakhapatnam steel plant”. Visakhapatnam Steel Plant has expanded its production capacity to 7.3 MT of crude steel and is further going to expand to 20 MT in due course of time. So, raw material requirement has also increased. Most of the raw materials are transported to Visakhapatnam Steel Plant by Indian Railway, some by road and some of them through Gangavaram port. At present raw materials are transported to Visakhapatnam Steel Plant from Gangavaram port through Closed Conveyor (CC) belt system. Indian Railway and Gangavaram Port may not be able to meet the increasing demand for transportation of raw material to steel plant. So, in-order to meet the additional of raw material from Gangavaram port, VSP and Gangavaram port management have decided to transport the raw material through road also. So, for surveillance and video monitoring the truck movement from Gangavaram port road weigh bridge to raw material yard inside the Steel plant premises, Steel plant wants to install CCTV system. Since the area where cameras are to be installed for surveillance are not suitable for trenching and laying cables, so wireless surveillance system is proposed. The present work is to design a complete solution for this purpose.

INDUSTRIAL TRAINING REPORT

ON

USE OF THERMOGRAPHY IN DETECTING ELECTRICAL FAULTS IN ELECTRICAL SYSTEMS AND SWITCHYARDS

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Name Saurabh Gupta

Roll No . 19106657

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

REGIONAL LEARNING INSTITUTE, NTPC, SIPAT

क्षेत्रीयज्ञानार्जनसंस्थान,एनटीपीसी,सीपत

CERTIFICATE OF VOCATIONAL TRAINING 2022

औद्योगिक प्रशिक्षण प्रमाण पत्र 2022

Ref No. RLI/SIPAT/CERT/2022/VT22ECIT223

THIS CERTIFICATE IS AWARDED TO

Saurabh Gupta

VT Roll No – VT22ECIT223

Electronics and Communication Engineering

GGU BILASPUR

For satisfactorily completing **Vocational Training at NTPC-Sipat, Bilaspur** for a period of four weeks from 15/06/2022 to 15/07/2022. The participant has successfully completed the course and has also completed the project assigned to him/her as part of this course. We wish him/her a bright and successful future.

This certificate is digitally signed.

Date: 17.07.2022

G. Praveen Kumar
Sr. Manager (RLI)

Vikash Malhotra
DGM (RLI-Simulator)

A K Tripathi
GM & Head (RLI-Simulator)

ABSTRACT

The report studies and discusses how Thermography aids in the fault detection of Electrical systems and Switchyards used in many industrial spaces, power utility plants like NTPC. Thermography is widely used for various research and industrial applications to detect heat temperatures and change in signature or concentrations of heat emitted by the continuous functioning electrical equipment.

INDUSTRIAL TRAINING REPORT

On

“DEVELOPING A PLC LOGIC ON BR6 DRILLING MACHINE”

Submitted in the partial fulfilment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

TANGUDU SAI PAVAN

19106664

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERINGSCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
रामचंद्रापुरम, हैदराबाद
मानव संसाधन विकास केंद्र

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM, HYDERABAD-502032
Human Resource Development Centre

Ref No: 22ENGG4348 **Date :** 08/06/2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr./Ms./Mrs. TANGUDU SAI PAVAN with college id no: GGV/19/1433 studying in INSTITUTE OF TECHNOLOGY ; GURU GHASIDAS VISHWAVIDYALAYA pursuing B.E/B.Tech/MBA in ELECTRONICS AND COMMUNICATION discipline had undergone project training from 10th MAY 2022 to 8th JUNE 2022. The title of the project as per our records is TO DEVELOP PLC LOGIC ON BAG DRILLING MACHINE

Project training in-charge

D.R. SHIVA SHANKAR
उप अभियंता, एच आर डी सी
Dy. Engineer / HRDC
भा.ह.इ.लि.-एचपीईपी, हैदराबाद 32, BHEL- HPEP, HYD-32

ABSTRACT

Programmable logic controller (PLC System) is a computer system, basically designed to perform logical decision making for industrial control applications. The simplicity of reprogramming a PLC system, when modifications were required in the existing control, as compared to the cumbersome process of rewiring a hardwired control panel has been widely accepted. The PLC system is composed of electronic circuitry with a microprocessor centered.

In hardwired control, it is the wiring between individual elements such as sensor contacts, valves, solenoids etc. that defines the “control program”. Any modifications to the “program” involve rewiring the circuit.

In PLC systems, the construction of the controller and wiring are independent of program execution

गुरु घासीदास विश्वविद्यालय, बिलासपुर
Guru Ghasidas Vishwavidyalaya, Bilaspur
A Central University established by the Central University Act 2009 No. 25 of 2009

CSPDCL
छत्तीसगढ़ स्टेट पॉवर डिस्ट्रीब्यूशन कंपनी लिमिटेड

A VOCATIONAL TRAINING REPORT In "C.S.P.D.C.L"

In Partial Fulfilment of Requirement for The Degree of

BACHELOR OF TECHNOLOGY

In

ELECTRONICS & COMMUNICATION ENGINEERING

Submitted to:

MRS. SANCHARI SINGH CHAUHAN

Assistant Engineer

(HTM / Constn.)

