3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge.

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Innovation Cell

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

Savitribai Phule Pune University

(Formerly University of Pune)

CENTRE FOR INNOVATION INCUBATION & LINKAGE

Certificate

This is to certify that

Institute of Technology, Management & Research, Nashik

has established Innovation & Start-up Cell as per the norms of Centre for Innovation, Incubation & Linkages at Savitribai Phule Pune University, Pune.

Dr. Apoorva Palkar
Director,
Innovation, Incubation and Linkages

Dr. N. S. Umarani
Pro-Vice-Chancellor
Savitribai Phule Pune Univertsity

Dr. Nitin Karmalkar
Vice - Chancellor
Savitribai Phule Pune Univertsity

Jawahar Education Society's
Institute of Technology, Management & Research, Nashik

Officer Order

Innovation Cell

All the HOD's and teaching faculty members are hereby informed that **"Innovation Cell"** is constituted for faculty, staff & students with following members for the academic year 2022-23.

1	Prof. G. P. Mohole	Convener
2	Prof. S. A. Thete	Member
3	Prof. S. J. Aswar	Member
4	Prof. A. N. Shukla	Member

(Dr.M.V.Bhatkar)
Principal

Copy to :

1 All of above Committee members
2 Head, Electrical Engg.Dept.
3 Head, Computer Engg.
4 Head, Civil Engg.Dept.
5 Head, Mechanical Engg.Dept.
6 Head, App. Science Dept.
7 Office Copy.
8 Librarian
9 System Admin Dept.
10 Training & Placement
11 Exam Section
12 Store
13 Workshop
14 Security

Jawahar Education Society's ★ NASHIK ★ Institute of Technology, Management and Research

Jawahar Education Society's
Institute of Technology,Management & Research,Nashik

Officer Order

Intellectual Property Right Cell (IPR)

All the HOD's and teaching faculty members are hereby informed that **"Intellectual Property Right Cell"** is constituted for faculty, staff & students with following members for the academic year 2022-23.

1	Prof. G. P. Mohole	Convener
2	Prof. S. A. Thete	Member
3	Prof. S. J. Aswar	Member
4	Prof. A. N. Shukla	Member

(Dr.M.V.Bhatkar)
Principal

Copy to :

1 All of above Committee members
2 Head, Electrical Engg.Dept.
3 Head, Computer Engg.
4 Head, Civil Engg.Dept.
5 Head, Mechanical Engg.Dept.
6 Head, App. Science Dept.
7 Office Copy.
8 Librarian
9 System Admin Dept.
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Jawahar Education Society's Institute of Technology, Management and Research NASHIK

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Patents Filed

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

Australian Government

IP Australia

CERTIFICATE OF GRANT

INNOVATION PATENT

Patent number: 2021107444

The Commissioner of Patents has granted the above patent on 8 December 2021, and certifies that the below particulars have been registered in the Register of Patents.

Name and address of patentee(s):

LAVANYA ADDEPALLI of 7-33, SIDDHARTHA NAGAR, DAMMAIGUDA, VIA NAGARAM HYDERABAD TELANGANA 500083 India

VIDYA SAGAR S D of KUVEMPU UNIVERSITY SHIMOGA KARNATAKA 577451 India

ASHUTOSH VARMA of INDIAN INSTITUTE OF TECHNOLOGY HYDERABAD TELANGANA 502285 India

JAIME LLORET MAURI of UNIVERSIDAD POLITÉCNICA DE VALENCIA VALENCIA Spain

DARSHA PANWAR of SAGAR INSTITUTE OF RESEARCH AND TECHNOLOGY BHOPAL MADHYA PRADESH India

NAVANDAR YOGESHWAR of NATIONAL INSTITUTE OF TECHNOLOGY - CALICUT CALICUT KERALA India

PRABHAKAR C J of KUVEMPU UNIVERSITY SHIMOGA KARNATAKA 577451 India

SHUBHANGI KACHHAWA of SATPUR NASHIK MAHARASHTRA 422007 India

Title of invention:

MEDICAL-IoT SYSTEM FOR ESTIMATING HOSPITAL BEDS VACANCY, RE-ROUTING OF EMERGENCY HUMAN LOGISTIC VEHICLE & THEREOF

Name of inventor(s):

ADDEPALLI, LAVANYA; S. D., VIDYA SAGAR; VARMA, ASHUTOSH; LLORET MAURI, JAIME; PANWAR, DARSHA; YOGESHWAR, NAVANDAR; C. J., PRABHAKAR and KACHHAWA, SHUBHANGI

Term of Patent:

Eight years from 25 August 2021

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.

COMMONWEALTH OF AUSTRALIA AUSTRALIA PATENT OFFICE

Dated this 8th day of December 2021

Commissioner of Patents

PATENTS ACT 1990

The Australian Patents Register is the official record and should be referred to for the full details pertaining to this IP Right.

Extracts from the Patents Act, 1990

Sect 120(1A) Infringement proceedings in respect of an innovation patent cannot be started unless the patent has been certified.

Sec 128 **Application for relief from unjustified threats**

(1) Where a person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings a person aggrieved may apply to a prescribed court, or to another court having jurisdiction to hear and determine the application, for:

(a) a declaration that the threats are unjustifiable; and

(b) an injunction against the continuance of the threats; and

(c) the recovery of any damages sustained by the applicant as a result of the threats.

(2) Subsection (1) applies whether or not the person who made the threats is entitled to, or interested in, the patent or a patent application.

Sec 129A **Threats related to an innovation patent application or innovation patent and courts power to grant relief.**

Certain threats of infringement proceedings are always unjustifiable.

(1) If:

(a) a person:

(i) has applied for an innovation patent, but the application has not been determined; or

(ii) has an innovation patent that has not been certified; and

(b) the person, by means of circulars, advertisements or otherwise, threatens a person with infringement proceedings or other similar proceedings in respect of the patent applied for, or the patent, as the case may be;

then, for the purposes of an application for relief under section 128 by the person threatened, the threats are unjustifiable.

Courts power to grant relief in respect of threats made by the applicant for an innovation patent or the patentee of an uncertified innovation patent

(2) If an application under section 128 for relief relates to threats made in respect of an innovation patent that has not been certified or an application for an innovation patent, the court may grant the application the relief applied for.

Courts power to grant relief in respect of threats made by the patentee of certified innovation patent

(3) If an application under section 128 for relief relates to threats made in respect of a certified innovation patent, the court may grant the applicant the relief applied for unless the respondent satisfies the court that the acts about which the threats were made infringed, or would infringe, a claim that is not shown by the applicant to be invalid.

Schedule 1 **Dictionary**

certified, in respect of an innovation patent other than in section 19, means a certificate of examination issued by the Commissioner under paragraph 101E(e) in respect of the patent

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India

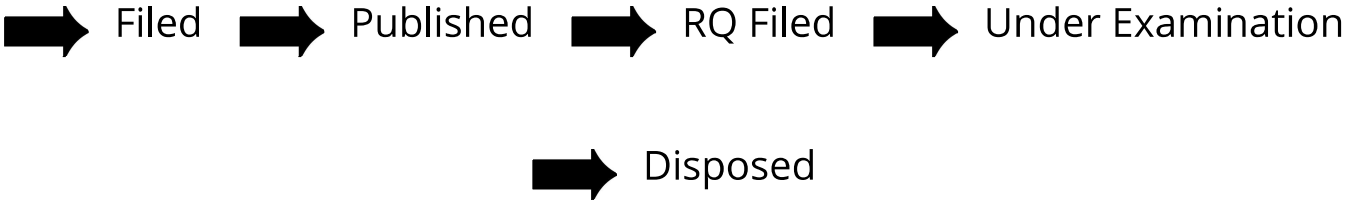
(http://ipindia.nic.in/index.htm)

(http://ipindia.nic.in/index.htm)

Application Details	
APPLICATION NUMBER	202241005094
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	31/01/2022
APPLICANT NAME	**1 . Vishakah Rajendra Bhadane** **2 . Dr. K. Sreenivasarao (Professor)**
TITLE OF INVENTION	Detection of Disease (covid) through sense of smell using Artificial Intelligence and Deep Learning.
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	vbsolutionltd@gmail.com
ADDITIONAL-EMAIL (As Per Record)	bhadanevishakha@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	18/02/2022

Application Status	
APPLICATION STATUS	**Awaiting Request for Examination**

View Documents



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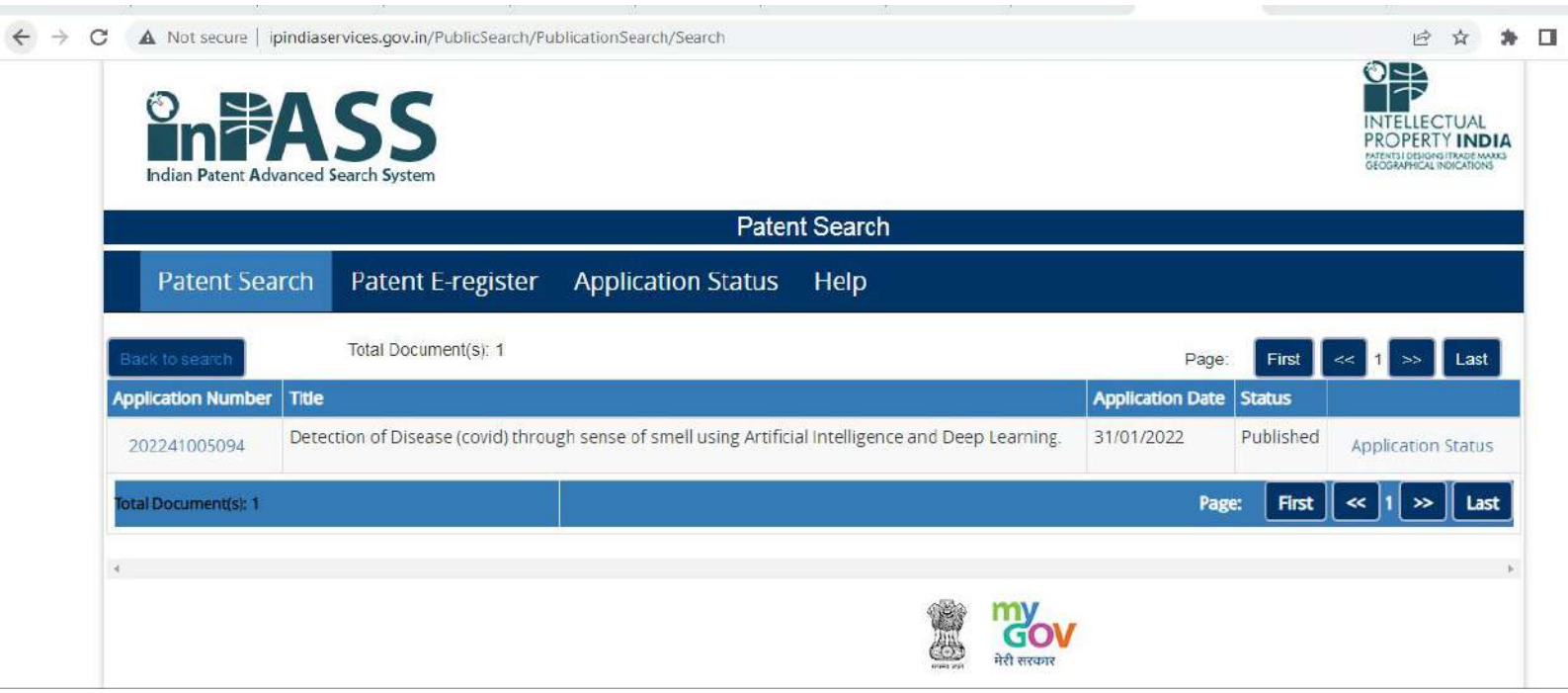
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Application Number
Title
Application Date
Status
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31/01/2022
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Controller General of Patents, Designs & Trade Marks

सत्यमेव जयते

INTELLECTUAL PROPERTY INDIA
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G.A.R.6
[See Rule 22(1)]
RECEIPT

Docket No 2492

Date/Time 2020/01/15 12:15:00

To
SWAPNIL JAYANTRAO GAWANDE

R-9, Harshnil, Eknath Puram, Nr.
yogakshem Colony, Amravati, (M.S)-444607

UserId: sjgawande

CBR Detail:

Sr. No.	Ref. No./Application No.	App. Number	Amount Paid	C.B.R. No.	Form Name	Remarks
1	202021001763	TEMP/E-1/1640/2020-MUM	1600	1028	FORM 1	Dual transmission hybrid vehicle system
2	R20202001390	201921037398	4000	1028	FORM 18	----
3	202021001762	TEMP/E-1/1748/2020-MUM	1600	1028	FORM 1	Indoor air purifier

TransactionID	Payment Mode	Challan Identification Number	Amount Paid	Head of A/C No
N-0000603619	Online Bank Transfer	1501200001341	7200.00	1475001020000001

Total Amount : ₹ 7200
Amount in Words: Rupees Seven Thousand Two Hundred Only

Received from SWAPNIL JAYANTRAO GAWANDE the sum of ₹ 7200 on account of Payment of fee for above mentioned Application/Forms.

* This is a computer generated receipt, hecnce no signature required.

Print

FORM 1
THE PATENTS ACT, 1970
(39 of 1970)
&
THE PATENTS RULES, 2003
APPLICATION FOR GRANT OF PATENT
[See sections 7,54 & 135 and rule 20(1)]

(FOR OFFICE USE ONLY)

Application No.: .....
Filing Date: .....
Amount of Fee Paid: .....
CBR No.: .....
Signature: .....

1. APPLICANT(S):

Sr.No.	Name	Nationality	Address	Country	State
1	Rohit Pandit Gurgude	India	27, gurgude gawali galli, pandit gurgude, at- datyane, Nashik, dixi, Maharashtra, 422302	India	Maharashtra

2. INVENTOR(S):

Sr.No.	Name	Nationality	Address	Country	State
1	Rohit Sanjay Aher	India	Vadala pathardi road, vinay nagar, plot no-97.866/2 a. Nashik, Maharshtra-422006	India	Maharashtra
2	Geetanjali Prashant Mohale	India	2 shrushti sahavak apprt, near vishwas bank, sawarkar nagar, Gangapur road, Nashik 422013	India	Maharashtra

3. TITLE OF THE INVENTION: Dual transmission hybrid vehicle system

4. ADDRESS FOR CORRESPONDENCE OF APPLICANT / AUTHORISED PATENT AGENT IN INDIA:

Telephone No.: 07212566861
Fax No.: 07212566861

Swapnil Gawande, BLI Consultancy Pvt. Ltd. R9, Harshnil, Eknath Puram, Near Yogakshem Colony, Amravati, 444607, (M.S.), India.

Mobile No: .....
E-mail: sjgawande@gmail.com

5. PRIORITY PARTICULARS OF THE APPLICATION(S) FILED IN CONVENTION COUNTRY:

Sr.No.	Country	Application Number	Filing Date	Name of the Applicant	Tilte of the Invention

6. PARTICULARS FOR FILING PATENT COOPERATION TREATY (PCT) NATIONAL PHASE APPLICATION:

International Application Number	International Filing Date as Allotted by the Receiving Office
PCT//	

7. PARTICULARS FOR FILING DIVISIONAL APPLICATION

Original (first) Application Number	Date of Filing of Original (first) Application

8. PARTICULARS FOR FILING PATENT OF ADDITION:

Main Application / Patent Number:	Date of Filing of Main Application

9. DECLARATIONS:

(i) Declaration by the inventor(s)

I/We ,Rohit Sanjay Aher,Geetanjali Prashant Mohale, is/are the true & first inventor(s) for this invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date: -----

(b) Signature(s) of the inventor(s): .....

(c) Name(s): Rohit Sanjay Aher,Geetanjali Prashant Mohale

(ii) Declaration by the applicant(s) in the convention country

I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date: -----

(b) Signature(s) : .....

(c) Name(s) of the singnatory: Rohit Pandit Gurgude

(iii) Declaration by the applicant(s)

- **The Provisional specification relating to the invention is filed with this application.**
- **I am/We are, in the possession of the above mentioned invention.**
- **There is no lawful ground of objection to the grant of the Patent to me/us.**

10. FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION:

I/We hereby declare that to the best of my/our knowledge, information and belief the fact and matters stated hering are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this(Final Payment Date): ----------

Signature: .....

Name: SWAPNIL JAYANTRAO GAWANDE

To The Controller of Patents

The Patent office at MUMBAI

This form is electronically generated.

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Motivations for the New Ideas and Implementation through Innovation Cell

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

A PROJECT REPORT ON

AUTOMATED INVOICE PROCESSING

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

BACHELOR OF ENGINEERING (COMPUTER ENGINEERING)

BY

HARSHADA GANESH DAS.	PRN NO: 71806787J
REKHA JAGDISH MALLAH.	PRN NO: 71806875M
SAVITA DINESH YADAV.	PRN NO: 71807016L
MAYURI ANIL YEOLE.	PRN NO: 71727759D

UNDER THE GUIDANCE OF
PROF. D.B.SISODE

DEPARTMENT OF COMPUTER ENGINEERING

JAWAHAR EDUCATION SOCIETY'S,
INSTITUTE OF TECHNOLOGY, MANAGEMENT AND
RESEARCH, NASHIK
SAVITRIBAI PHULE PUNE UNIVERSITY

2019 -2020

A PROJECT REPORT ON

AUTOMATED INVOICE PROCESSING

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

BACHELOR OF ENGINEERING (Computer Engineering)

BY

Yeole Mayuri A.	Prn No:71727759D
Das Harshada G.	Prn No:71806787J
Mallah Rekha J.	PrnNo:71806875M
Yadav Savita D.	Prn No.:71807016L

Under The Guidance of

Prof. D.B.Sisode

DEPARTMENT OF COMPUTER ENGINEERING

Jawahar Education Society's,

Institute of Technology, Management and Research, Nashik

2019 -2020

Jawahar Education Society's,
Institute of Technology, Management and Research
DEPARTMENT OF COMPUTER ENGINEERING

CERTIFICATE

This is to certify that the Project Entitles

AUTOMATED INVOICE PROCESSING

Submitted by

Yeole Mayuri A.	Prn No:71727759D
Das Harshada G.	Prn No:71806787J
Mallah Rekha J.	PrnNo:71806875M
Yadav Savita D.	Prn No.:71807016L

is a bonafide wok carried out by students under the supervision of Prof. D.B.Sisode and it is submitted towards the partial fulfilment of the requirement of Bachelor of Engineering (Computer Engineering).

Prof. D.B.Sisode
Internal Guide
Dept, of Computer Engg.

Prof.G.P.Mohole
H.O.D
Dept.of Computer Engg.

Dr. M.V.Bhatkar
Principal

Abstract

Invoice processing and information extraction is becoming the need of today's developing World. Taking this into Consideration, the project proposes an adaptation of object recognition for image. Technique presented herein automatically extract the structured and unstructured content of image through object Recognition by using defined keywords. The first phase scans the image thereby detecting objects referring to the keywords and allowing it to be stored in a NoSQL Database.

Further, the second phase provides an interface where according to the requirements the invoice details can be extracted and outputted in a standard format like excel, doc, xml, etc. One of the features involves pattern matching where according to ones choice and preference data can be extracted using patterns. The aim of proposed invoice processing desktop application is to optimize the processing time over an edge of manual work.

Keywords: Image processing, Object recognition, Information Extraction, Feature extraction, Pattern matching

Certificate of
PARTICIPATION

SMART INDIA HACKATHON 2020

SOFTWARE EDITION

Grand Finale
1st , 2nd & 3rd Aug. 2020

This Certificate is awarded to

Savita Dinesh Yadav

of team jitcoder

for participating in

"Smart India Hackathon 2020"

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Dr. Anil D. Sahasrabudhe
Chairman, AICTE
Chairman, Organizing Committee,
Smart India Hackathon 2020

Dr. Abhay Jere
CIO, MIC, MHRD
Organizing Committee,
Smart India Hackathon 2020

Dr. Anand Deshpande
Chairman and MD, Persistent Systems
Co-Chairman, Organizing Committee,
Smart India Hackathon 2020

Sh. Amit Khare
Secretary, Higher Education
Ministry of Education
Government of India

Partners cisco DEVNET intel KPIT | Communication Partner Suma Soft | Media Partner

CERTIFICATE

OF PARTICIPATION

4th Regional Level Project Competition

This is to certify that Mr./Ms. Harshada Ganesh Das

of JIT,Nashik has participated in 4th Regional Level Project Competition 2020 organized by ***Computer Society of India (CSI), Nashik Chapter*** in Association with ***Digital Impact Square (DISQ), Nashik.***

Mrs. Priti Lahane	Mr. Sandeep Shinde	Dr. Preeti Bhamare
Project Director	Head, DISQ	Chairman (CSI)

(Accredited by NAAC)

Department of Information Technology

Organizes

Online National Level Technical Symposium ITSA TechFest-2K20

(2nd June To 4th June 2020)

NAAC Accredited Institution

AICTE-CII SURVEY

This Certificate is Presented To

Mr./Ms. Mayuri anil yeole

For His/Her Active Participation in

Project Competition

Event under ITSA TechFest-2K20 Online National Level Technical Symposium Organized by Department of Information Technology,Nagpur Institute of Technology, Nagpur from 2nd June To 4th June 2020.