Submitted By:

Tanmay Dutta

Roll No: 19106665

Enrolment No: GGV/19/1434

Semester: 6th

Year: 2022

CHHATTISGARH STATE POWER DISTRIBUTION CO. LTD.
(A Government of Chhattisgarh Undertaking)
(A SUCCESSOR COMPANY OF CSEB)

No. EE/City Dn.-West /Estt/ 935 *Bilaspur, dated* 22-06-2022

CERTIFICATE

This is to certify that the student of Guru Ghasidas University(C.G.) of Electronics & Communication Engineering Branch 6th semester, ***Shri Tanmay Dutta,*** *has undergone Vocational Summer Internship Training under this Organization during the period from 24th May 2022 to 22th June 2022.*

He has shown keen interest in learning various activities of this Organization, viz. maintenance and operation of LT/HT Line/Sub-station equipments etc.

His Performance during the Vocational Training was very good.

Executive Engineer (City Dn.-II) West,
C.S.P.D.C.Ltd., Bilaspur

Executive Engineer
City Dn. II (West)
C.S.P.D.C.L., Bilaspur

ABSTRACT

This abstract encapsulates the key points of the provided report, focusing on the objective and outcomes of training for undergraduates in Chhattisgarh. The training aimed to bridge the gap between theoretical engineering knowledge and its real-world applications. Through the training, participants gained valuable insights into the significance of electricity in everyday life, acquired knowledge about substation operations, and learned about the intricacies of transmission and distribution in Chhattisgarh.

The report underscores the pivotal role that substations play in the power supply chain and emphasizes the importance of protective measures to ensure their smooth functioning. It also highlights the dedication of the Chhattisgarh State Power Distribution Company Ltd. in providing a reliable and consistent power supply across the state.

The abstract concludes with gratitude extended to class teachers for their guidance and to Mrs. Sanchari Singh Chauhan and other staff members who effectively conducted and managed the training program. In summary, the abstract emphasizes the practicality of engineering education, the critical role of electricity, and the commitment of stakeholders in enhancing power distribution in Chhattisgarh.

INDUSTRIAL TRAINING REPORT

On

"SIGNAL ENGINEERING AND TELECOMMUNICATION AT SOUTH EAST CENTRAL RAILWAY, BILASPUR"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Utkarsh Raj

(19106667)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

SOUTH EAST CENTRAL RAILWAY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. UTKARSH RAJ** Student of 6th Semester **Electronic & Communication** Engineering from **Institute of Technology Guru Ghasidas Vishwavidyalaya, Bilaspur C.G. (Central University)** has attended Bilaspur Division of South East Central Railway for Vocational Training from Dated 13/06/2022 to 02/07/2022. in :-

1. **UTS**
2. **PRS**
3. **IPIS**
4. **TELEPHONE EXCHANGE**
5. **RAILNET**
6. **OFC**
7. **BATTERY MAINTENANCE**
8. **IPS**
9. **STM**

He was found sincere, laborious, and interested to the task given to him.

Date: 04/07/22

Sr. Div. Signal & Tele., Engg. (CO)

SOUTH EAST CENTRAL RAILWAY, BILASPUR

Sr. Divl. Sig. & Tele. Engineer (Co.Ord.)
दक्षिण पूर्व मध्य रेलवे/बिलासपुर
South East Central Railway/Bilaspur

ABSTRACT

This report takes a pedagogical stance in demonstrating how results from theoretical computer science may be applied to yield significant insight into the behavior of the devices computer systems engineering practice seeks to put in place, and that this is immediately attainable with the present state of the art.
The focus for this detailed study is provided by the type of solid state signaling and various communication systems currently being deployed throughout mainline railways. Safety and system reliability concerns dominate in this domain. With such motivation, two issues are tackled: the special problem of software quality assurance in these data-driven control systems, and the broader problem of design dependability. In the former case, the analysis is directed towards proving safety properties of the geographic data which encode the control logic for the railway interlocking; the latter examines the fidelity of the communication protocols upon which the distributed control system depends.

Industrial Vocational Training Report

"EAST CENTRAL RAILWAY"

Submitted in the partial fulfilment for the award of degree of

Bachelor of Technology

In

Electronics and Communication Engineering

By

VAISHNAVI ROY (ROLL NO. 19106669)

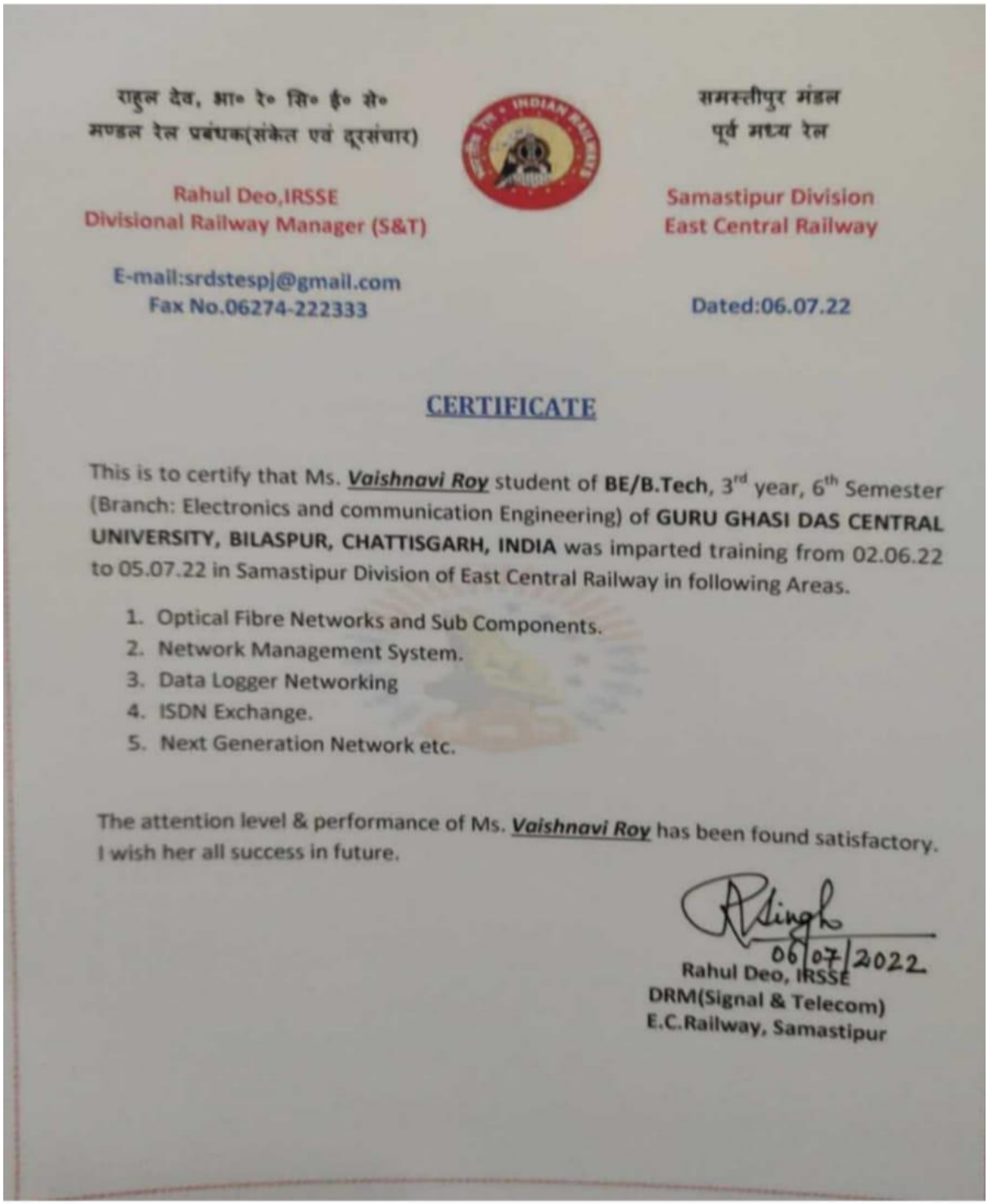
B. Tech, VIIth Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATIONENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23



राहुल देव, भा० रे० सि० इ० से०
मण्डल रेल प्रबंधक(संकेत एवं दूरसंचार)

समस्तीपुर मंडल
पूर्व मध्य रेल

Rahul Deo,IRSSE
Divisional Railway Manager (S&T)

Samastipur Division
East Central Railway

E-mail:srdstespj@gmail.com
Fax No.06274-222333

Dated:06.07.22

CERTIFICATE

This is to certify that Ms. ***Vaishnavi Roy*** student of **BE/B.Tech**, 3rd year, 6th Semester (Branch: Electronics and communication Engineering) of **GURU GHASI DAS CENTRAL UNIVERSITY, BILASPUR, CHATTISGARH, INDIA** was imparted training from 02.06.22 to 05.07.22 in Samastipur Division of East Central Railway in following Areas.

1. Optical Fibre Networks and Sub Components.
2. Network Management System.
3. Data Logger Networking
4. ISDN Exchange.
5. Next Generation Network etc.

The attention level & performance of Ms. ***Vaishnavi Roy*** has been found satisfactory. I wish her all success in future.