We appreciate His/Her enthusiasm and wish him/her best for the future endeavours.

Prof. Anuja Ghasad	Prof. Jagdish Pimple	Dr. Amol Deshmukh
Coordinator ITSA TechFest-2K20	Hod. IT. Dept, & Convener ITSA TechFest-2K20	Principal Nagpur Institute of Technology

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International Journal of Advanced Technologies
INTERNATIONAL PEER REVIEWED OPEN ACCESS JOURNAL
ISSN [ONLINE]: 2124-0923

Certificate

This to certify that the paper entitled "Automated Invoice Processing Using Optical Character Recognition" (Paper id: IJAT201911265) authored by Ms. Rekha Mallah has been published in International Journal of Advanced Technologies Volume 9, Issue 7, Nov 2019.

Editor-In-Chief

Website: www.ijat.tech

Email: editor@ijat.tech

SAVITRIBAI PHULE PUNE UNIVERSITY A
PROJECT REPORT ON

"IMPLEMENTATION OF DEVOPS AUTOMATION TECHNOLOGIES IN SOFTWARE DEPLOYMENT USING CI/CD PIPELINE"

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

BACHELOR OF ENGINEERING
(COMPUTER ENGINEERING)
BY

PATIL MAHESH M.	EXAM NO. : 71657012C
KULTHE AKSHAY A.	EXAM NO. : 71753301J
PATIL YOGESH R.	EXAM NO. : 71657013M
PATIL SHIVAJI D.	EXAM NO. : 71525014M

UNDER THE GUIDANCE OF
PROF. P. S. BADGUJAR

DEPARTMENT OF COMPUTER ENGINEERING
JAWAHAR EDUCATION SOCIETY'S,
INSTITUTE OF TECHNOLOGY, MANAGEMENT AND
RESEARCH, NASHIK

2019-2020

SAVITRIBAI PHULE PUNE UNIVERSITY
A
PROJECT REPORT
ON

"Implementation of DevOps automation technologies in software deployment using CI/CD pipeline"

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

BACHELOR OF ENGINEERING
(Computer Engineering)

BY

Patil Mahesh M.	Exam No. : 71657012C
Kulthe Akshay A.	Exam No. : 71753301J
Patil Yogesh R.	Exam No. : 71657013M
Patil Shivaji D.	Exam No. : 71525014M

Under The Guidance of

Prof. P. S. Badgujar

DEPARTMENT OF COMPUTER ENGINEERING
Jawahar Education Society's,
Institute of Technology, Management and Research,
Nashik.

2019-2020

Jawahar Education Society's
Institute of Technology,Management & Research,Nashik
Approved by AICTE and DTE,Goverment of Maharashtra, Affiliated to University of Pune

CERTIFICATE

This is to certify that the Project Entitled

"Implementation of DevOps automation technologies in software deployment using CI/CD pipeline"

Submitted by

Patil Mahesh M.	Exam No. : 71657012C
Kulthe Akshay A.	Exam No. : 71753301J
Patil Yogesh R.	Exam No. : 71657013M
Patil Shivaji D.	Exam No. : 71525014M

is a bonafide work carried out by Students under the supervision of **Prof. S. B. Patil** and it is submitted towards the partial fulfillment of the requirement of **Bachelor of Engineering** (Computer Engineering) Project.

Prof. P. S. Badgujar
Guide
Dept.of Computer Engg.

Prof. G. P. Mohole
Head
Dept.of Computer Engg.

Dr. M. V. Bhatkar
Principal

Signature of Internal Examiner

Signature of External Examiner

Abstract

Many companies are going in the process of adopting modern continues software development practices like Continuous Integration (CI), Continuous Delivery(CD) or DevOps, This approaches can support to increase development speed, predictability, reproducibility and time to market, This factors will directly affect to the company's growth. The traditional methods are unable to identify production performance behavior due to duplicated traffic patterns that are highly departing from production. To overcome those issues this approach has expanded the CICD pipeline to have three automation phases. Initially, the pipeline was developed using CI server, Git repository with ansible automation and docker with environmental containers. To analyze systems behavior in each phase Nagios monitoring is used. Thereby the research provides an effective way to manage any development based CICD projects. The automatic build runs in a precise order, coupling its operation with user authentication. A code modification fed to the codebase prompts the system to test the build for errors and crashes automatically.

Keywords: Continuous Integration, Continuous Delivery, DevOps, Docker, Ansible, Agile Process Model, etc.

International Journal of Advanced Technologies

INTERNATIONAL PEER REVIEWED OPEN ACCESS JOURNAL

ISSN (ONLINE): 2124-0923

Certificate

This to certify that the paper entitled "Implementation of DevOps automation technologies in software deployment using CI/CD pipeline" (Paper id. IJAT201911261) authored by Mr. Mahesh M. Patil has been published in International Journal of Advanced Technologies Volume 9, Issue 7, Year 2019.

Editor-In-Chief

Website: www.ijat.tech

Email: editor@ijat.tech

Figure C.1: Paper Publish By Mahesh Patil

International Journal of Advanced Technologies

INTERNATIONAL PEER REVIEWED OPEN ACCESS JOURNAL

ISSN (ONLINE): 2124-0923

Certificate

This to certify that the paper entitled "Implementation of DevOps automation technologies in software deployment using CI/CD pipeline" (Paper id: IJAT201911261) authored by Mr. Akshay A. Kulthe has been published in International Journal of Advanced Technologies Volume 9, Issue 7, Year 2019.

Editor-In-Chief

Website: www.ijat.tech

Email: editor@ijat.tech

Figure C.2: Paper Publish By Akshay Kulthe

International Journal of Advanced Technologies

INTERNATIONAL PEER REVIEWED OPEN ACCESS JOURNAL

ISSN (ONLINE): 2124-0923

Certificate

This to certify that the paper entitled "Implementation of DevOps automation technologies in software deployment using CI/CD pipeline" (Paper id: IJAT201911261) authored by Mr. Yogesh R. Patil has been published in International Journal of Advanced Technologies Volume 9, Issue 7, Year 2019.

Editor-In-Chief

Website: www.ijat.tech

Email: editor@ijat.tech

Figure C.3: Paper Publish By Yogesh Patil

Participated in Center for Innovation, Incubation Enterprise

Savitribai Phule Pune University
(Formerly University of Pune)
CENTRE FOR INNOVATION, INCUBATION & ENTERPRISE

Certificate

This is to certify that Mr. Mahesh M. Patil of Jawahar Education Society's Institute of Technology, Management & Research, Nashik Gangapur Road, Nashik - 422222 has participated in the Cluster Level i-2-e Competition organized by Centre for Innovation, Incubation & Enterprise on 20th December, 2019.

Dr. Apoorva Palkar
Director,
Innovation, Incubation and Linkages

Dr. N. S. Umarani
Pro-Vice-Chancellor
Savitribai Phule Pune Univertsity

Dr. Nitin Karmalkar
Vice - Chancellor
Savitribai Phule Pune Univertsity

Figure C.4: Participated By Mahesh Patil

Savitribai Phule Pune University
(Formerly University of Pune)
CENTRE FOR INNOVATION, INCUBATION & ENTERPRISE

Certificate

This is to certify that Mr. Akshay A. Kulthe of Jawahar Education Society's Institute of Technology, Management & Research, Nashik Gangapur Road, Nashik - 422222 has participated in the Cluster Level i-2-e Competition organized by Centre for Innovation, Incubation & Enterprise on 20th December, 2019.

Dr. Apoorva Palkar
Director,
Innovation, Incubation and Linkages

Dr. N. S. Umarani
Pro-Vice-Chancellor
Savitribai Phule Pune Univertsity

Dr. Nitin Karmalkar
Vice - Chancellor
Savitribai Phule Pune Univertsity

Figure C.5: Participated By Akshay Kulthe

Savitribai Phule Pune University
(Formerly University of Pune)
CENTRE FOR INNOVATION, INCUBATION & ENTERPRISE

Certificate

This is to certify that Mr. Yogesh Patil of Jawahar Education Society's Institute of Technology, Management & Research, Nashik Gangapur Road, Nashik - 422222 has participated in the Cluster Level i-2-e Competition organized by Centre for Innovation, Incubation & Enterprise on 20th December, 2019.

Dr. Apoorva Palkar
Director,
Innovation, Incubation and Linkages

Dr. N. S. Umarani
Pro-Vice-Chancellor
Savitribai Phule Pune University

Dr. Nitin Karmalkar
Vice - Chancellor
Savitribai Phule Pune University

Figure C.6: Participated By Yogesh Patil

Participated in Eureka Hackathon 3.0 Competition

Raisoni Group of Institutions
(Pune Campus)
In collaboration with
Quick Heal Technologies Ltd.

RAISONI GROUP
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CERTIFICATE OF ACHIEVEMENT

Eureka Hackathon 3.0

IT'S NOT ABOUT IDEAS, IT'S ABOUT MAKING IDEAS HAPPEN.
EUREKA

This Certificate is presented to
Mahesh M. Patil

for competing in the Grand Finale of
Eureka-Hackathon/Ideathon 3.0 on 14th & 15th February 2020 at
G. H. Raisoni Institute of Engineering & Technology, Pune.
Thank you for participating & achieving ___ position in EUREKA-Hackathon 3.0.

Mrs. Sarika Khope & Mrs. Prathiba Reddy
CO-ORDINATORS

Dr. R. D. Kharadkar
PRINCIPAL

Figure C.7: Participated By Mahesh Patil

Figure C.8: Participated By Akshay Kulthe

Figure C.9: Participated By Yogesh Patil

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SAVITRIBAI PHULE PUNE UNIVERSITY

A PRELIMINARY PROJECT REPORT ON

COVID-19 DETECTION SYSTEM USING MACHINE LEARNING

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

BACHELOR OF ENGINEERING
(COMPUTER ENGINEERING)

BY

MAJID KHAN	B151144214
HAYYAN ANSARI	B151144205
CHETAN AMRUTKAR	B151144203
ABHYUDAYA TIWARI	B151144201

UNDER THE GUIDANCE OF
PROF. VISHAKHA BHADANE

DEPARTMENT OF COMPUTER ENGINEERING
JAWAHAR EDUCATION SOCIETY'S INSTITUTE OF
TECHNOLOGY, MANAGEMENT AND RESEARCH,
NASHIK

SAVITRIBAI PHULE PUNE UNIVERSITY

A PRELIMINARY PROJECT REPORT ON

COVID-19 Detection System using Machine Learning

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

BACHELOR OF ENGINEERING (Computer Engineering)

BY

Majid Khan	B151144214
Hayyan Ansari	B151144205
Chetan Amrutkar	B151144203
Abhyudaya Tiwari	B151144201

Under The Guidance of

Prof. Vishakha Bhadane

DEPARTMENT OF COMPUTER ENGINEERING

**Jawahar Education Society's Institute of Technology,
Management and Research, Nashik**

Jawahar Education Society's Institute of Technology, Management and Research

DEPARTMENT OF COMPUTER ENGINEERING

CERTIFICATE

This is to certify that the Project Entitled

COVID-19 Detection System using Machine Learning

Submitted by

Majid Khan	B151144214
Hayyan Ansari	B151144205
Chetan Amrutkar	B151144203
Abhyudaya Tiwari	B151144201

is a bonafide work carried out by Students under the supervision of Prof. Vishakha Bhadane and it is submitted towards the partial fulfillment of the requirement of Bachelor of Engineering (Computer Engineering) Project.

Prof. Vishakha Bhadane
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Dept. of Computer Engg.

Prof. Dushyant Sisode
H.O.D
Dept. of Computer Engg.

Dr. M.V. Bhatkar
Principal

1.6 ABSTRACT

The outbreak of COVID-19 has caused distress and chaos in the entire world with the exponential growth of cases. Priority calls for social distancing and quarantine, the only ways to prevent the spread of the disease. It has been observed that the RT-PCR testing of COVID-19 is not only resulting in many false results but is also time-consuming. Therefore, immediate and efficient testing of COVID-19 is essential with the widespread disease over all the continents. Alternative detection techniques are the need of the hour to combat the disease. In this report, an automated detection system is built to detect COVID-19 using Chest X-rays Images with the aid of Convolutional Neural Network (CNN). The CNN model has given the accuracy of 99 percent in the detection of COVID-19 and Normal Chest X-ray Images

1.7 GOALS AND OBJECTIVES

- To Reduce Testing Time.
- To Reduce Cost and other Expenses.
- To Enhance Effeciency.
- To Increase the Testing Accuracy.

1.8 LIST OF MODULES

1.8.1 Actor Module

- Provide true details
- Upload X-Ray image
- Check COVID results

7.1 INTRODUCTION

Machine Learning and AI are playing a vital Role in today's era of computation. Implementation of machine learning techniques for automatic disease diagnosis and identification is aiding the doctors as a supportive tool and gaining its popularity in the medical field as one of the major application areas of ML. Deep Learning (DL) a sub field of ML is being successfully applied in several issues like carcinoma detection, carcinoma classification, and respiratory disorder detection from chest x-ray pictures. Thus we also created an Deep Learning based Covid-19 Detection System from Chest X-Rays. CT images and X-rays have vital role in prior detection of CoronaVirus disease which can be used as screening tool. Therefore, simple, precise, and faster AI models are helpful to overcome the problem of delay in disease identification and help patients in early discovery and cure. The Project is implemented in Three Phases in which the First Phase is Model Creation which includes importing all the necessary libraries, creating the dataset, image preprocessing as well as training and testing the data. The second Phase is Creating the Web Application which includes importing libraries , designing the front-end and integrating the model in UI/UX using Flask. The third Phase includes creating and setting up the database.

7.1.1 Purpose

To develop a simple Convolutional Neural Network based Machine Learning model which is projected as an web application that can successfully detect the presence of Novel Corona Virus (nCov) strains in the lungs of human beings using the X-rays of their chests within seconds. The Chest X-ray of the patient who is suffering from the symptoms of Covid-19 are uploaded on the Covid-19 Detector Web application. As per the dataset provided by WHO, if our trained model results in positive, patients are assumed as COVID Positive and are advised to be isolated into COVID wards for further diagnosis. However, if the model results the condition to be normal, patients could go on to verify with the PCR testing if not satisfied. test results.

the model creation are :

1. Sequential model (from Keras)
2. Dense, Conv2D, MaxPooling2D and Flatten layers.
3. ImageDataGenerator from Image Preprocessing.
4. Mathematical Plotting Library (Matplotlib).

- **Allocating GPU Memory :** We allocated a specific amount of GPU Memory to our model to avoid fatal error and overeating of graphics card. We restricted TensorFlow to only allocate 2GB of memory on the physical and logical GPUs.

- **Creating the Dataset :** The dataset contains images of COVID-19 and Normal Chest X-rays. Here are sample Chest X-ray images of COVID-19 and Normal patients respectively.

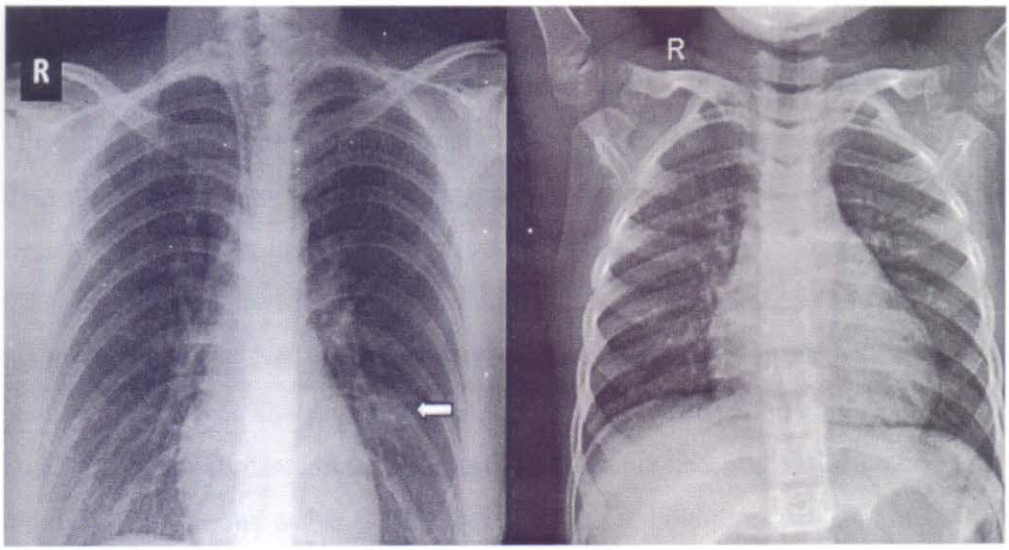

Fig: COVID-19 and Normal Chest X-Rays (left to right)

In order to distinguish between the Chest X-rays of patients infected with COVID-19 and Normal Chest X-rays, our dataset folder is further divided into two sub-folders naming "covid" and "normal". Both of these folders are originally stated in two classes "Train" and "Test". The train data folder will be used to train our deep learning model while the test data will be used to validate and evaluate results from the model.

terns from the image. What information these filters extract is learned, just like in the brain. When we train a Convolutional Neural Layer, we try to generate the best possible filters, e.g. the filters that extract the most meaningful information. Convolutional layers detect low-level features such as edges and curves. This layer creates a feature map to predict the class probabilities for each feature by applying a filter that scans the whole image, a few pixels at a time.

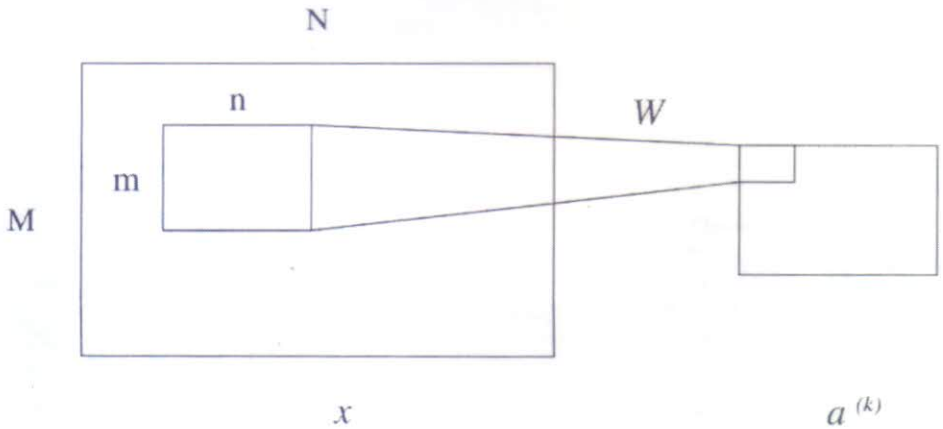

Fig: Convolutional Layer

Let's consider a single image case. For simplicity, I would like to define the image size and its convoluted image size in the above figure. So notation here is like below.

x: input

ak : output after convolution

k: index of kernel (weight filter)

W : kernel (weight filter)

b: bias

E: cost function

CNN follows the forward propagation procedure in which the weights, biases and filters are inputted, processed and passed on to its successive layers. These values act as parameters of the CNN model as shown below :

$$a_{ij}^{(k)} = \sum_{s=0}^{m-1} \sum_{t=0}^{n-1} W_{st}^{(k)} x_{(i+s)(j+t)} + b^{(k)}$$

- **Creating CNN Model with training dataset:** The following functions and parameters are used for our Model Creation:-

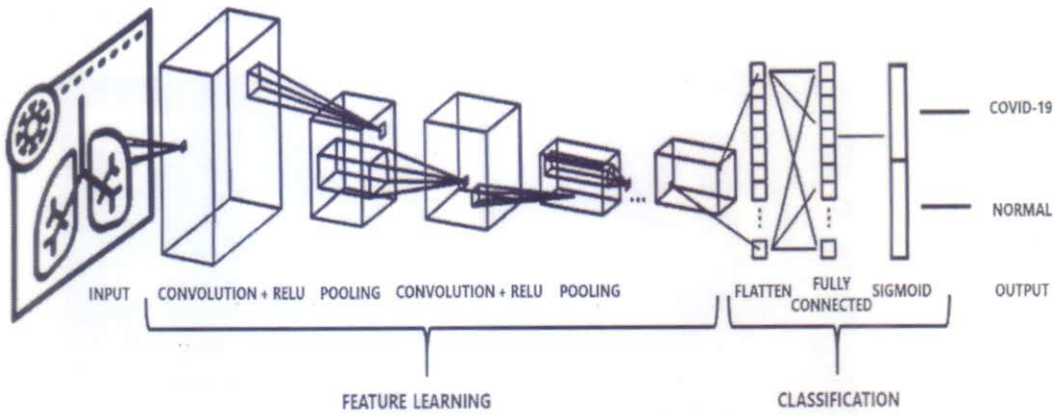

Fig: Overall Workflow of the proposed CNN model

Image data preprocessing :- The aim of preprocessing is an improvement of the image data that suppresses undesired distortions or enhances some image features relevant for further processing and analysis task. Tensors are used to store data and are assumed as multidimensional arrays. A tensor representing a 64x64 image having 3 channels will have its dimensions (64, 64, 3).