06/07/2022

Rahul Deo, IRSSE
DRM(Signal & Telecom)
E.C.Railway, Samastipur

TRAINING CERTIFICATE

FRONT VIEW OF SAMASTIPUR RAILWAY STATION

IPIS- INTEGRATED PASSENGER INFORMATION SYSTEM

Information to passenger related to status of reservation, train enquiry is provided by means of Interactive Voice Response System (IVRS), Display Boards, and Announcing Systems etc. All these system have been integrated in to one system called Integrated Passenger System (IPIS). This system provides a single control and common data entry for all systems.

INTRODUCTION

The systems which provide train related informations to the passengers are known as **Passenger Information Systems** for example public address systems on the railway platforms, Interactive voice response systems (IVRS), CCTVs, Display boards, call centers, Internet etc. The **Integrated Passenger Information System (IPIS)** provides a single control system and data entry system for different types display boards available on entire railway station.

All train related information is provided to the passengers by means of Passenger Information System (PIS) which includes Interactive Voice Response System (IVRS), Prerecorded Announcement and Auto Announcement System, Train information display, Coach guidance display etc. Introduction The Integrated Passenger

STUDY OF WIRELESS IP CCTV SYSTEM IN VSP

PROJECT REPORT

A Project Report submitted in partial fulfilment of the requirements

for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

SUBMITTED BY

Vankala Venkatesh

Under the esteemed guidance of

KANHAIYA SINGH

SENIOR MANAGER (Telecom)

VISAKHAPATNAM STEEL PLANT

RASHTRIYA ISPAT NIGAM LIMITED

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

GURU GHASIDAS VISHWAVIDYALAYA,C.G.

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100010755

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **VANKALA VENKATESH** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **TELECOMMUNICATIONS DEPARTMENT** विभागों मे

department from दि. **09-05-2022** से to **04-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **IP BASED SURVEILLANCE CCTV SYSTEM** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam
दि./Date : 16-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टणम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टणम – 530031/Visakhapatnam-530031

ABSTRACT

The project is based on the "Video surveillance on transportation of raw materials through road from Gangavaram port to Visakhapatnam steel plant". Visakhapatnam Steel Plant has expanded its production capacity to 7.3 MT of crude steel and is further going to expand to 20 MT in due course of time. So, raw material requirement has also increased. Most of the raw materials are transported to Visakhapatnam Steel Plant by Indian Railway, some by road and some of them through Gangavaram port. At present raw materials are transported to Visakhapatnam Steel Plant from Gangavaram port through Closed Conveyor (CC) belt system. Indian Railway and Gangavaram Port may not be able to meet the increasing demand for transportation of raw material to steel plant. So, inorder to meet the additional of raw material from Gangavaram port, VSP and Gangavaram port management have decided to transport the raw material through road also. So, for surveillance and video monitoring the truck movement from Gangavaram port road weigh bridge to raw material yard inside the Steel plant premises, Steel plant wants to install CCTV system. Since the area where cameras are to be installed for surveillance are not suitable for trenching and laying cables, so wireless surveillance system is proposed. The present work is to design a complete solution for this purpose.

INDUSTRIAL TRAINING REPORT

On

"Transmission of Electricity in C.S.E.B. BILASPUR"

Submitted in the partial fulfillment for the award of

the Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

YASH SINGH CHAUHAN

(19106673)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

छत्तीसगढ़ स्टेट पावर डिस्ट्रीब्यूशन कंपनी लिमिटेड
छत्तीसगढ़ शासन का एक उपक्रम(छ०रा०वि०मं०की उत्तरवर्ती कंपनी)
CIN – U40108 CT2003SGCO15822
कार्यालय : अधीक्षण यंत्री (नगर) वृत्त, बिलासपुर
पता : पावर हाऊस, तोरवा, बिलासपुर (छ०ग०) – 495004
email: secc.bilaspur@cspc.co.in Phone: 07752- 427095 Fax: 07752-427046

क्रमांक/अ०अ०/न०वृ०बि०/ 916 /बिलासपुर, दिनांक 27/06/2022

औद्योगिक प्रशिक्षण प्रमाण पत्र

प्रमाणित किया जाता है कि श्री यश सिंह चौहान, पिता श्री आर०के० चौहान , विभागाध्यक्ष (इलेकट्रीकल एवं संचार अभियांत्रिकी) प्रौद्योगिकी संस्थान गुरूघासीदास विश्वविद्यालय कोनी बिलासपुर, छत्तीसगढ़ के आदेश क्रमांक ई०सी०ई/2022 दिनांक 12.05.2022 के तहत औद्योगिक प्रशिक्षण दिनांक 13.05.2022 से 24.06.2022 (06 सप्ताह) तक नियमित उपस्थिति के साथ छ०स्टे०पॉ०डि०कं०लिमि० बिलासपुर द्वारा दिया गया । पूरी लगन से सक्रीय साझेदारी एवं सफलता पूर्वक औद्योगिक प्रशिक्षण इनके द्वारा लिया गया । हम इनकी उज्जवल भविष्य की कामना करते है ।

(वाय०के० मनहर)
कर्मचारी क्र० 93370210
अधीक्षण अभियंता (नगर) वृत्त
छ०स्टे०पा०डि०कं०लिमि०, बिलासपुर

1. Introduction

1.1 Chhattisgarh State Power Companies

Chhattisgarh State Electricity Board was formed in accordance with Section 5 of the Electricity Supply Act 1948 as per the Notification published in the Gazette of the **Government of Chhattisgarh** dated 15 November 2000. Chhattisgarh State Electricity Board (CSEB) became functional w.e.f. 01.12.2000. Chhattisgarh State Electricity Board has been reorganized into five companies in accordance with the provisions contained in Section 131-134 of Electricity Act 2003 by the Govt. of Chhattisgarh these are:-

- **Chhattisgarh State Power Holding Company Limited (C.S.P.H.C.L)**
- **Chhattisgarh State Power Generation Company Limited (C.S.P.G.C.L)**
- **Chhattisgarh State Power Transmission Company Limited (C.S.P.T.C.L)**
- **Chhattisgarh State Power Distribution Company Limited (C.S.P.D.C.L)**
- **Chhattisgarh State Power Trading Company Limited**

INDUSTRIAL TRAINING REPORT

On

"IOT and Electronics"

Submitted in the partial fulfillment for the award of the

Degree of Bachelor of Technology

In

Electronics and Communication Engineering

By

Aman Nigam

(19106604)

B. Tech, VII Semester

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

SESSION: 2022-23

Private & Confidential

Date – 2022-06-30 Ref # OEPP/22-23/INSC/006

This is to certify that Mr. Aman Nigam has successfully completed an internship program with OEPP INNOVATIONS PVT. LTD. from 2022-05-02 to 2022-06-30.

During the internship, he has demonstrated exceptional skills in IOT and Electronics (PCB designing).

He was diligent and enthusiastic with the zeal to do his best on the tasks assigned. He is well organized, can work independently and is able to effectively multitask to ensure that the assignments are looked after and completed in a professional and timely manner.

We wish the best for his career and future endeavors.

Thanks

Abhishek Sharma

HR, OEPP INNOVATIONS PVT. LTD.

OEPP INNOVATIONS PVT. LTD.
CIN: U74999MP2018PTC046566
107, 9930Spaces, 3 Mangal Nagar,
Near Rajeev Gandhi Square,
A.B. Road, Indore, M.P., India, 452014

info@9930i.com
www.9930i.com
+91-9009399903

Abstract

Internet of Things (IoT) conceptualizes the idea of remotely connecting and monitoring real world objects (things) through the Internet.
This report describes the work I completed as an IOT and electronics engineering intern at a OEPP Innovations pvt ltd company during may-june of 2022. It provides an overview of the company organization; an overview of my role and the projects I worked on at the company.
At the beginning of the First Month I worked on several projects under the guidance of my seniors and My Mentor Uday Sharma.
In the second Month I worked on Individually Eyecan Projects and Many PCB Designing Tasks.

The report presents the projects completed during summer internship at OEPP Innovations Pvt Ltd which are listed below:

1)EYECAN based on esp32 module and OV2640 camera module.

2) Agnihotri based on ATmega328P IC, Node-MCU, Mp3 Module, GPS, Servo and DC Motors and Driver IC(L293D).

3)Designing of PCBs.

A PROJECT REPORT ON

"AUTOMATION OF ON-BOARD VALVES OF LAUNCH VEHICLE USING EMBEDDED CONTROLLER"

Submitted in partial fulfilment of the requirements of the award of the Degree

of

BACHELOR OF TECHNOLOGY

in

DEPARTMENT OF ECE

by

KANCHI VENKATAMAHITH(19106627)

UNDER THE GUIDANCE OF

ENGINEER/ SCIENTIST
G.SREENIVASA RAO

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, SCHOOL OF STUDIES IN ENGINEERING AND TECHNOLOGY, GURU GHASIDAS VISHWAVIDYALAYA, KONI, BILASPUR.

CERTIFICATE

भारत सरकार
अंतरिक्ष विभाग
सतीश धवन अंतरिक्ष केंद्र शार
श्रीहरिकोटा रेंज डा.घ. 524 124
श्री पोट्टि श्रीरामुलु नेल्लूर जिला, आं.प्र., भारत
दूरभाष : +91-8623 245060 (6 जं)
फैक्स : +91-8623 222099

Goverment of India
Department of Space
Satish Dhawan Space Centre SHAR
Shriharikota Range P.O. 524 124
SPSR Nellore Dist., AP., India
Telephone : +91-8623 245060 (6 Lines)
Fax : +91-8623 222099

प्रबंधन प्रणाली क्षेत्र MANAGEMENT SYSTEMS AREA
मानव संसाधन विकास प्रभाग HUMAN RESOURCE DEVELOPMENT DIVISION
(Phone No. 08623 – 225047, Fax No – 225577)

No. HRDD/STU/I/PRJ2022034 Date: 01/07/2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. KANCHI VENKATA MAHITH,** (Reg. No.GGV/19/1131) pursuing **B.Tech III Year (Electronics & Communication Engineering)** from **Guru Ghasidas Vishwavidyalaya, Bilaspur** has undergone **Internship** training at **Vehicle Assembly and Launch Facilities** in **SDSC SHAR, Sriharikota** from **04/05/2022 to 30/06/2022**.