Algorithm:

- Read the picture files (stored in data folder). Decode the JPEG content to RGB grids of pixels with channels.
- Convert these into floating-point tensors for input to neural nets.
- Rescale the pixel values (between 0 and 255) to the [0, 1] interval (as training

neural networks with this range gets efficient).

(a) The original color image.

(b) The processed image, C= 1.

(c) The processed image, C= 2.

(d) The processed image, C= 4.

Fig: Image Processing Diagram

Activation Functions: We used two Activation Functions in our Model which are:

A)ReLU Activation Function

B)Sigmoid Activation Function

1.ReLU Activation Function: ReLU stands for Rectified Linear Unit and is considered one of the few milestones in the deep learning revolution. It is simple yet really better than its predecessor activation functions such as sigmoid or tanh.

ReLU activation function formula:

$$\frac{\partial E}{\partial x_v} = \frac{\partial E}{\partial a_{ij}^{(k)}} \frac{\partial a^{(k)}}{\partial x_{ij}} = \begin{cases} \frac{ax}{a<0^{\infty}} & \left(a_y^{(a)} \geq 0\right) \\ 0 & (\text{athervise}) \end{cases}$$

Fig: Back propagation to ReLU Layer

Now how does ReLU transform its input? It uses this simple formula:

f(x)=max(0,x)

ReLU function is its derivative both are monotonic. The function returns 0 if it receives any negative input, but for any positive value x, it returns that value back. Thus it gives an output that has a range from 0 to infinity.

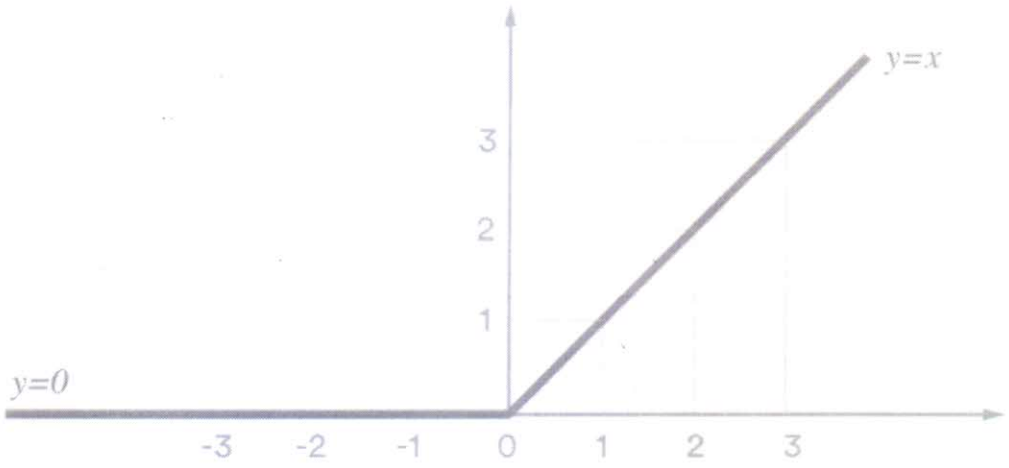

Fig: ReLU Activation Function

ReLU is used as a default activation function and nowadays and it is the most commonly used activation function in neural networks, especially in CNNs. The ReLU function is simple and it consists of no heavy computation as there is no complicated math. The model can, therefore, take less time to train or run.

2. Sigmoid Activation Function:

The Sigmoid Function curve looks like a S-shape.The sigmoid function exists

between the probability values of 0 or 1, i.e., the prediction could either be false or true (respectively).Therefore, it is especially used for models where we have to predict the probability as a single output. Since probability of two things exist only between the range of 0 and 1, sigmoid was the right choice for our project. The function is differentiable.That means, we can find the slope of the sigmoid curve at any two points. The function is monotonic but function's derivative is not.

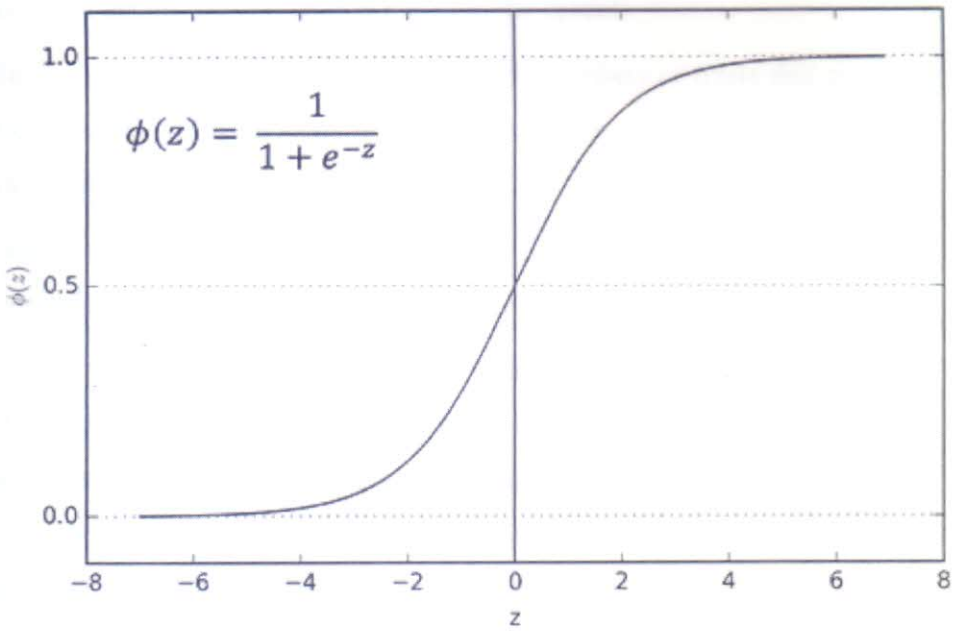

Fig: Sigmoid Activation Function

$$\frac{d\sigma(x)}{dx} = \sigma(x)(1-\sigma(x))$$

Fig: Back propagation to Sigmoid Layer:

Conv2D Layer:

Keras Conv2D is a 2D Convolution Layer, this layer creates a convolution kernel that is wind with layers input which helps produce a tensor of outputs.

Kernel: In image processing kernel is a convolution matrix or masks which can be used for blurring, sharpening, embossing, edge detection, and more by

$$\frac{\partial E}{\partial W_{at}^{(k)}} = \sum_{i=0}^{M-m} \sum_{j=0}^{N-n} \frac{\partial E}{\partial a_{ij}^{(k)}} \frac{\partial a_{ij}^{(k)}}{\partial W_{nt}^{(k)}} = \sum_{i=0}^{M-m} \sum_{j=0}^{N-n} \frac{\partial E}{\partial a_{ij}^{(k)}} x_{(i+a)(t+t)}$$

$$\frac{\partial E}{\partial b^{(k)}} = \sum_{i=0}^{M-m} \sum_{j=0}^{N-n} \frac{\partial E}{\partial a_{ij}^{(k)}} \frac{\partial a_{ij}^{(k)}}{\partial b^{(k)}} = \sum_{i=0}^{M-m} \sum_{j=0}^{N-n} \frac{\partial E}{\partial a_{ij}^{(k)}}$$

Fig: Back propagation of the Convolutional Layer

MaxPooling Layer :

Max pooling is a pooling operation that selects the maximum element from the region of the feature map covered by the filter. Thus, the output after max-pooling layer would be a feature map containing the most prominent features of the previous feature map.

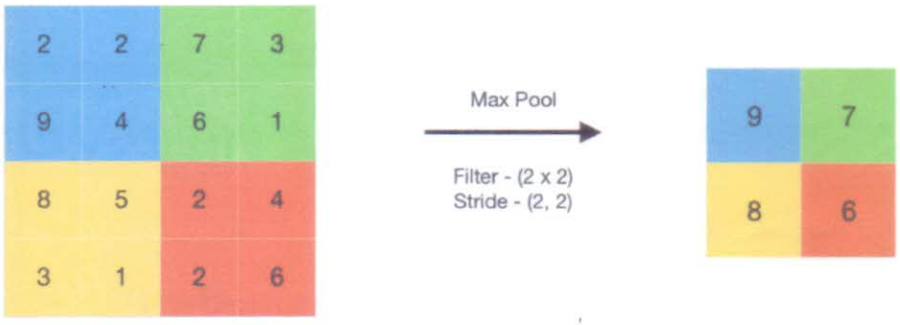

Fig: Maxpooling Layer

$$\frac{\partial E}{\partial x_{(i+s)(j+t)}} = \frac{\partial E}{\partial a_{ij}^{(k)}} \frac{\partial a^{(k)}}{\partial x_{(i+s)(j+t)}} = \begin{cases} \frac{\partial E}{\partial a_{ij}^{(k)}} & \left(a_{ij}^{(k)} = x_{(i+s)(j+t)}\right) \\ 0 & (\text{otherwise}) \end{cases}$$

Fig: Back propagation to MaxPooling Layer

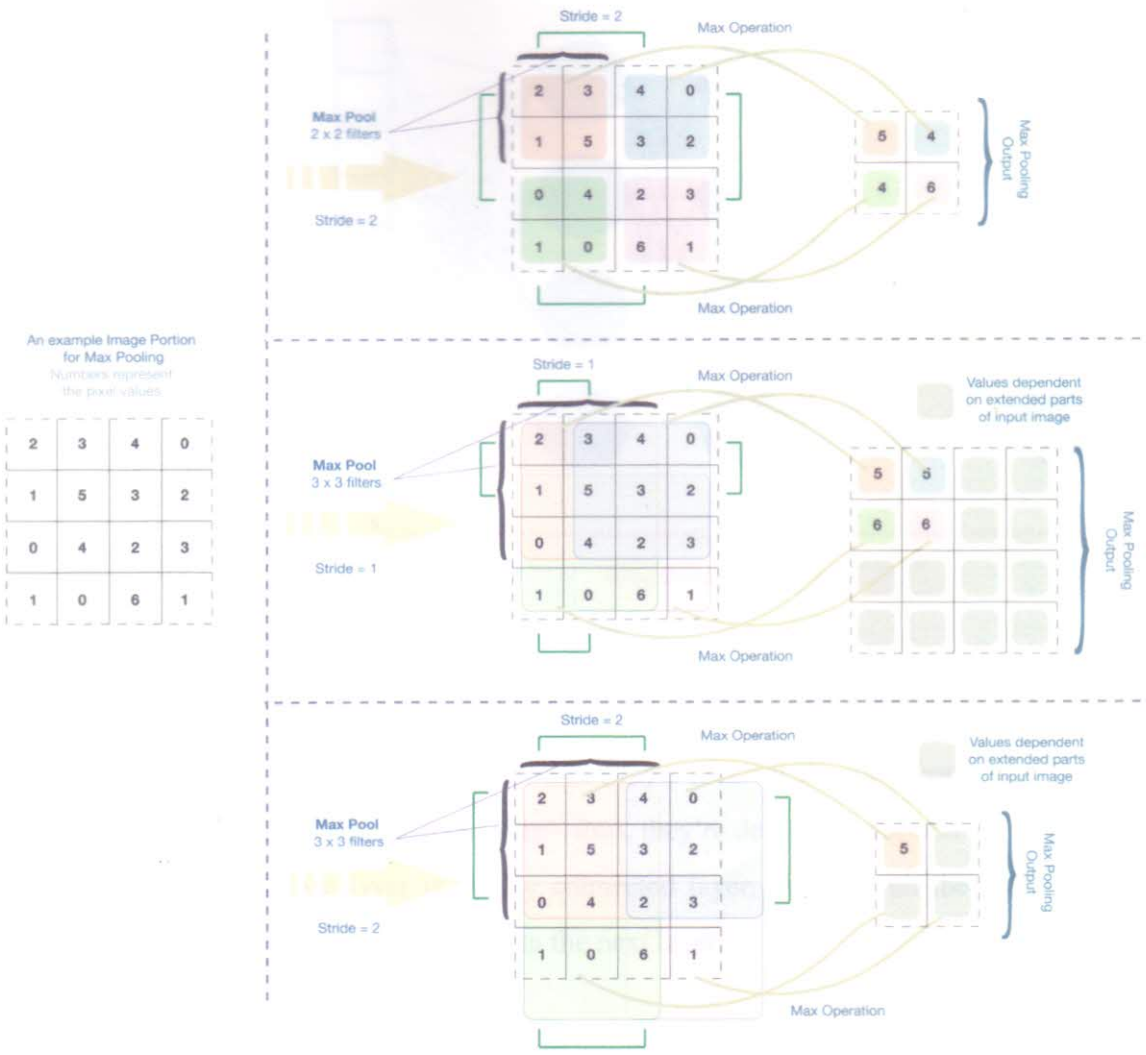

Fig: Detailed working of Maxpooling Layer

Flatten Layer: Flattening is converting the data into a 1-dimensional array for inputting it to the next layer. We flatten the output of the convolutional layers to create a single long feature vector. And it is connected to the final classification model, which is called a fully-connected layer. In other words, we put all the pixel data in one line and make connections with the final layer.

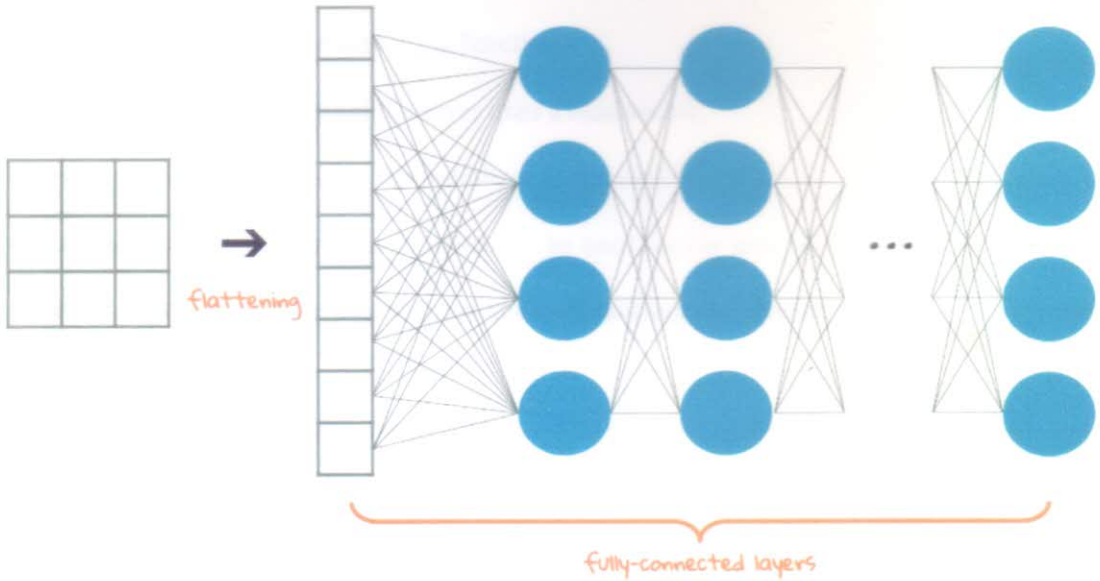

Fig: Flatten Layer Diagram

Dense Layer: The name suggests that layers are fully connected (dense) by the neurons in a network layer. Each neuron in a layer receives an input from all the neurons present in the previous layer—thus, they're densely connected. In other words, the dense layer is a fully connected layer, meaning all the neurons in a layer are connected to those in the next layer.

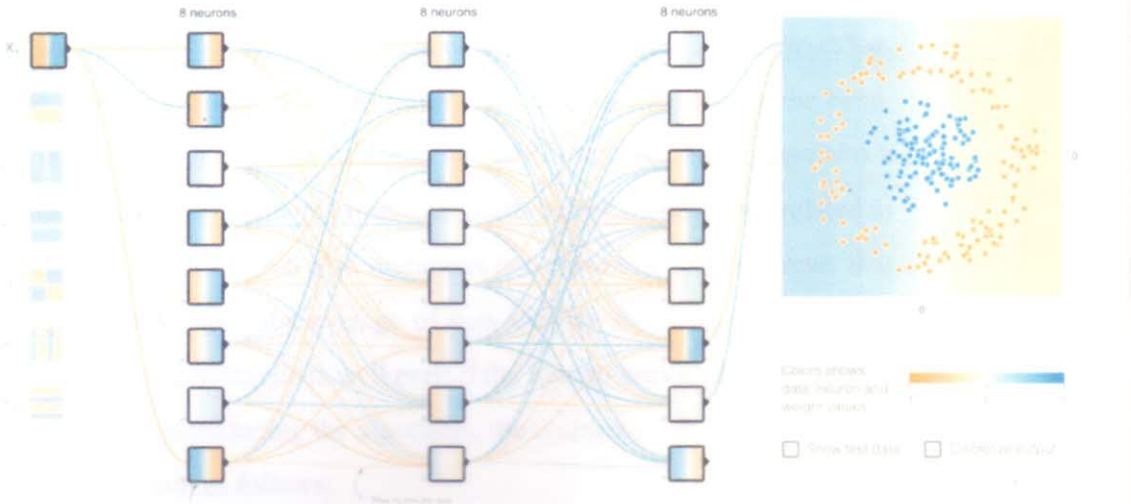

Fig: Dense Layer

The argument supported by Dense layer is as follows:

- Units represent the number of units and it affects the output layer.