During the above period, his character and conduct were found to be **Very Good.**

(P. Gopi Krishna)
Group Director, MSG
पी. गोपी कृष्णा P. Gopi Krishna
समूह निदेशक Group Director
एमएसजी MSG
एसडीएससी शार SDSC SHAR

भारतीय अंतरिक्ष अनुसंधान संगठन इसरो isro Indian Space Research Organisation

ABSTRACT

The objective of Checkout System at SDSC-SHAR is to carry out the functional and leak checks of various stages of launch vehicle, before assembling the complete vehicle. In the facility, Data Acquisition Systems (DAQ) acquires the pressure and temperature sensors data during the activity, and controls the on-board valves, relays at their nominally specified voltage and current ratings. The project titled as **" Automation of on-Board Valves of Launch Vehicle using Embedded Microcontroller "** focuses on automating the valve operations during functional and leak checks. The PSLV consists of four stages and in each stage, valves play a crucial role in controlling the fuel flow into the nozzle for motor ignition. The on-board valves in PSLV were of three types – Latch, Motorised and Non-latch. In this project we have programmed a microcontroller that can trigger these valves using a single command and can be fed into DAQ systems according to the needs. The logic for each valve can be made into a Macro-Block and can be augmented with several blocks to make a program to carry out leak checks for a particular stage.

CENTRAL COALFIELDS LIMITED
(A Miniratna Company)
Human Resource Development Department
Darbhanga House, Ranchi – 834 029
Tele Fax No. 0651 – 2360597

पत्रांक संख्या/सीसीएल/टीआरजी/प्रमाण पत्र/22-23/ 297

Dated : 13/06/2022

TO WHOM IT MAY CONCERN

This is to certify that Ms.PRAGATI PAL a student of B.Tech (ECE), Guru Ghasidas Vishwavidyalaya, Bilaspur, Chattisgarh has done Project training at CRS, Barkakana Area of Central Coalfields Limited , Ranchi from 16th May 2022 to 11th June 2022 on the topic "ELECTRICAL REPAIR SHOP AND E&M DEPARTMENT".

She has completed her training satisfactorily. I wish all success in her life.

Ch.Manager (M) (HRD)
CCL, Ranchi
13/06/2022
मुख्य प्रबंधक (खनन)
मानव संसाधन विकास
सी. सी. एल., राँची
Chief Manager (Mining)
HRD, CCL, Ranchi

Summer Training Report

On Telecom

Submitted in partial fulfilment

of the requirement for the award of the degree of

Bachelor of Technology

Electronics and Communication

By

PREM KUMAR
ROLL NUMBER- 19106643

Submitted to

Department of Electronics and Communication Engineering

Guru Ghasidas Vishwavidyalaya Bilaspur

भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprises)

General Manager Telecom District
Near Agrasen Chowk, Bilaspur (C.G.) 495001

No: EST-79/III/CERT/...08..... Bilaspur at Dated – ..06-06-2022

Certificate

This is to certify That .....PREM KUMAR....., S/D/O.....KUMAR RANJAN.....,a regular student .....G. G. V. BILASPUR....., has successfully completed vocational training in this organization for Four week Advance Telecom as OCB/Broadband/C-DOT/Mobile/Lease Line etc subject. [From 09-05-2022 To 04-06-2022

Her/His attendance, discipline, performance and overall conduct are found Good/Very Good/Excellent.

AGM (Admn/HR)
O/o BSNL GMTD BILASPUR (C.G)

AGM (Admn/HR)
O/o GMTD BSNL BILASPUR

Date : ..06-06-2022

ABSTRACT

Spending a period of four weeks with the Telecommunication Networking. The report on how the BSNL Basic Telecom Network work and how to exchange work and how the company work with telecommunication Network.
This Report also contains the basic telecommunication that work with all team work of employees and the exchange work.

I was in direct selling and, I realized that it is very difficult to understand the behaviour of customers. I am saying this because even though I was associated with a brand. sometimes it was difficult to convince the custom BSNL has a Quality telecommunication system which is demonstrated through its ability to consistently provide product and services that meets customer and applicable regulatory requirements. It aims to enhance customer satisfaction through its effective services.

Previously electro mechanically exchange for use in India namely Stronger type exchange, cross bar exchange were there. These Manual telephone exchanges suffered from some disadvantages.

To overcome these an automatic exchange was introduced in this system. In this system 1980's PITHROTHA LTD. Introduced "C-DOT exchange in India.

Besides C-DOT exchange ILT exchange. E-108 exchange also proved of mild stone in Telecommunication Sector to replace electromechanical exchanges, which were most sophisticated and modem latest techniques electronics exchanges. There after it was OCB-283 exchange which proved very important exchange in this series to replace electromechanical exchanges.
Now it is "WLL" & "GSM mobiles which is also proved a mild stone in telecommunication sector. was 31 march 2002 when BSNL started these GSM mobile and today it has provided almost 35 lacks mobiles in all over country.

Report on

“ACQUISITION OF DATA FROM DSO 6012A”

USING MATLAB

UNDER GUIDENCE OF

Mr. T. RAJENDRA KUMAR

SCIENTIST/ENGINEER, ISRO, SHAR

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

AT

गुरु घासीदास विश्वविद्यालय, बिलासपुर

Guru Ghasidas Vishwavidyalaya, Bilaspur

A Central University established by the Central University Act 2009 No. 25 of 2009

ABSTRACT

This study developed a data acquisition using oscilloscope by using MATLAB software interfaced with GUI to demonstrate the concept.

The acquisition modes of an oscilloscope control how waveform points are generated from sample points, which refer to the digital values taken directly from the analog-to-digital converter (ADC).

Data acquisition, or DAQ as it is often referred to, is the process of digitizing data from the world around us so it can be displayed, analyzed, and stored in a computer.

Here MATLAB is used as a base or intermediate to acquire data from Oscilloscope in ASCII format and then GUI (Graphical user interface) is used to plot and record the sampling values for a period.

भारत सरकार – रक्षा मंत्रालय
Government of India – Ministry of Defence
रक्षा अनुसंधान तथा विकास संगठन
Defence Research & Development Organisation
वायुवाहित प्रणाली केंद्र
CENTRE FOR AIRBORNE SYSTEMS
एएस 9100 डी & आइ एस ओ 9001:2015 प्रमाणित संस्थान
AS 9100D & ISO 9001:2015 Certified Establishment
बेलूर, येमलूर तपाल, बेंगलूरु – 560037, भारत
Belur, Yemlur Post, Bengaluru – 560 037, INDIA

CABS/06/64/TRI-CERT/019/077

8th Jul 2022

CERTIFICATE

This is to certify that ***Ms. Reddy Akhila , B Tech, 6th semester, Electronic & Communication Engineering,*** *a student of* ***Guru Ghasidas Vishwavidyalaya, Bilaspur*** *has successfully completed Internship at this establishment during* ***08 Jun to 07 Jul 2022****. The Internship was completed under guidance of Ms. Vrinthavani R, Sc 'E' on the topic 'Development of User Interface for C-Band'. The bonafide report done by her vide CABS format No. CABS/06/61/TRI/011 dated 08 Jul 2022 has been submitted.*

This organization wishes all the best in her future endevours.

8/7/2022

(के वी नारायणराव/KV Narayana Rao)
संयुक्त निदेशक (प्र)/Joint Director (Admin)
कृते निदेशक/For Director

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

Office Telephone: 91 – 80 – 2504 9000, 2522 5121. Fax: 91 – 80 – 2522 2326,2522 3748 E – mail: director@cabs.drdo

भारत सरकार
अन्तरिक्ष विभाग
सतीश धवन अन्तरिक्ष केन्द्र
शार
श्रीहरिकोटा रेंज डा.घ.524 124,
नेल्लूर जिल्ला, आंप्र., भारत
टेलिफोन:+91-8623-245060 (10 जं)
फेक्स:+91-8623-225160

सत्यमेव जयते

Government of India
Department of Space
Satish Dhawan Space Centre
SHAR
Sriharikota Range P.O. 524 121,
Nellore Dist., A.P., India
Telephones : +91-8623-245060 (10 Lines)
Fax : +91-8623-225160

प्रबंधन प्रणाली क्षेत्र MANAGEMENT SYSTEMS AREA
मानव संसाधन विकास प्रभाग HUMAN RESOURCE DEVELOPMENT DIVISION
(Phone No. 08623 – 225047, Fax No – 225577)

No. HRDD/STU/I/PRJ2022040 Date: 03/06/2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. REDDY AKHILA** (Reg. No. GGV/19/1397) pursuing **B.Tech III Year (Electronics & Communication Engineering)** from **Guru Ghasidas Vishwavidyalaya, Chattisgarh** has undergone **Internship** training at **Range Operations (RO)** facilities in **SDSC SHAR, Sriharikota** from **02/05/2022 to 01/06/2022**.

During the above period, her character and conduct were found to be **Very Good**.