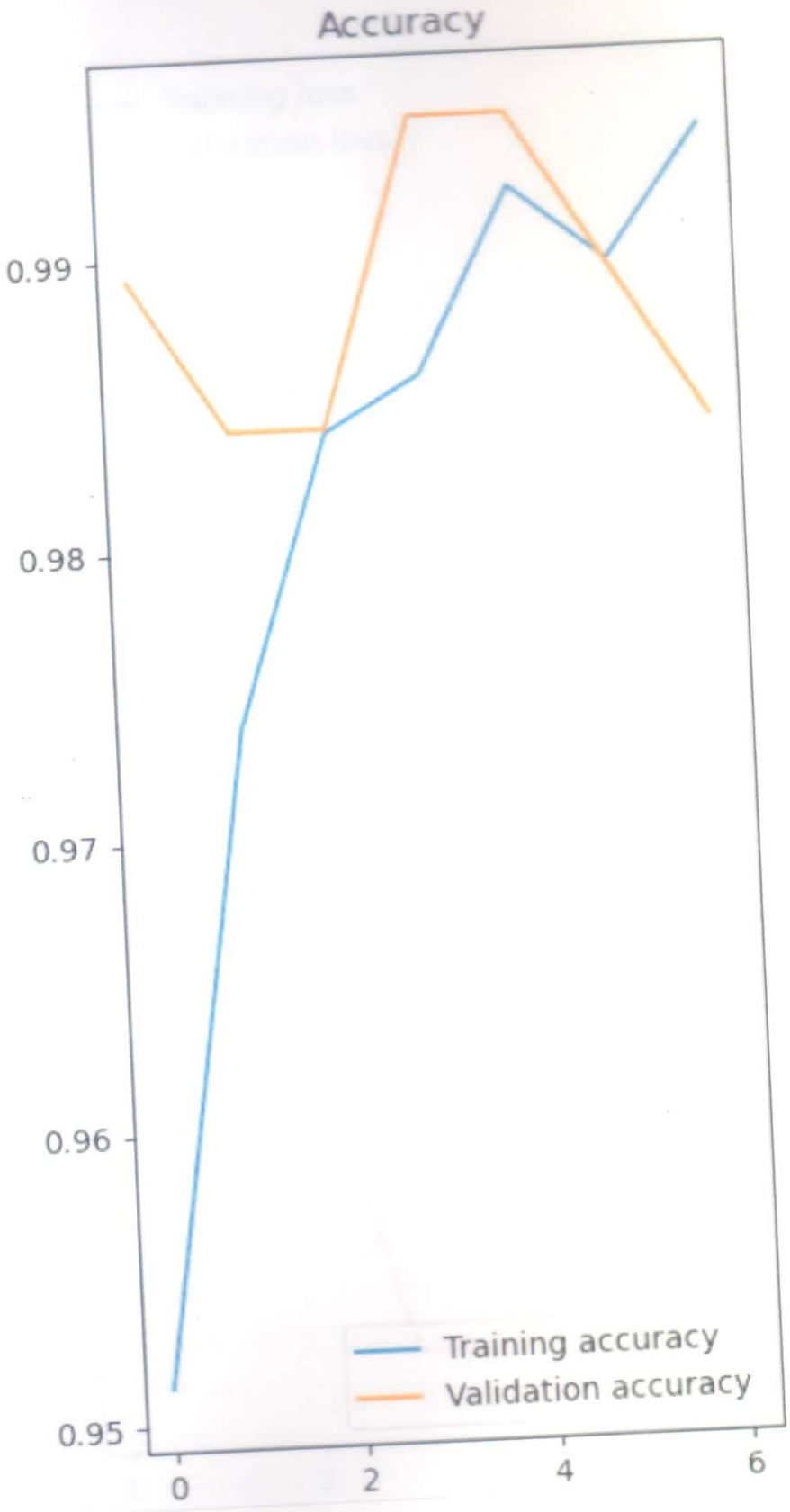

Fig: Accuracy graph for the trained model

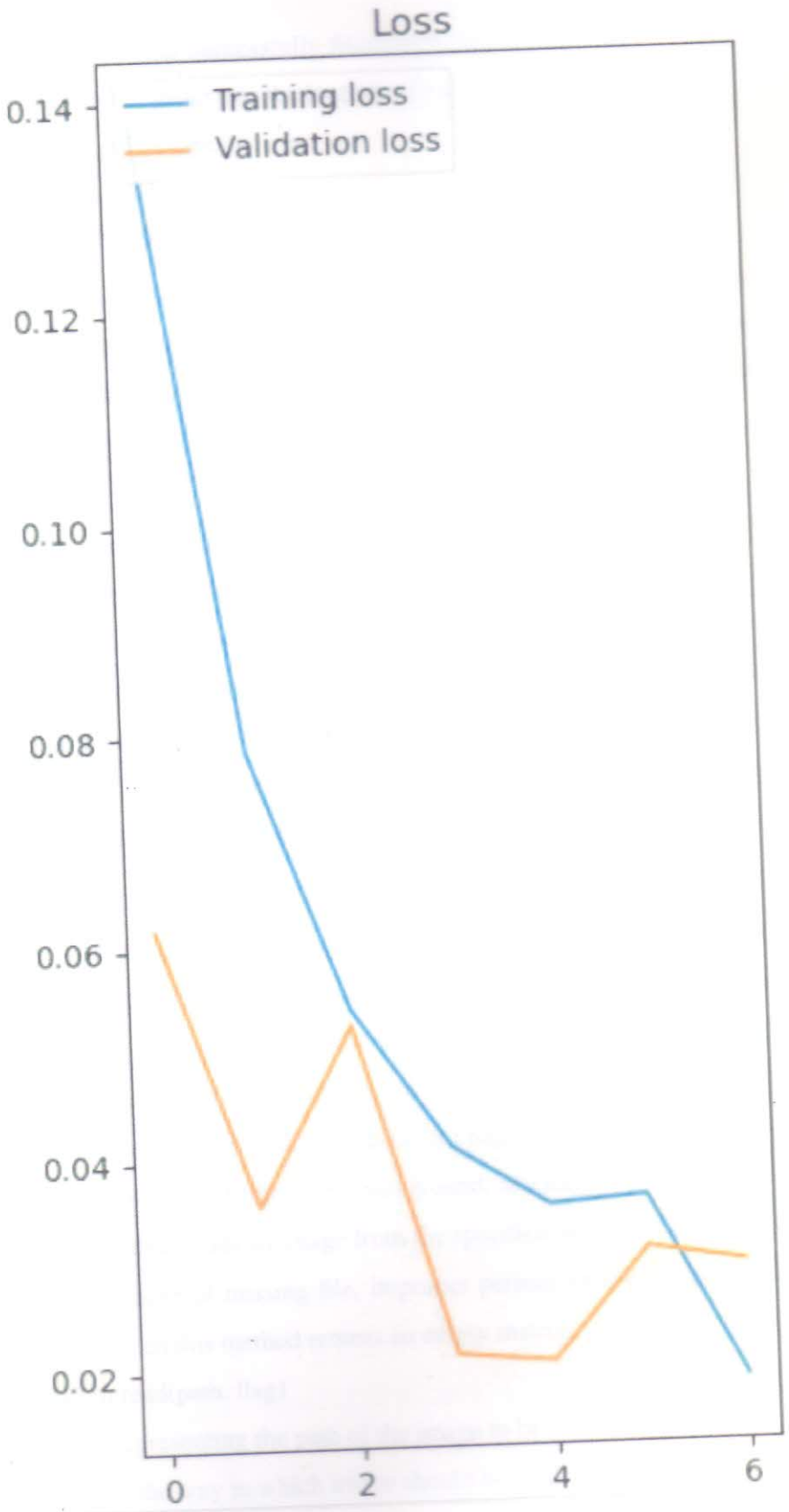

Fig: Loss graph for the trained model

10.3 CONCLUSION

Mass testing and early detection of COVID-19 play an important role in preventing the spread of this recent global pandemic. Time, cost, and accuracy are the few major factors in any disease detection process specially COVID-19. To address these issues, a CNN based model is proposed in this project report for detecting COVID-19 cases from patients' chest X-rays. The CNN model is trained with Dataset which has a total of 2689 chest X-ray images divided into two classes. The proposed model excels with the accuracy of 99 percent. Moreover, this model compares the achieved results with other prominent works in the field by different people and found it to better from most of them all. This work can be improved further with the availability of a larger dataset. Finally, CNN has great prospects in detecting COVID-19 with very limited time, resources, and costs. Though the proposed model shows promising results, it is not clinically tested. However, with such a higher accuracy the proposed model can surely play an important role in early and fast detection of COVID-19 thus reducing testing time and cost.

Early prediction of COVID-19 patients is vital to prevent the spread of the disease to other people. The virus is relatively new, and no official vaccine has been originated yet. Hence, humanity ought to find different ways to prevent the spread of COVID-19 as soon as possible. Nonetheless, the present work contributes to the possibility of a low-cost, rapid, and automatic diagnosis of COVID-19. Also, even though the appropriate treatment is not determined solely from an X-ray image, an initial screening of the cases would be useful, not in the type of treatment, but in the timely application of quarantine measures in the positive samples, until a complete examination and specific treatment or follow-up procedure are followed. An additional advantage of automatic detection of COVID-19 from medical imaging lies in the reduction of exposure of nursing and medical staff to the outbreak.

10.4 REFERENCES

Below are the references used to develop our project:

10.5 SCREENSHOTS

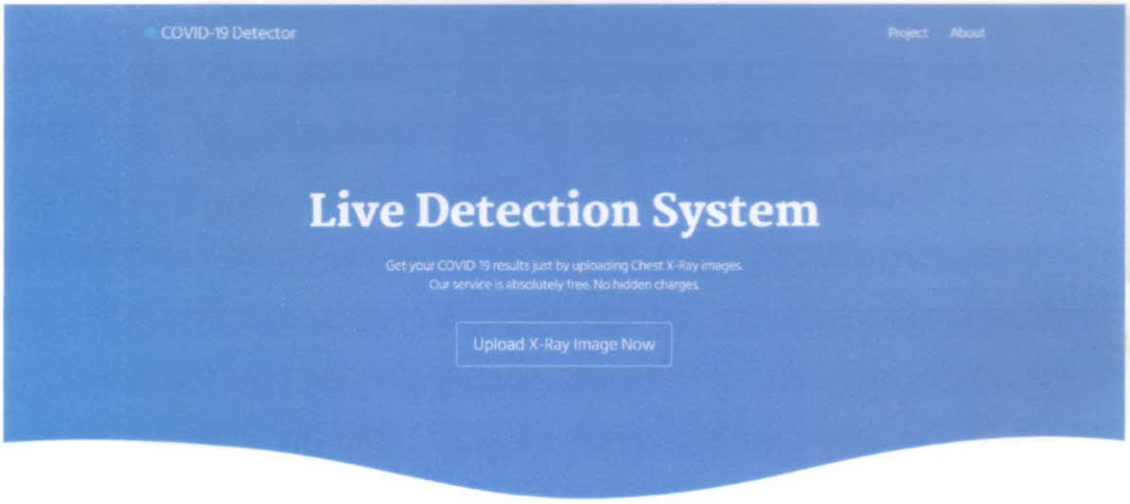

Fig: Project Page

Fig: Registration Form — Project Page

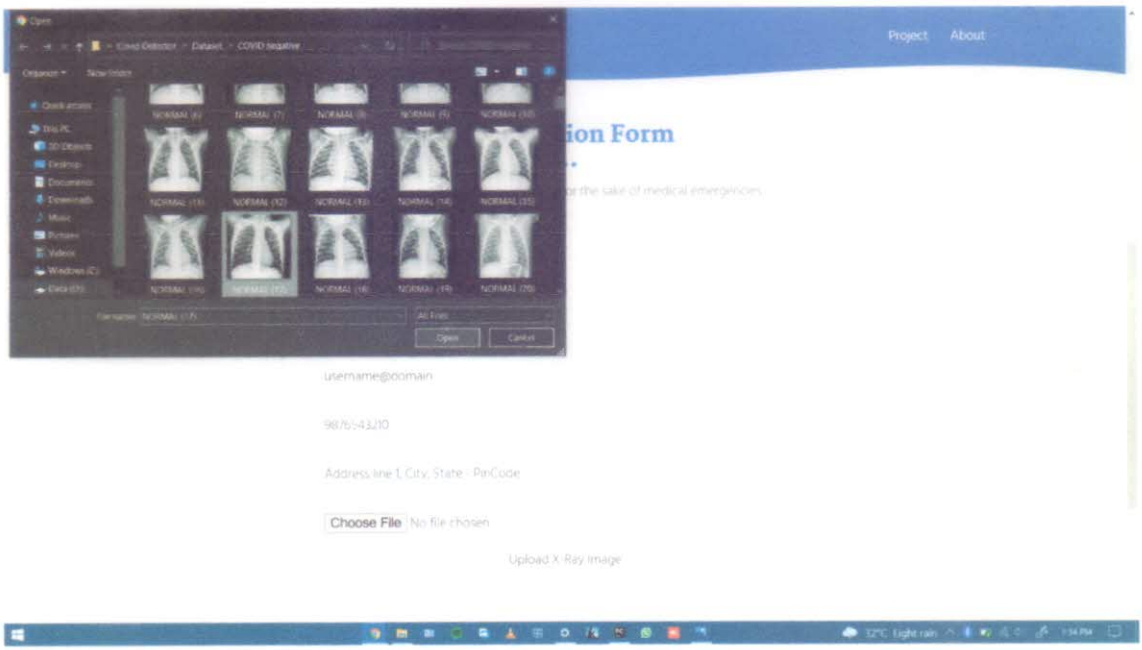

Fig: How to upload chest X-Ray image

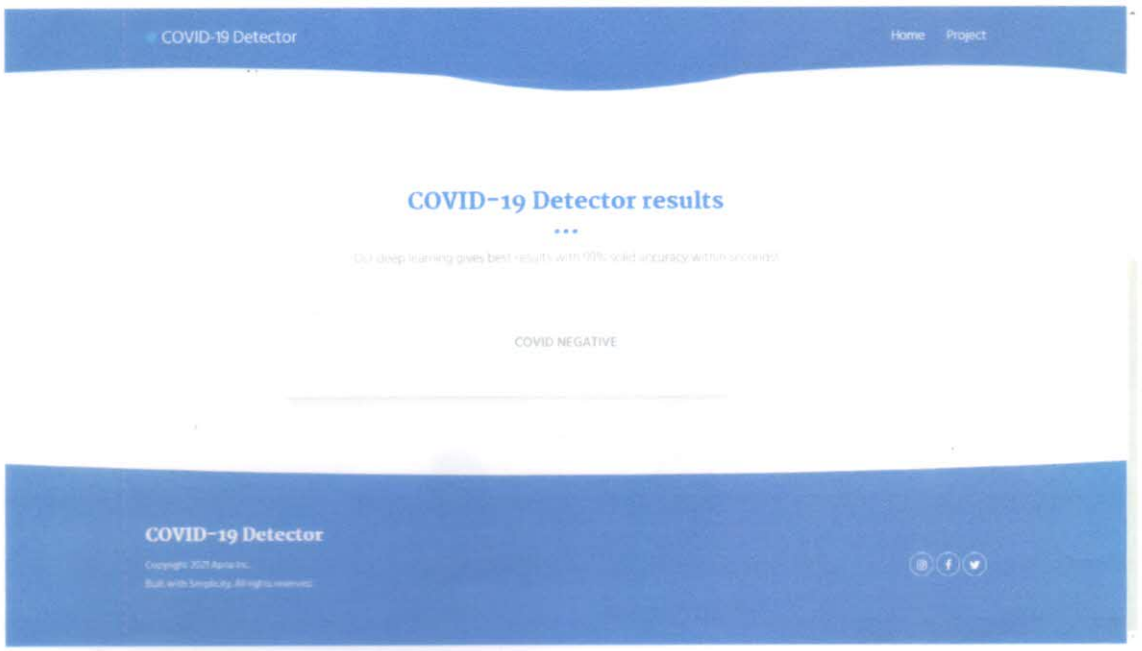

Fig: Results Page

11.1 LABORATORY ASSIGNMENTS ON PROJECT QUALITY AND RELIABILITY TESTING OF PROJECT DESIGN

11.1.1 REVIEWERS COMMENTS OF PAPER SUBMITTED

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EDITOR IN CHIEF

PAPER ID : IJSARTV71650108

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Fig: Certification of Research Paper in the name of Majid Khan

A PROJECT REPORT ON

"DESIGN AND DEVELOPMENT OF ROLL CAGE"

BY

MR. NISHANT SURESH SONAR [71753243H]

MR. WASIF GULNAWAZ PATHAN [71753217J]

MR. ROHIT SUDHAKAR DODE [71753163F]

MR. GAURAV SANJAY NIKAM [71656885D]

GUIDE

PROF.A.R. TIPAYLE

DEPARTMENT OF MECHANICAL ENGINEERING

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INSTITUTE OF TECHNOLOGY, MANAGEMENT AND RESEARCH

NASHIK-422 222, (MS)

SAVITRIBAI PHULE PUNE UNIVERSITY

[2019-20]

Jawahar Education Society's,

Institute of Technology, Management and Research,

Nashik

C E R T I F I C A T E

This is to certify that *Mr.Nishant S Sonar, Mr.Wasif G Pathan, Mr.Gaurav S Nikam, Mr.Rohit S Dode,* has successfully completed the project work entitled "*Design And Development Of Roll Cage for ATV vehicle*" under my supervision, in the partial fulfillment of Bachelor in Mechanical Engineering by Savitribai Phule Pune University.

Date:

Place:

Prof.A.R.Tipayle
Guide

External

Prof.S. J. Aswar
Head of Department

Jawahar Education Society's Institute of Technology, Management and Research NASHIK

Seal

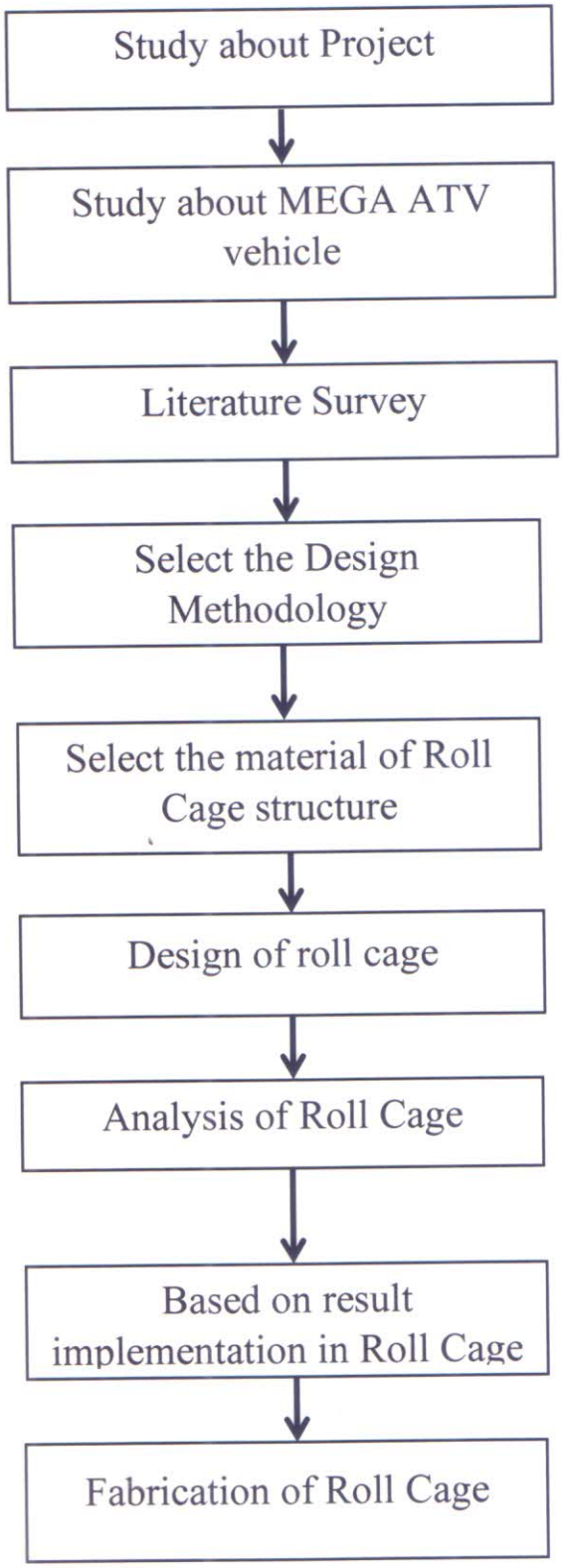
Dr. M.V.Bhatkar
Principal

ABSTRACT

MEGA ATV is an all-terrain vehicle competition which gives under graduate students a practical experience in engineering sciences. In this event we can get more practical knowledge in automobile field. This project deals with modelling of roll cage of an automobile (MEGA ATV) and analysing it to give an optimum design. ATV is most economical off- road vehicle can be used in rugged environment, so we should analyse the impact forces of terrain environment. Ergonomics and aesthetics of the vehicle should also be taken into account. Roll-cage design is made with the help of solid works software. Roll-cage is the primary defence against roll over and other unknown accidents happening in the terrain environment. We should analyse impact resistance of roll-cage design under various conditions like front impact, Self weight impact during jumping over uneven surface and endurance in varying road conditions. While considering safety ergonomic condition, comfort of driver and aesthetics are also taken into account. This makes roll-cage economic and efficient one. Main theme of the project is to find non concurrency in production of a product. It deals with non-concurrency in designing and manufacturing of automobile roll cage. And rectifying it to meet a optimal design and manufacturing sequel in manufacturing a product.

KEYWORDS:-MEGA ATV, ergonomics, aesthetics, impact, roll-cage, concurrent Engineering.