3/6

(P. Gopi Krishna)
Group Director, MSG
पी. गोपी कृष्णा P. Gopi Krishna
समूह निदेशक Group Director
एमएसजी MSG
एसडीएसरी शार SDSC SHAR

राष्ट्रीय इस्पात निगम लिमिटेड Rashtriya Ispat Nigam Limited
विशाखापत्तनम इस्पात संयंत्र Visakhapatnam Steel Plant
तकनीकी प्रशिक्षण केंद्र, Technical training Institute
विशाखापत्तनम Visakhapatanam-530031

Reg.No. : 100009791

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री /This is to certify that Mr./Ms. **ROMPELLI SAI CHARAN** student of

(वर्ष/पाठ्यक्रम/शाखा-Year/course/Branch) **3/BE/B TECH/ECE** विद्यार्थी ने from

GURU GHASIDAS VISWA VIDYALAYA,BILASPUR से has undergone

4 Week प्रशिक्षण training विशाखापत्तनम इस्पात

संयंत्र के at Visakhapatnam Steel Plant in **TELECOMMUNICATIONS DEPARTMENT** विभागों मे

department from दि. **09-05-2022** से to **04-06-2022** प्राप्त तक किया |

परियोजना शीर्षक The Project Title is **CC TV SURVEILLANCE** है।
प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training
is **GOOD**है|

स्थल/Place : Visahkhapatnam

दि./Date : 16-06-2022

प्रशिक्षण समन्वयक का हस्ताक्षर
Signature of Training Co-Ordinator
एम गणेश बाबु/M Ganesh Babu
सहायक महाप्रबंधक (प्रशिक्षण)/ Assistant General Manager (Training)
तकनीकी प्रशिक्षण संस्थान/Technical Training Institute
आर आई एन एल-विशाखपट्टणम इस्पात संयंत्र/RINL-Visakhapatnam Steel Plant
विशाखपट्टणम – 530031/Visakhapatnam-530031

print

Report on

“ACQUISITION OF DATA FROM DSO 6012A”

USING MATLAB

UNDER GUIDENCE OF

Mr. T. RAJENDRA KUMAR

SCIENTIST/ENGINEER, ISRO, SHAR

BACHELOR OF TECHNOLOGY

IN

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गुरु घासीदास विश्वविद्यालय, बिलासपुर

Guru Ghasidas Vishwavidyalaya, Bilaspur

A Central University established by the Central University Act 2009 No. 25 of 2009

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भारत सरकार – रक्षा मंत्रालय
Government of India – Ministry of Defence
रक्षा अनुसंधान तथा विकास संगठन
Defence Research & Development Organisation
वायुवाहित प्रणाली केंद्र
CENTRE FOR AIRBORNE SYSTEMS
एएस 9100 डी & आइ एस ओ 9001:2015 प्रमाणित संस्थान
AS 9100D & ISO 9001:2015 Certified Establishment
बेलूर, येमलूर तपाल, बेंगलूरु – 560037, भारत
Belur, Yemlur Post, Bengaluru – 560 037, INDIA

CABS/06/64/TRI-CERT/019/078

8th **Jul 2022**

CERTIFICATE

This is to certify that ***Ms. V.V. Sravanti Jagan Kola , B Tech, 6th semester, Electronic & Communication Engineering,*** *a student of* ***Guru Ghasidas Vishwavidyalaya, Bilaspur*** *has successfully completed Internship at this establishment during* ***08 Jun to 07 Jul 2022****. The Internship was completed under guidance of Ms. Vrinthavani R, Sc 'E' on the topic 'Development of User Interface for C-Band'. The bonafide report done by her vide CABS format No. CABS/06/61/TRI/011 dated 08 Jul 2022 has been submitted.*

This organization wishes all the best in her future endevours.

8/7/2022

(के वी नारायणराव/KV Narayana Rao)
संयुक्त निदेशक (प्र)/Joint Director (Admin)
कृते निदेशक/For Director

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

Office Telephone: 91 – 80 – 2504 9000, 2522 5121. Fax: 91 – 80 – 2522 2326,2522 3748 E – mail: director@cabs.drdo

भारत सरकार
अन्तरिक्ष विभाग
सतीश धवन अन्तरिक्ष केन्द्र
शार
श्रीहरिकोटा रेंज डा.घ.524 124,
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Date: 03/06/2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. V V SRAVANTHI JAGAN KOLA** (Reg. No. GGV/19/1350) pursuing **B.Tech III Year (Electronics & Communication Engineering)** from **Guru Ghasidas Vishwavidyalaya, Chattisgarh** has undergone **Internship** training at **Range Operations (RO)** facilities in **SDSC SHAR, Sriharikota** from **02/05/2022 to 01/06/2022**.

During the above period, her character and conduct were found to be **Very Good**.

3/6

(P. Gopi Krishna)
Group Director, MSG
पी. गोपी कृष्णा P. Gopi Krishna
समूह निदेशक Group Director
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