1.4.Methodology



4.4. Selection of Final Model

Based on the results of the comparison table which compared the mass, centre of gravity position etc. apart from the strengths and stress analysis results obtained from FEA, it was found that all the models had comparable performances. Finally model three is selected to serve as the base model. Additionally few other Features are also considered into the design with the guidance from the SAE rule book. Those considerations are listed below. drivers safety guidelines are shown in figure 3.1

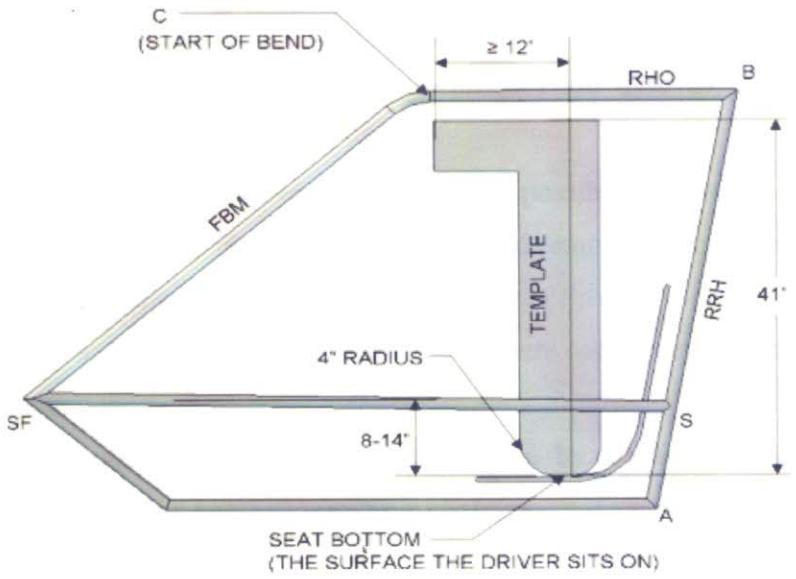
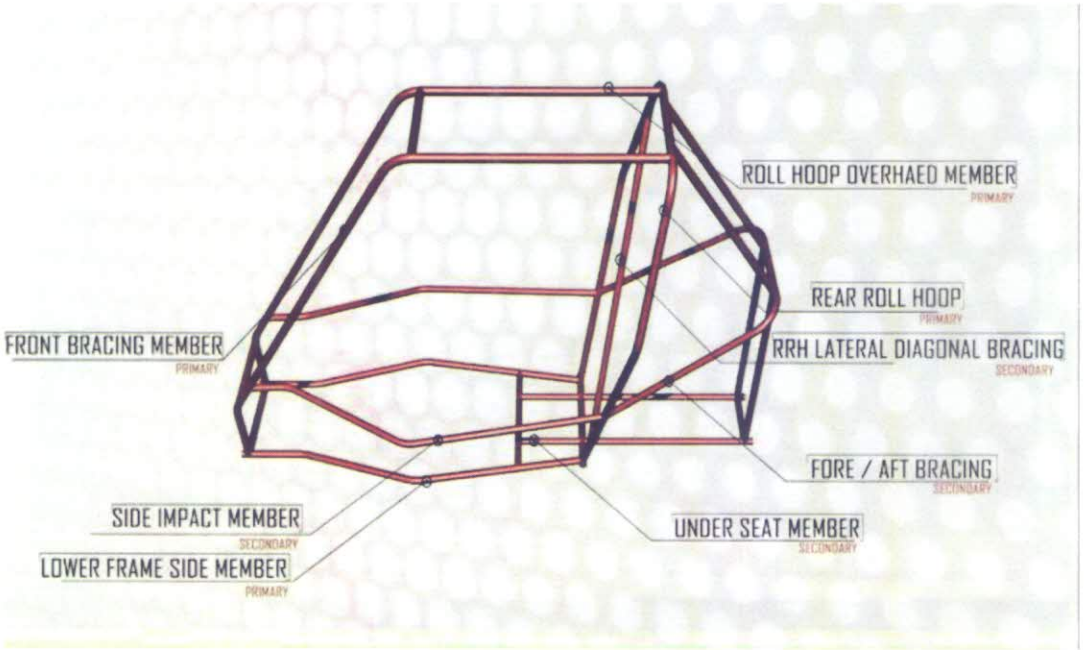


Fig 4.1 Driver Safety Guidelines

1. The driver's helmet to be 15.24 cm (6 inches) away from top of the vehicle.
2. The driver's torso, knees, shoulders, elbows, hands, and arms must have a minimum of 7.62 cm (3 in) of clearance from the envelope created by the structure of the car.
3. Roll cage members having a bend radius > 15.2 cm (6 inches) may NOT be longer than 71.1cm (28 inches) unsupported.
4. The RRH must be a minimum of 73.6 cm (29 in) wide at 68.6 cm (27 in) abovethedriver's seat.
5. The start of bend c must be greater than 12 inches from the drivers helmet.

base of the rear was designed, the length of the drive axle was considered. Also, the height of the lower rear roll cage is defined by the rear suspension mounting points. From this point the rest of the rear roll cage is designed.



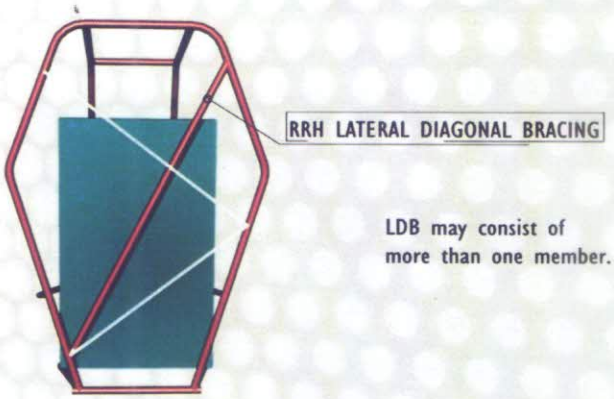
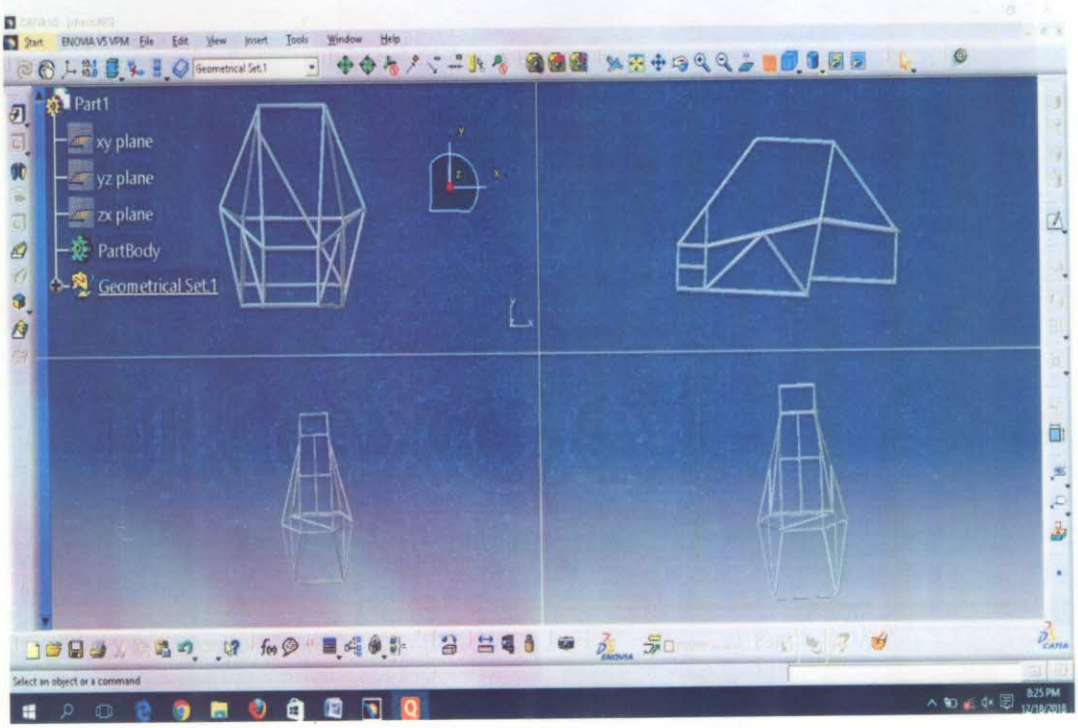
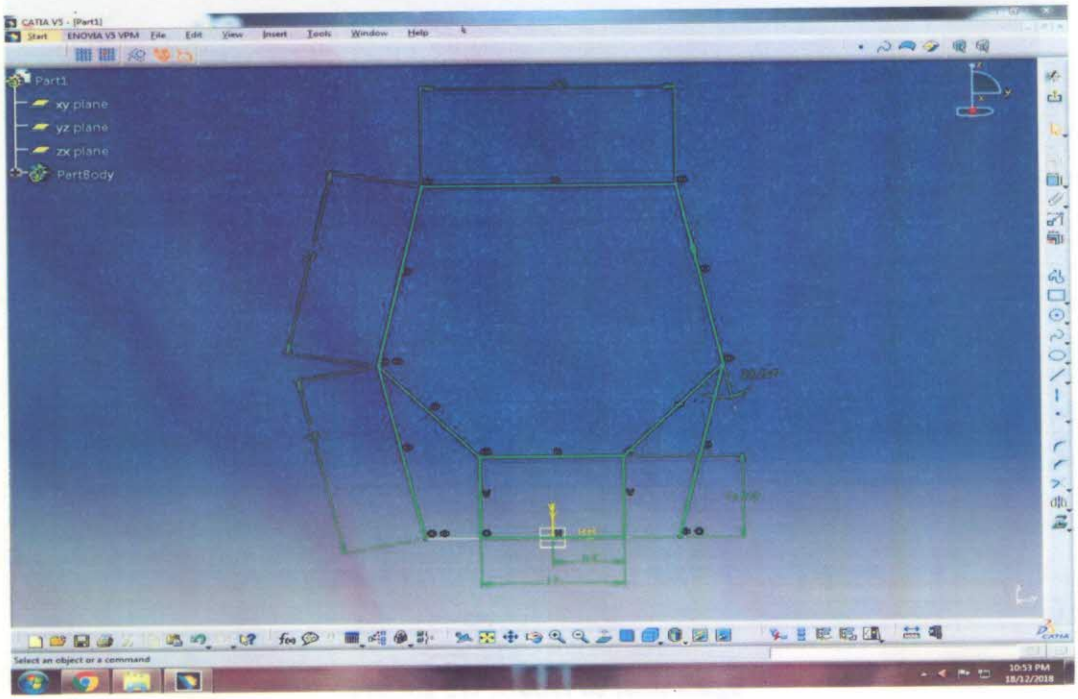


Fig.5.1.Components of Roll Cage

5.2 2D Model of Roll Cage





5.3 3D Model of Roll Cage

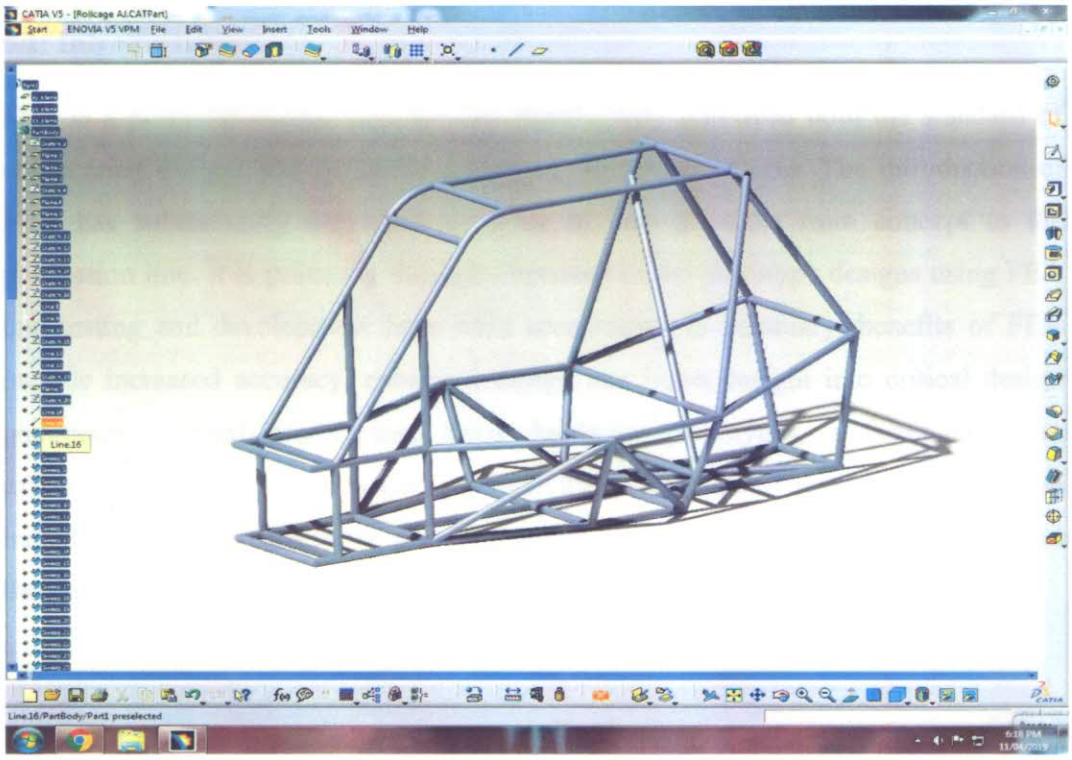


Fig.5.3 3D Model of Roll cage

6.2.2: Front Impact Analysis result

Loading: F= 12000 N on Front Corner.

Boundary Conditions:

Symmetry (Plane normal to Z axis)

Suspension Mounting Points Uy=Uz=0

Rear Corner Points

All DOF=0

Fig 6.2: Front Impact Analysis Result

Maximum stress Induced= 327.7 MPA

Incorporated FOS= $\frac{\sigma yt}{\sigma max} = \frac{460}{327.7} = 1.40$

6.3 Rear Impact Testing

6.3.2 Rear Impact Analysis

CONSTRAINTS: Front corners Suspension mountings

Using the projected vehicle/driver mass of 270 kg, the impact force was calculated based on a G-load of 4.

Hence

$4G = m \times a = 270 \times 4 \times 10 = 10800N$ Take $F = 10800N$

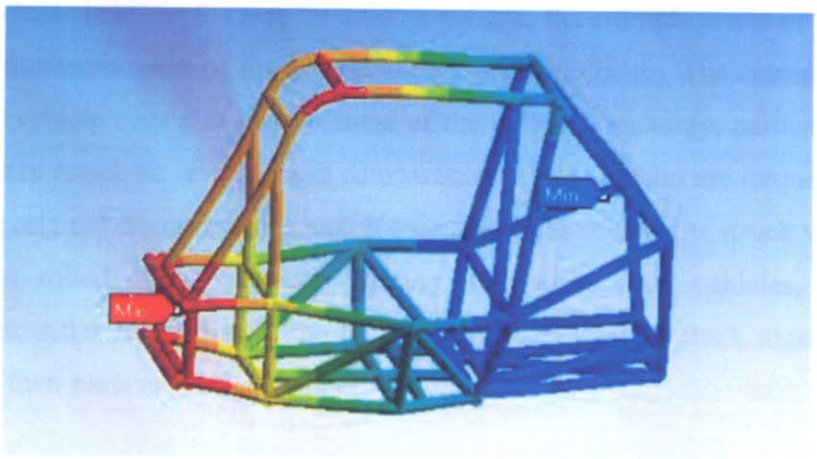


Fig. 6.4: Rear Impact Analysis

Result

Maximum stress induced= 278.8 MPa

Incorporated FOS = $\frac{\sigma yt}{\sigma max} = \frac{460}{278.8} = 1.64$

6.4.2 Side Impact Analysis

CONSTRAINTS: Opposite SIM members

Using the projected vehicle/driver mass of 270 kg the impact force was calculated based on a G load of 3

$3G = 3 \times m \times a = 270 \times 3 \times 10 = 8100N$

Fig 6.6: Side Impact Analysis

Result

Maximum stress induced= 315.5 MPa

Incorporated FOS = $\frac{\sigma yt}{\sigma max} = \frac{460}{315.5} = 1.5$

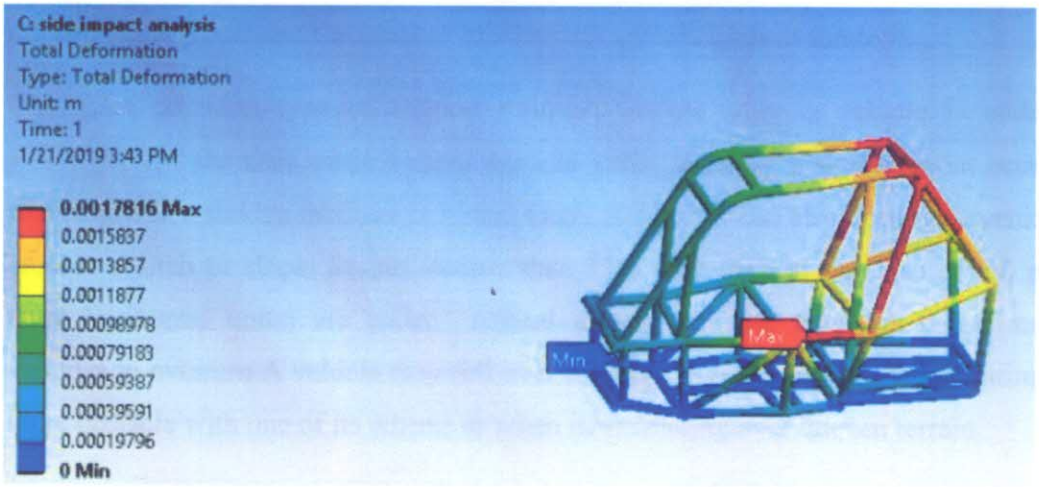


Fig 6.6: Side Impact Analysis

Result

Maximum stress induced= 178.1 MPa

Incorporated FOS = $\frac{\sigma yt}{\sigma max} = \frac{460}{178.8} = 2$

6.5.1 Rollover Analysis

CONSTRAINTS: Front and Rear suspension joints

Using the projected vehicle/driver mass of 270 kg, the impact force was calculated based on a G load of 3

$3G = 3 \times m \times a = 270 \times 3 \times 10 = 8100N$

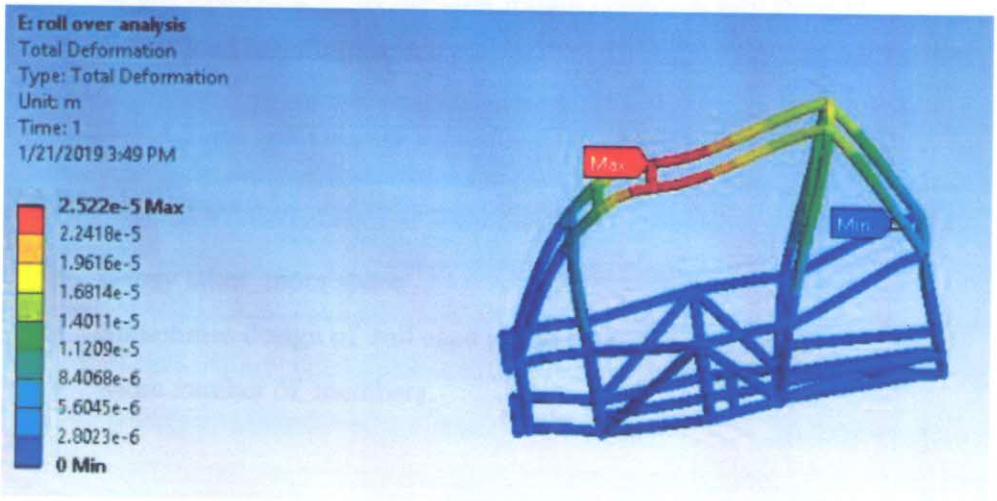


Fig. 6.8: Rollover Stress analysis

Result

Maximum stress induced= 252.2 MPa

Incorporated FOS = $\frac{\sigma yt}{\sigma max} = \frac{460}{252.2} = 1.82$

8.CONCLUSION AND FUTURE SCOPE

8.1 Conclusion

We had successfully analyzed the roll cage structure for its strength against the collision from front, rear, and side impact. The analysis was helpful in finding out the maximum deformation, Von Misses stress and the factor of safety. Factor of safety is under safe limit. Roll cage designed is perfect for use in MEGA ATV event with all the system perfectly mounted on it. And successfully manufactured roll cage

8.2FUTURE SCOPE

- Present research only focused on the impact analysis of the roll cage structure. There are other loading conditions to be analysed to evaluate the accurate structural behaviour of the frame members. The other loading conditions, heave loading and shock mount loading etc.

- In addition to the roll cage optimization, there is a scope for further research on optimization of the drive train, suspension, brakes and wheels to enhance the performance of the Baja vehicle.

- Current research considers only one material option for the roll-cage. Further research should explore the effect of material modeling to reduce the weight of the roll-cage.

- The present research on the impact analysis focused on one frame material type and bumper material type to reduce the accelerations. Further research has to be carried out towards material modeling has to be done to reduce the generated accelerations and reaction forces on the roll cage structure and to find out the optimum material properties for the roll cage structure.

A

PROJECT REPORT

ON

"ROAD ACCIDENT PREDICTION IN NASHIK CITY"

In the partial fulfillment of the requirement for

Bachelor Degree in Civil Engineering

SUBMITTED BY

CHAUDHARY PRANALI BHAGWAN (72011455B)

PATIL SHARAD BHAUSAHEB (71940894G)

WAGHCHAURE GAYATRI RAMESH (72011457J)

GUIDED BY

Prof. S. B. KAJABE

JIT

JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

DEPARTMENT OF CIVIL ENGINEERING

JAWAHAR EDUCATION SOCIETY'S

INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH,

GOWARDHAN, GANGAPUR ROAD, NASHIK - 422 222

SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

(2021-2022)

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JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

DEPARTMENT OF CIVIL ENGINEERING

JAWAHAR EDUCATION SOCIETY'S

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GOWARDHAN, GANGAPUR ROAD, NASHIK - 422 222

CERTIFICATE

This is to Certified that

CHAUDHARI PRANALI BHAGWAN (72011455B)

PATIL SHARAD BHAUSAHEB (71940894G)

WAGHCHAURE GAYATRI RAMESH (72011457J)

have satisfactorily carried and completed the project work entitled

"ROAD ACCIDENT PREDICTION IN NASHIK CITY"

This work is being submitted for the award of Bachelor of Engineering. It is submitted in the partial fulfillment of the prescribed syllabus of Savitribai Phule Pune University, Pune for the academic year 2021 – 2022.

30/05/22

Prof. S. B. Kajabe
(Project Guide)

Prof. A. N. SHUKLA
(Head of Department)

Jawahar Education Society's Institute of Technology, Management and Research, Nashik
Civil Engineering Department

Prof. A. N. SHUKLA
(Project Co-ordinator)

Dr. M. V. BHATKAR
(Principal)

External Examiner

ABSTRACT

Accidents are severe problem due to the increasing traffic in developing nations like India. The present study is carried out for the study of road accident analysis in Nashik region which is located in western part of country. The road accident data was analyzed with the time of day, location, month, age of driver and vehicle wise. Further, the accident prediction model was developed for Nashik city. The output of the present study will be used for accident forecastingand traffic mitigation in Nashik city.

The rapid increase in urbanization has led to a better lifestyle of people, but these advancements have created a burden on transportation facilities due to the increase in vehicle ownership. These have cause problems related to the increase in road traffic and thus the crashes which are the main cause of life and economic loss. Nowadays, road traffic accidents and their effects on the human being have been the largest cause of the fearfulness. The population of human and vehicles are one of the important causes of the accident (Balachandran, no date). , Study revealed that the population of India is about 1.32 billion and the vehicular population was 230 million (Traffic, 2019). Hence, there is a basic requirement for assessing these accidents through the identification of the various causes that are responsible for their occurrence, analyse their dependency on those causes and also to recommend various remedial measures to alleviate losses due to these accidents is the main focus of the present study.

Keywords: Accident, Accident prediction, Model development, etc.

5.6 Experimentation

It involves the physical setup of the model. Those are two IR sensors kept at a particular distance. The two sensors are used because the intention to show that vehicle is at safe distance means far from the curve but which ensures the vehicle is coming, this can be done by glowing the green LED light and when the vehicle approaches very near the curve then it will glow red LED light, by this one can alert at the other side .Which helps to avoid the accident.

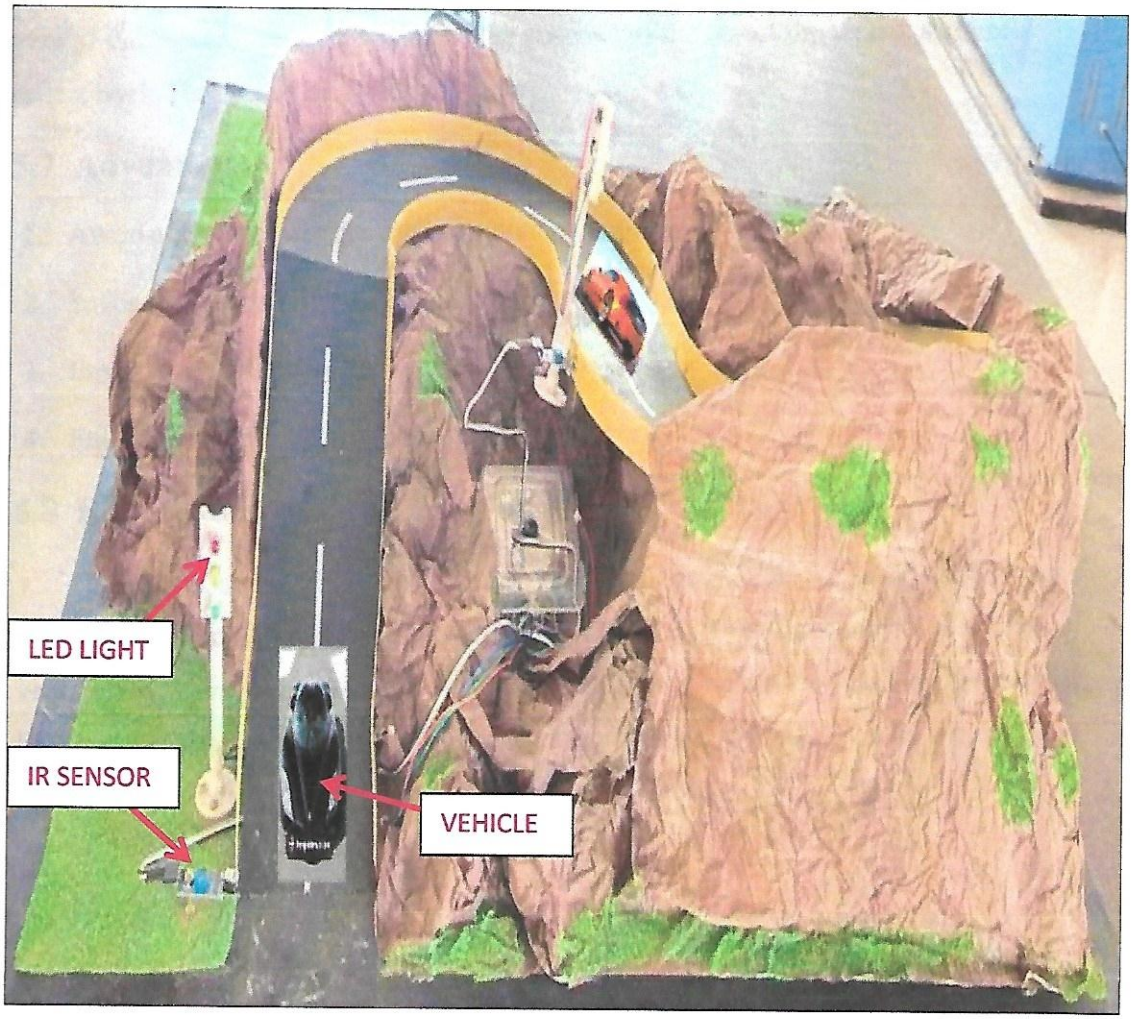

Image No. 5.1 Project Model

It uses two IR sensors, which are placed on either side of the turn. One sensor ir1 is installed by the side of the uphill section of the road, similarly one sensor ir2 is installed by the side of the downhill section of the road. The sensors are connected to

CHAPTER 6

CONCLUSION

The main aim of this system is to detect rash driving on highways using which is cheaper and easy to carry and install. As a number of accidents on Indian highways increase day by day so it is necessary to monitor the speed of the vehicles passing on highways so as to reduce the accident cases. It also reduces the difficulties of traffic police department and makes them easy to control the rash driving on highways without human intervention. This concept can be enhanced in the future by integrating a camera with the system which could capture the image of the number plate of the vehicle to sends that to the traffic authorities.

1. The present study was carried out for the accident study of Nashik City. The data was collectedfrom the regional police station.
2. The accidents occurring in Nashik region is analyzed for last ten years. It was found that the accidents increase linearly from last ten years with increase in human and vehicular population.
3. The accidents were analyzed for various reasons affecting accidents as time of the day, season, type of vehicle, age of driver and vehicle, etc.
4. The accident rate was maximum in the rainy season because visibility reduces affecting driver's vision, road surface gets slippery and increase in potholes was observed. Further, the overtaking, head-on collision, hit and run and rear-end collision are found to at the highest rank.
5. Also, the crashes that happen during early morning peak and evening peak are mostly like to be influencedby vehicle speed compare with other periods because at that time crowd moved towards school,colleges and offices.
6. Moreover, the age factor has also a big impact on accidents nowadays because high speed, high acceleration and more power capacity vehicles come in the market adequately so also get increases at that comparison. Finally, the conventional crash rates were highest in the youngest age group and declined

steeply until age above 60 years.

7. In nutshell, the accident prone spots were studied and the suggestions are given for accident reduction. The study is helpful for regional RTO and Police Headquarters to take the necessarymeasures against the accidents. From the map it could be easily observed that, during the morning time areas such as Lekha nagar, Mahindra circle and the area near City center mall, Untawadi are always suffering fromhigh level noise intensity, regardless of the time of day.
8. At the City centre mall signal heavy and dense traffic is observed during morning hours than the evening hours, as people move to work, and since one of the 4 roads at the signal has been put to place very recently, and peoplefind it an efficient road to commute, contributing to early morning traffic .
9. The Satpur areas arealways mostly seen in the blue patch as per our observations. Both on weekdays and weekends;there's hardly traffic observed .
10. The Sakal Circle On Trimbak road which is pretty wide, traffic moves quite smoothly during the morning hours.
11. The remedies over this could be that the road at places with high intensities can be widened andregulatory circles or junctions can be provided where required. Some places need to have a traffic signal too.
12. The purpose of this project is to decrease the number of accidents in curve roads. This is done by alerting the driver by means of LED light which glows when vehicle comes from the other side of the curve.

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18	Indian Journal of Electrical and Computer Engineering - ISSN -4421-1031 Serials Publications Private Limited(98)	9104	2	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
19	Indian Journal of Electrical and Nuclear Engineering - ISSN - Serials Publications Private Limited(98)	9691	2	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
20	International Journal of Advanced Electrical Engineering - ISSN - AkiNik Publications(2221)	15347	2	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	2,000.00	2,000.00	0.00	0.00	2,000.00
21	International Journal of Electrical, Electronics and Data Communication - ISSN -2320-2084 Enriched Information Services(2569)	14991	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,500.00	3,500.00	0.00	0.00	3,500.00
22	International Journal of Industrial Electronics and Electrical Engineering - ISSN -2347-6982 Enriched Information Services(2569)	14989	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,500.00	3,500.00	0.00	0.00	3,500.00
23	International Journal of Research Studies in Electrical and Electronics Engineering - ISSN -2454-9436 PubCapo(3065)	16373	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	2,200.00	2,200.00	0.00	0.00	2,200.00
24	Journal of Electrical Engineering and Advanced Technology - ISSN - Enriched Publications(2799)	11764	2	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
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26	Competition Success Review - English - ISSN - Competition Review Pvt. Ltd(230)	2590	12	01-Aug-2022 31-Jul-2023	0.00	INR	1.00	1.00	0.00	1,440.00	1,440.00	0.00	0.00	1,440.00
Mechanical														
27	EP Journal of Heat and Mass Transfer - ISSN - Enriched Publications(2799)	12956	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
28	Indian Journal of Mechanical and Thermal Engineering - ISSN - Enriched Publications(2799)	12958	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
29	International Journal of Mechanical and Production Engineering - ISSN - 2320-2092 Enriched Information Services(2569)	14993	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,500.00	3,500.00	0.00	0.00	3,500.00
30	Journal of Fluid Mechanics and Engineering - ISSN - Enriched Publications(2799)	12961	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
31	Journal of Industrial and Mechanical Engineering - ISSN - Enriched Publications(2799)	12959	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
32	Journal of Mechanical Engineering and Research Developments - ISSN - Enriched Publications(2799)	11781	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
33	Journal of Mechanics and MEMS (EP) - ISSN - Enriched Publications(2799)	12960	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
34	Journal of Mechanics and Structure - ISSN - Enriched Publications(2799)	11770	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
35	Journal of Mechanics and Thermodynamics - ISSN - Enriched Publications(2799)	11780	3	01-Jan-2022 31-Dec-2022	0.00	INR	1.00	1.00	0.00	3,000.00	3,000.00	0.00	0.00	3,000.00
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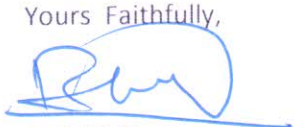

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2	Journal of Biosciences(4993) Indian Academy of Sciences(21)	0250-5991	4	01-Jan-2017	31-Dec-2017	INR	1.00	1	770.00	770.00	0.00	0.00	770.00
3	Journal of Chemical Science(6408) Indian Academy of Sciences(21)	0253-4134	12	01-Jan-2017	31-Dec-2017	INR	1.00	1	1,100.00	1,100.00	0.00	0.00	1,100.00
4	Pramana - Journal of Physics(2773) Indian Academy of Sciences(21)	0304-4289	12	01-Jan-2017	31-Dec-2017	INR	1.00	1	1,100.00	1,100.00	0.00	0.00	1,100.00
5	Science Reporter(4999) NISCAIR(2)		12	01-Sep-2017	31-Aug-2018	INR	1.00	1	330.00	330.00	0.00	0.00	330.00
6	University News(1473) Association Of Indian Universities(177)	0566-2257	52	06-Sep-2017	05-Sep-2018	INR	1.00	1	1,045.00	1,045.00	0.00	0.00	1,045.00
Civil Engineering													
7	Bridge & Structural Engineer(5723) Indian National Group of Intl. Assoc for Bridge & Structural Engineering (437)		4	01-Jun-2017	31-May-2018	INR	1.00	1	1,000.00	1,000.00	0.00	0.00	1,000.00
8	Construction World(7097) ASAPP Media Pvt Ltd(433)		12	01-Sep-2017	31-Aug-2018	INR	1.00	1	2,400.00	2,400.00	0.00	0.00	2,400.00
9	i-managers Journal on Civil Engineering(7642) i-Manager Publications(368)	2231-1068	4	01-Mar-2017	28-Feb-2018	INR	1.00	1	2,700.00	2,700.00	0.00	0.00	2,700.00

Sr	Title/Publisher	ISSN No	Freq	Tentative Start Date	Tentative End Date	Curr	Exn	Copy	Basic Cost Rate	Basic Cost INR	Publisher's Post Rate	Publisher's Post INR	Total INR
10	International Journal of Civil Engineering & Technology(7960) International Association for Engineering and Management Education (IAEME)(1197)	0976-6308	6	01-Jan-2017	31-Dec-2017	INR	1.00	1	6,000.00	6,000.00	0.00	0.00	6,000.00
11	International Journal of Construction Engineering (IJCE)(10550) International Association for Engineering and Management Education (IAEME)(1197)		2	01-Jan-2017	31-Dec-2017	INR	1.00	1	4,000.00	4,000.00	0.00	0.00	4,000.00
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14	Journal of Structural Engineering(2480) Structural Engineering Research Centre Chennai(219)		6	01-Apr-2017	31-Mar-2018	INR	1.00	1	2,200.00	2,200.00	0.00	0.00	2,200.00
15	The Indian Concrete Journal(2078) The Associated Cement Cos Ltd(194)	0972-2998	12	01-Oct-2017	30-Sep-2018	INR	1.00	1	1,400.00	1,400.00	0.00	0.00	1,400.00
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18	IUP Journal of Information Technology(426) The ICFAI University Press(55)		4	01-Jun-2017	31-May-2018	INR	1.00	1	1,100.00	1,100.00	0.00	0.00	1,100.00
19	Journal of Advanced Research in Computer Engineering(8296) Serials Publications(98)	0974-4320	2	01-Jan-2017	31-Dec-2017	INR	1.00	1	3,000.00	3,000.00	0.00	0.00	3,000.00
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22	i managers Journal on Communication Engineering & Systems (JCS) (8174) i-Manager Publications(368)	2277-5102	4	01-Nov-2016	31-Oct-2017	INR	1.00	1	2,700.00	2,700.00	0.00	0.00	2,700.00
23	i-managers Journal on Wireless Communication Networks(8175) i-Manager Publications(368)	2319-4839	4	01-Jan-2017	31-Dec-2017	INR	1.00	1	2,700.00	2,700.00	0.00	0.00	2,700.00

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49	i-manager's Journal on Material Science(10537) i-Manager Publications(368)	2347-2235	4	01-Apr-2017	31-Mar-2018	INR	1.00	1	2,700.00	2,700.00	0.00	0.00	2,700.00
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51	i-managers Journal on Mechanical Engineering(7641) i-Manager Publications(368)	2230-9055	4	01-Nov-2016	31-Oct-2017	INR	1.00	1	2,700.00	2,700.00	0.00	0.00	2,700.00
52	Indian Journal Of Engineering & Materials Sciences(108) NISCAIR(2)	0971-4588	6	01-Jan-2017	31-Dec-2017	INR	1.00	1	1,800.00	1,800.00	0.00	0.00	1,800.00
53	Journal of Advance Research in Applied Mechanics & Computational Fluid Dynamcis(10665) Advance Research Publications(1919)		2	01-Jan-2017	31-Dec-2017	INR	1.00	1	3,500.00	3,500.00	0.00	0.00	3,500.00
54	Journal of Automobile Engineering(9569) Transstellar Journal Publications and Research(1662)		2	01-Jan-2017	31-Dec-2017	INR	1.00	1	4,000.00	4,000.00	0.00	0.00	4,000.00

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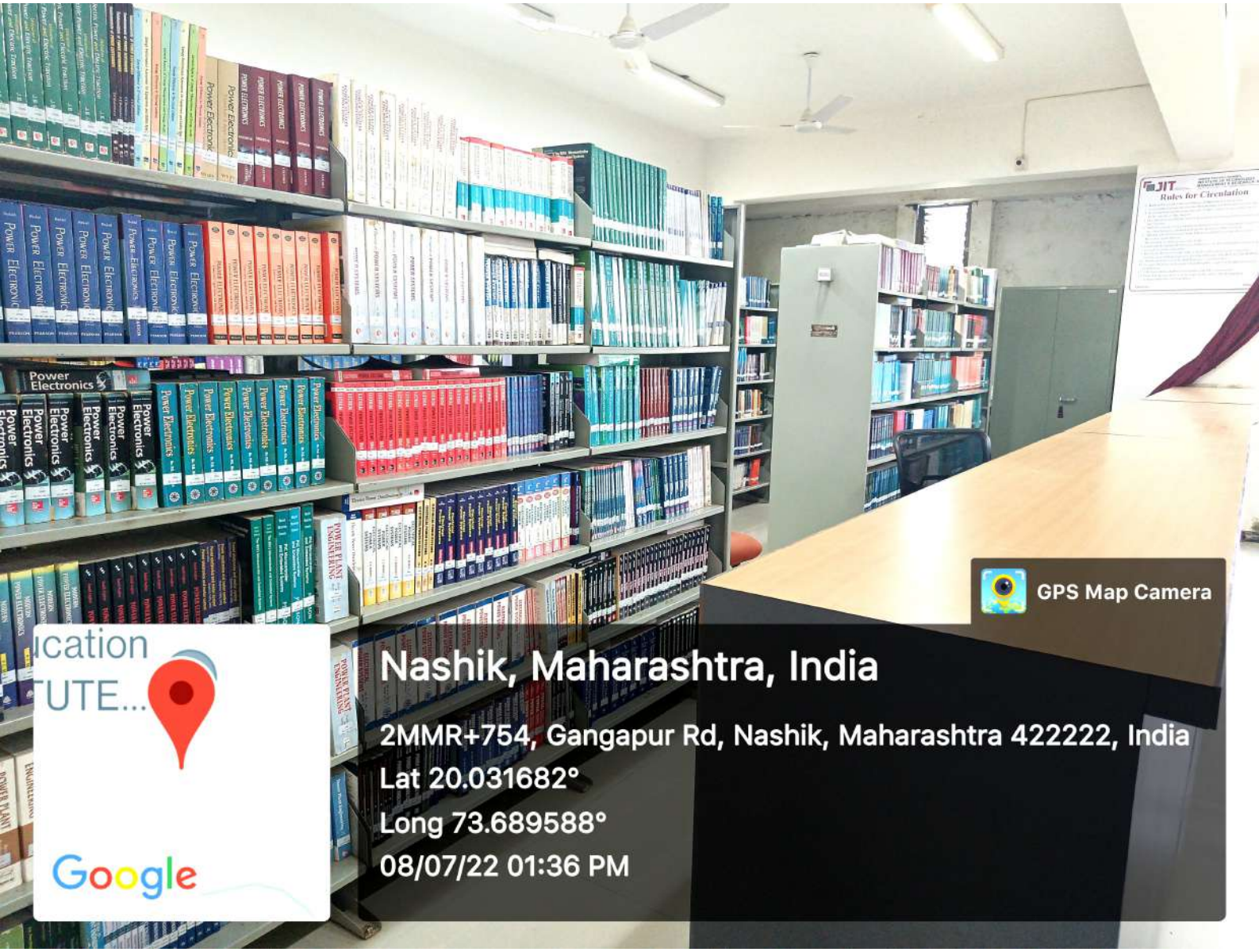
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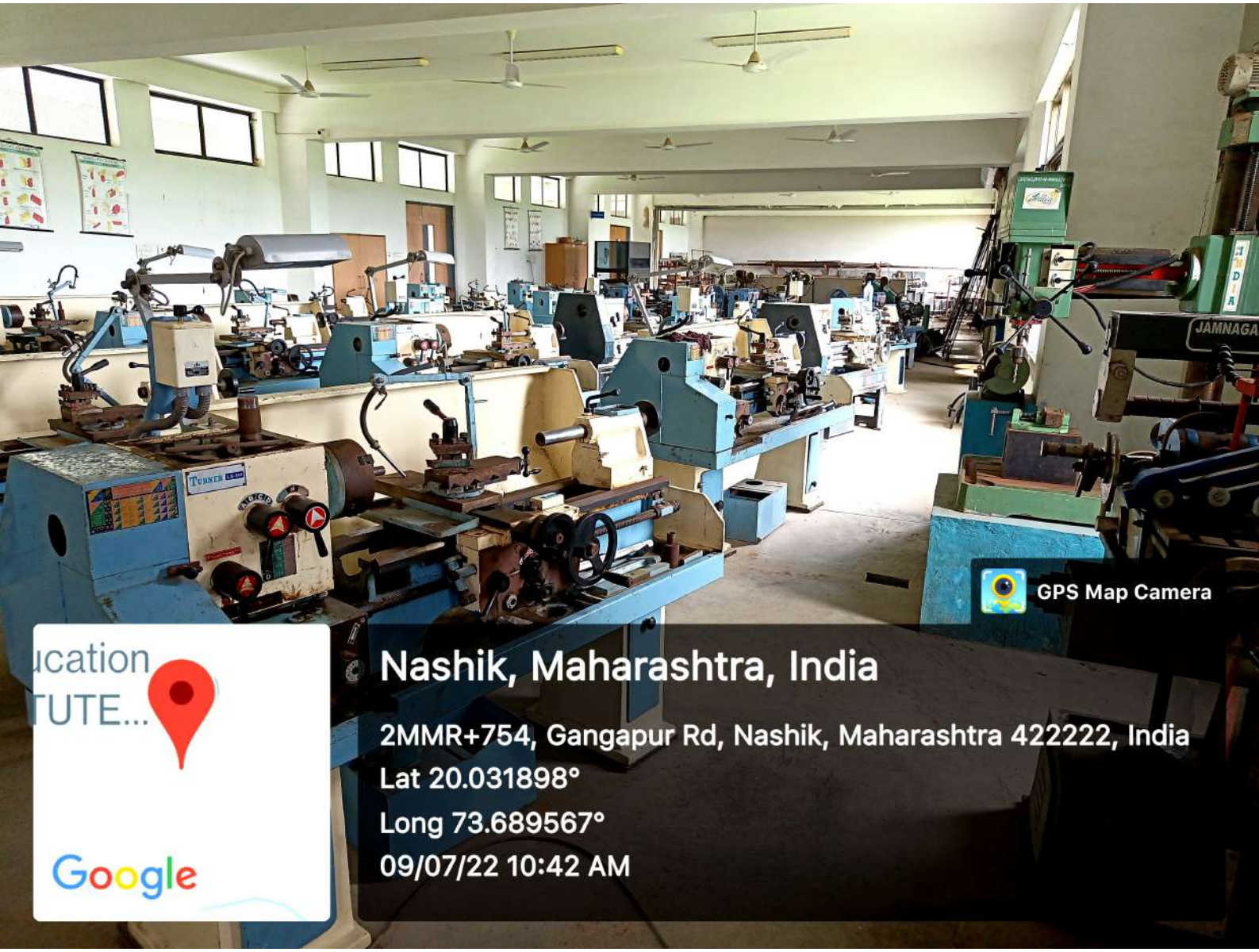
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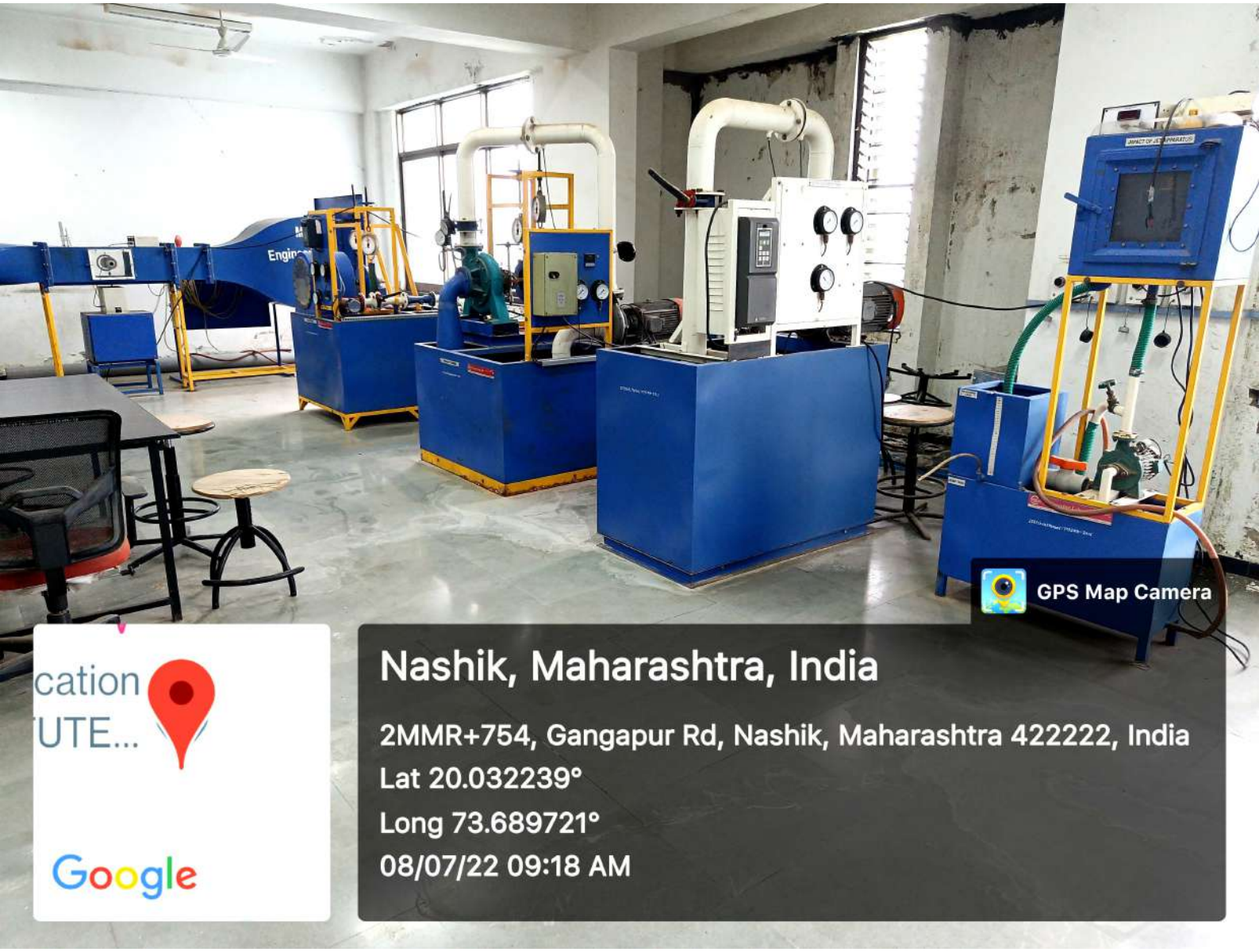
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A

PROJECT REPORT

ON

"STUDY OF FLOODS AND FLOOD PROTECTION SYSTEM IN MAHARASHTRA: ANALYSIS OF FLOOD PREVENTING WATER TANK USING STAAD.PRO SOFTWARE"

In the partial fulfillment of the requirement for

Bachelor Degree in Civil Engineering

SUBMITTED BY

LAJARI SURESH SONAWANE (B151140068)

NUTAN DEVRAM RAUT (B151140061)

MANSI RAJENDR PARDESHI (B151140052)

NITIN SHANKAR PAGAR (B151140047)

GUIDED BY

Prof. S. L. DESALE

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Prof. S. L. DESALE
(Project Guide)

Prof. A. N. SHUKLA
(Project Co-ordinator)

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Prof. A. N. SHUKLA
(Head of Department)

Dr. M. V. BHATKAR
(Principal)

External Examiner

EXAMINERS' CERTIFICATE OF APPROVAL

The project entitled

"STUDY OF FLOODS AND FLOOD PROTECTION SYSTEM IN MAHARASHTRA: ANALYSIS OF FLOOD PREVENTING WATER TANK USING STAAD.PRO SOFTWARE"

submitted by

LAJARI SURESH SONAWANE (B151140068)

NUTAN DEVRAM RAUT (B151140061)

MANSI RAJENDR PARDESHI (B151140052)

NITIN SHANKAR PAGAR (B151140047)

in partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering** in **Civil Engineering** of **Savitribai Phule Pune University, Pune** is hereby approved for the award of the degree.

Internal Examiner

External Examiner

Jawahar Education Society's Institute of Technology, Management and Research Nashik
Civil Engineering Department

Place: Nashik

Date: 31/05/2022

ABSTRACT

Flooding may occur as an overflow of water from water bodies, such as a river, lake, or ocean, in which the water overtops or breaks levees, resulting in some of that water escaping its usual boundaries. In particular climate change's increased rainfall and extreme weather events increases the severity of other causes for flooding, resulting in more intense floods and increased flood risk. This paper describes that to avoid the flood situation Tokyo and Hong Kong construct the underground flood preventing water tank which store large amount of flood water in it. Due to which flooding will minimize. Maharashtra saw heavy rainfall in many of its western districts in which Kolhapur also faces large flood situation and also form some flood preventing system for that but climate change could have played an important role in causing large-scale floods across Maharashtra. So construction of underground flood preventing water tank for Kolhapur, Maharashtra is one of the best flood preventing measure. This project includes Case study of underground flood preventing water tank in Tokyo and Hong Kong, Analysis of underground flood preventing water tank wants to be construct for Kolhapur and Design of underground flood preventing water tank for Kolhapur.

Maximum absolute stress for full tank condition is 12.18 N/mm^2 and for half tank condition is 5.92 N/mm^2 in the analysis of underground flood preventing water tank and maximum major principle stress for full tank condition is 8.25 N/mm^2 and for half tank condition is 3.59 N/mm^2 in the analysis of underground flood preventing water tank. The maximum base pressure for tank full condition is 0.15 N/mm^2 and for half tank condition 0.083 N/mm^2 in the analysis of underground flood preventing water tank. Maximum and minimum bending moment is calculated towards X axis and Y axis is 195.9 N/mm^2 and 4.38 N/mm^2 respectively for full tank condition and maximum and minimum bending moment is calculated towards X axis and Y axis is 146.85 N/mm^2 and 25.400 N/mm^2 respectively for half tank condition. Maximum and minimum Shear Stress is calculated towards X axis and Y axis is 0.067 N/mm^2 and 0.094 N/mm^2 respectively for full tank condition and maximum and minimum Shear Stress is calculated towards X axis and Y axis is 0.048 N/mm^2 and 0.059 N/mm^2 respectively for half tank condition. Maximum and minimum displacement is calculated towards X axis, Y axis and Z are 0.0032 N/mm^2, 0.00048 N/mm^2 and 0.002 N/mm^2 respectively for full tank condition

and maximum and minimum displacement is calculated towards X axis, Y axis and Z axis are 0.0025 N/mm^2, 0.00048 N/mm^2 and 0.0016 N/mm^2 respectively for half tank condition.

Keywords: *Flood, Flood Preventing Measures, Underground Flood Preventing Water Tank, Rainfall, Rainfall Data, etc.*

Chapter 4

Performance Analysis

4.1 Opening Remarks

This chapter describes the analysis results of underground flood preventing water tank. The analysis gives encourage to the use of the new approach in design of this underground water tank and hence promoting better quality and innovative system in design.

4.2 Modeling of Structure in STAAD.Pro Software

a) **Model 1:** Rectangular Underground Water Tank (Tank Full Condition)
b) **Model 2:** Rectangular Underground Water Tank (Tank Half Condition)

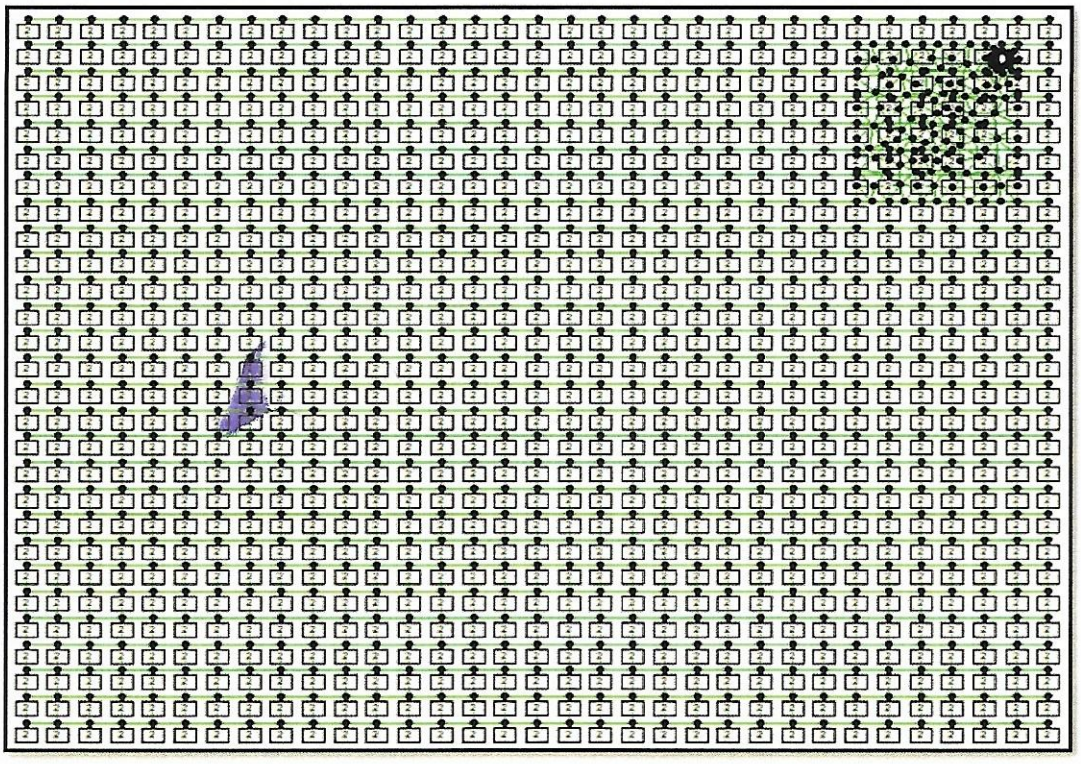

Figure 4.1: Plan of Model 1 and Model 2 - Rectangular Underground Flood Preventing Water Tank

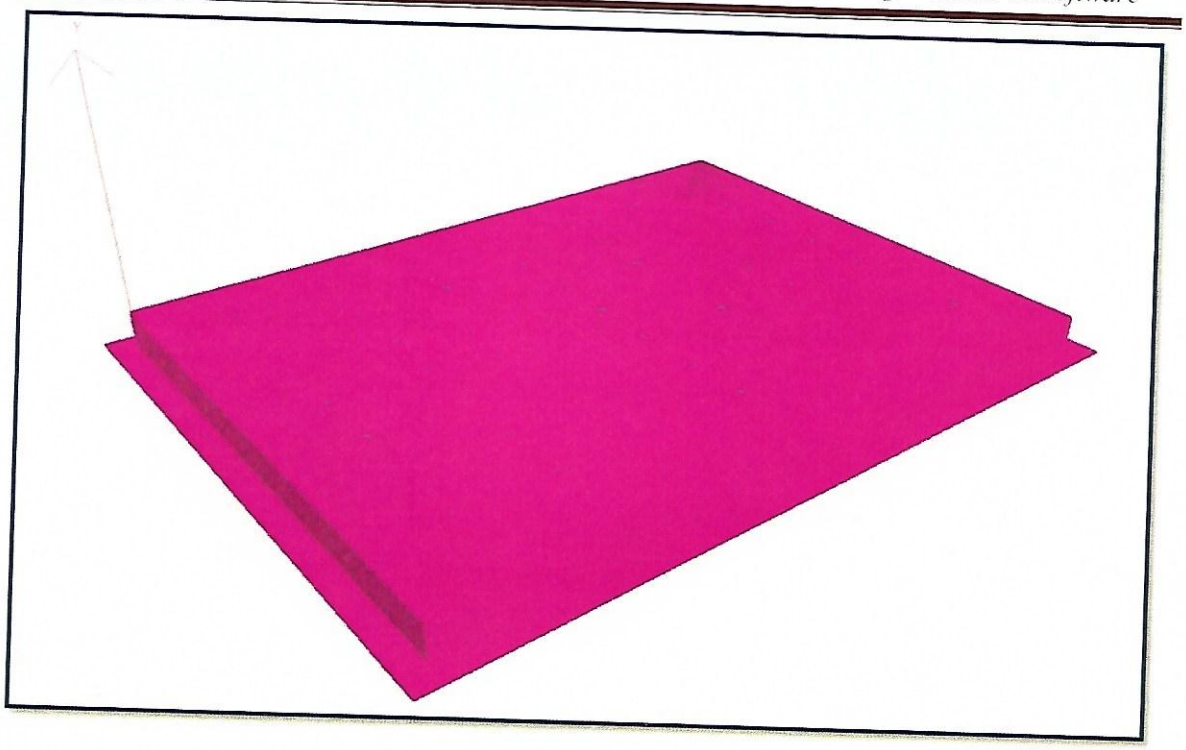

Figure 4.2: Rendered View of Model 1 and Model 2 - Rectangular Underground Flood Preventing Water Tank

4.3 Loading on Model

Loads considered for analysis are as follows:

a) Dead Load (DL)

b) Live Load (Water Load)

c) Active Earth Pressure

d) Earthquake Load (EL)

Table 4.1: Loads Considered for Analysis

Sr. No.	Loads	Specifications
1	Self-Weight of the Frame Elements & Slabs	It is calculated & used automatically during analysis by the STAAD.Pro software

4.4 Analysis Results of Model 1: Rectangular Underground Water Tank (Tank Full Condition)

The results obtained for Model 1: Rectangular Underground Water Tank with tank full condition is as follows:

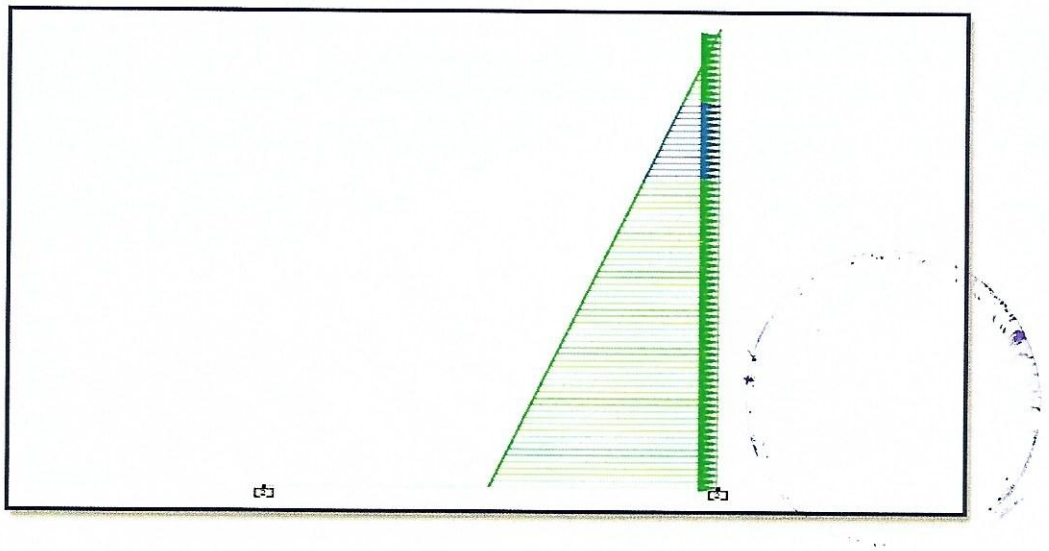

Figure 4.3: Loading under Tank Full Condition

4.4.1 Maximum Absolute Stresses

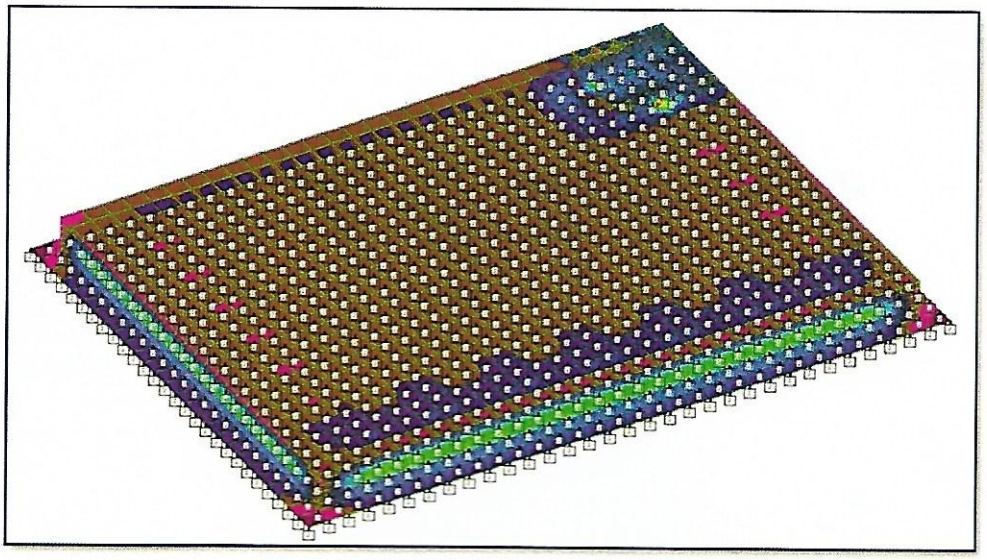

Figure 4.4: Analysis Results of Maximum Absolute Stresses in Model 1

Chapter 5

Conclusion

5.1 Opening Remarks

The objective of this research was to analyse underground flood preventing water tank using STAAD.Pro software to minimize the harm occurs due to flood. The study has indicated that it is safe and possible to construct the water tank in Kolhapur by using this analysis.

The following summarizes the results and conclusions

5.2 Conclusion of the Project

1. Maximum absolute stress for full tank condition is 12.18 N/mm^2 and for half tank condition is 5.92 N/mm^2 in the analysis of underground flood preventing water tank and maximum major principle stress for full tank condition is 8.25 N/mm^2 and for half tank condition is 3.59 N/mm^2 in the analysis of underground flood preventing water tank.
2. The maximum base pressure for tank full condition is 0.15 N/mm^2 and for half tank condition 0.083 N/mm^2 in the analysis of underground flood preventing water tank.
3. Maximum and minimum bending moment is calculated towards X axis and Y axis is 195.9 N/mm^2 and 4.38 N/mm^2 respectively for full tank condition and maximum and minimum bending moment is calculated towards X axis and Y axis is 146.85 N/mm^2 and 25.400 N/mm^2 respectively for half tank condition.
4. Maximum and minimum Shear Stress is calculated towards X axis and Y axis is 0.067 N/mm^2 and 0.094 N/mm^2 respectively for full tank condition and maximum and minimum Shear Stress is calculated towards X axis and Y axis is 0.048 N/mm^2 and 0.059 N/mm^2 respectively for half tank condition.
5. Maximum and minimum displacement is calculated towards X axis, Y axis and Z are 0.0032 N/mm^2, 0.00048 N/mm^2 and 0.002 N/mm^2 respectively for full tank condition and maximum and minimum displacement is calculated towards X axis, Y axis and Z

axis are 0.0025 N/mm^2, 0.00048 N/mm^2 and 0.0016 N/mm^2 respectively for half tank condition.

A

REPORT

ON

"INCREASING PROPERTIES OF STRUCTURES WITH ENGINEERED CEMENTATIONS MATERIAL "

In the partial fulfillment of the requirement for

Bachelor Degree in Civil Engineering

SUBMITTED BY

NAMDEV DHENUPAL JADHAV	72016345F
KAMLESH RAMDASGIRI GOSAVI	72016344H
ROHIT ASHOK PANDIT	72016351L
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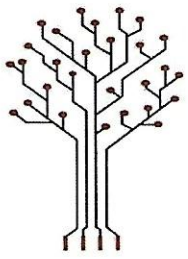
Prof. A. N. SHUKLA



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have satisfactorily carried and completed the project work entitled

"INCREASING PROPERTIES OF STRUCTURES WITH ENGINEERED CEMENTATIONS MATERIAL "

This work is being submitted for the award of Bachelor of Engineering. It is submitted in the partial fulfillment of the prescribed syllabus of Savitribai Phule Pune University, Pune for the academic year 2021 – 2022.

Prof. A. N. SHUKLA
(Project Guide)

Prof. A. N. SHUKLA
(Project Co-ordinator)

Jawahar Education Society's Institute of Technology, Management and Research, Nashik
Civil Engineering Department

Prof. A. N. SHUKLA
(Head of Department)

Dr. M. V. BHATKAR
(Principal)

External Examiner

ABSTRACT

Engineered Cementations Composites (ECC) developed for economical utilization of fibres in retrofitting of masonry structures have been focused herein. The performance of beam-like masonry specimens subjected to their out of plane forces are experimentally and numerically investigated in this report. Twelve beams like specimens were cast and retrofitted with polyvinyl alcohol engineered cementations composites (PVA-ECC) for the purpose. The casting of retrofitting layer was done by varying percentages of PVA fibres that is 1%, 1.5% and 2% addition by the total volume of mortar. Performance in out of plane direction is investigated trough static two-point loading the specimens at constant load increment of 0.1mm per second. Work was conducted to simulate the ultimate cracking loads, maximum tension/deflection and load to deflection relationships of retrofitted and non-retrofitted specimens. Experimental results revealed that the maximum load carrying capacity with retrofitted samples increased by 11.8, 10.15 & 11.13 % for 1%, 1.5%, and 2% fibre addition respectively. Simultaneously deflection before complete collapse increases 5, 8 & 10% for 1%, 1.5% and 2% fibre additions. Numerical analysis was done under finite element based analysing software ANSYS. Comparison of experimental and numerical results showed clear similarity allowing us to blindly account PVA-ECC as retrofitting material as an economic and easy method available.

Keywords: *Engineered cementitious composites; economical; retrofitting; masonry; out of plane; fibres.*

ABSTRACT

Engineered Cementations Composites (ECC) developed for economical utilization of fibres in retrofitting of masonry structures have been focused herein. The performance of beam-like masonry specimens subjected to their out of plane forces are experimentally and numerically investigated in this report. Twelve beams like specimens were cast and retrofitted with polyvinyl alcohol engineered cementations composites (PVA-ECC) for the purpose. The casting of retrofitting layer was done by varying percentages of PVA fibres that is 1%, 1.5% and 2% addition by the total volume of mortar. Performance in out of plane direction is investigated trough static two-point loading the specimens at constant load increment of 0.1mm per second. Work was conducted to simulate the ultimate cracking loads, maximum tension/deflection and load to deflection relationships of retrofitted and non-retrofitted specimens. Experimental results revealed that the maximum load carrying capacity with retrofitted samples increased by 11.8, 10.15 & 11.13 % for 1%, 1.5%, and 2% fibre addition respectively. Simultaneously deflection before complete collapse increases 5, 8 & 10% for 1%, 1.5% and 2% fibre additions. Numerical analysis was done under finite element based analysing software ANSYS. Comparison of experimental and numerical results showed clear similarity allowing us to blindly account PVA-ECC as retrofitting material as an economic and easy method available.

Keywords: *Engineered cementitious composites; economical; retrofitting; masonry; out of plane; fibres.*

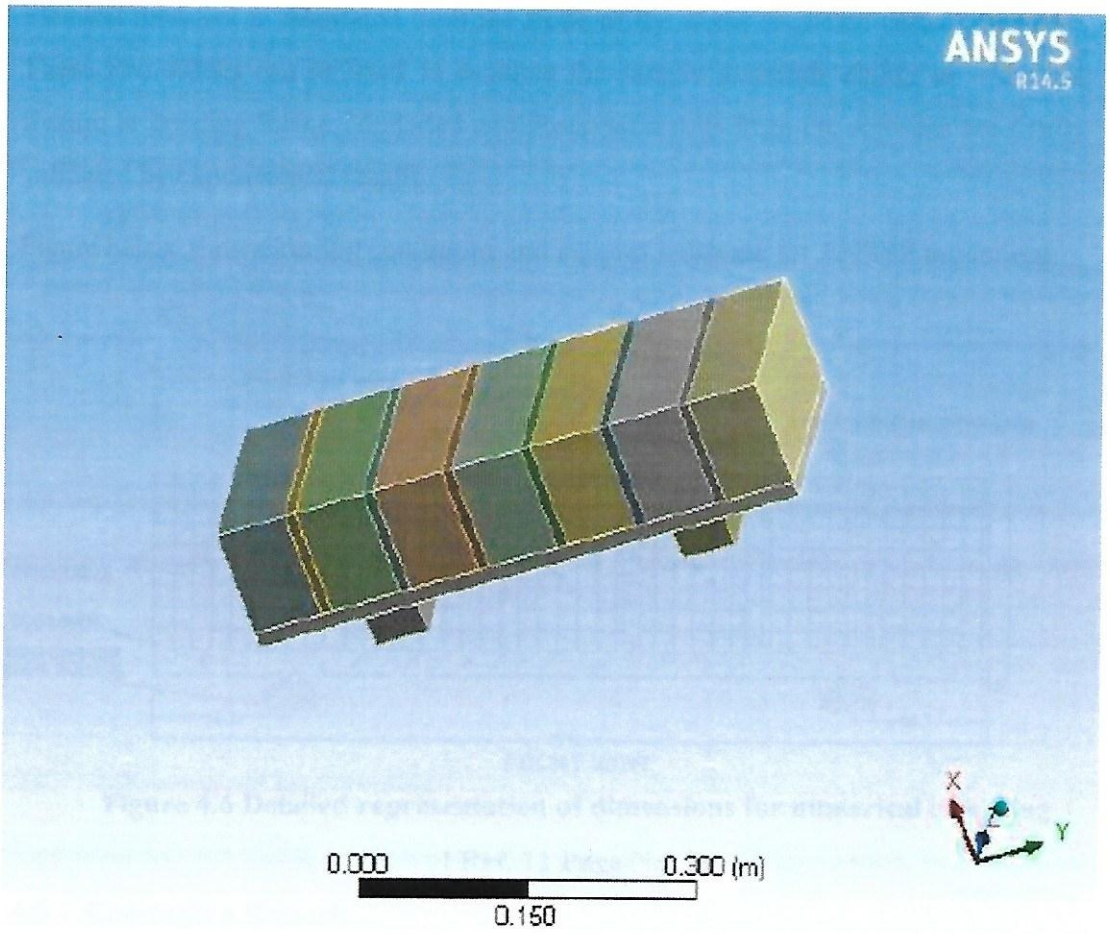

Figure 4.5 Presentation of prepared numerical model

[Ref. 11 Page No. 8,9]

4.4 Test for flexure using ANSYS Software package

Flexural testing is the test method adopted specially to notify deflection characteristics of beams. Unlike a compression test or tensile test, a flexure test does not measure fundamental material properties. When a specimen is placed under flexural loading all three fundamental stresses are present: tensile, compressive and shear and so the flexural properties of a specimen are the result of the combined effect of all three stresses as well as (though to a lesser extent) the geometry of the specimen and the rate the load is applied. Tensile capability of materials highly respond to impart flexural strength to the members. The most common purpose of a flexure test is to measure flexural strength and flexural modulus. Flexural strength is defined as the maximum stress at the outermost fiber on either the compression or tension side of the specimen.

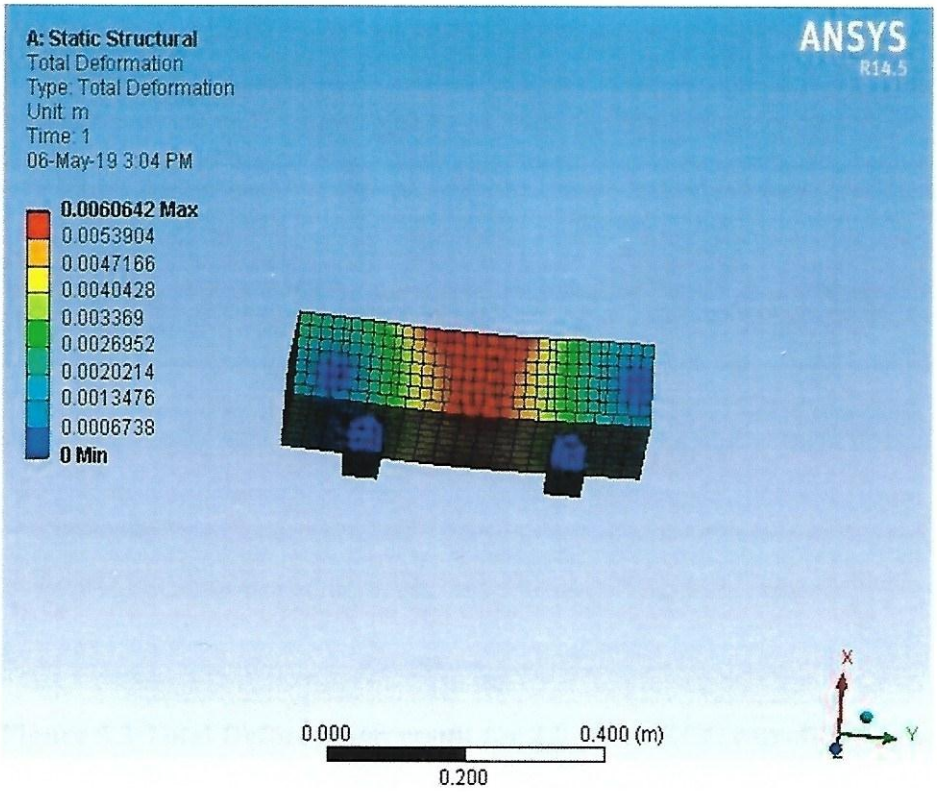

Figure 5.1 Total Deformation result for 1.0_PVA-ECC retrofitted beams

[Ref. 11 Page No. 8,9]

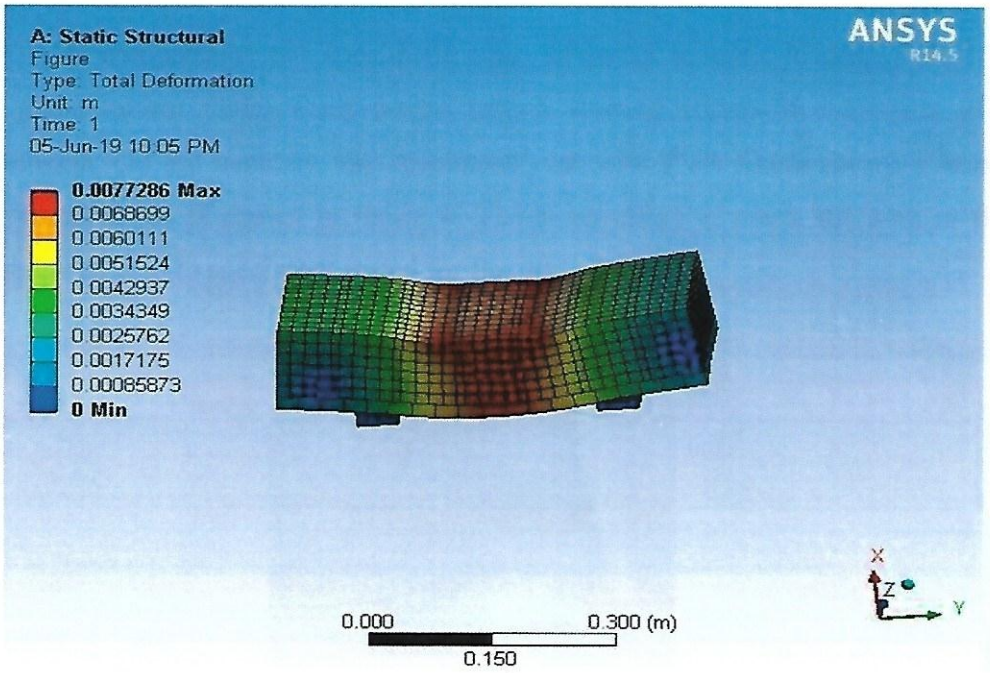

Figure 5.2 Total Deformation result for 1.5_PVA-ECC retrofitted beams

[Ref. 11 Page No. 8,9]

CHAPTER-6

CONCLUSION

6.1 General

Preserving old age structures have seen great importance in the current scenario. For which this paper suggests an easy and economical retrofitting technique. It suggests the application of a thin layer of PVA-ECC to the unreinforced masonry elements. The retrofitting technique shows a significant increase in flexural behaviour of masonry structure.

6.2 Contribution of the Present Work

The following were observed and plotted:

1. Flexural behaviour was greatly influenced as the peak load of non-retrofitted and retrofitted specimens shown an increment by 11.8, 10.15 and 11.13 for 1.0, 1.5 and 2.0% respectively.
2. Crack healing approach of fibres show its influence in reducing the shrinkage of concrete by29.03, & 46.24 % for 1.0 and 2.0% fibre addition respectively.
3. There was very little effect of fibre addition on compression test results and hence it can be said that compressive strength of brick itself plays a vital role in imparting compressive strength.
4. Work suggests the addition of 2% fibres by total mortar volume in the wide retrofitting area. As the results for 2% fibre addition are well acceptable and further addition of fibres can result in lumps formation which can reduce the tensile as well as flexural performance.

6.3 Future Scope

- Observations clearly states a positive approach in utilizing PVA-ECC in the field of retrofitting. But the work contributes in small scale work, full scale experimentation for the same work need to be studied and experimented.

- Though the fibre addition shows good characteristic increase in tensile as well as flexural behaviour of masonry structure, observations states that fibre distribution and orientation plays vital role. Experimentations and fibre mix methods need to be introduced for facilitating proper fibre dispersion and mixing.

PROJECT REPORT

ON

DEMAND RESPONSE BASED CONGESTION MANAGEMENT OF POWER SYSTEM WITH UNCERTAIN RENEWABLE RESOURCES

BY

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JAWAHAR EDUCATION SOCIETY'S

INSTITUTE OF TECHNOLOGY MANAGEMENT AND RESEARCH, NASHIK-422222

DEPARTMENT OF ELECTRICAL ENGINEERING

SAVITRIBAI PHULE PUNE UNIVERSITY

ACADEMIC YEAR:2021-2022

Jawahar Education Society's
Institute of Technology,Management & Research,Nashik
Approved by AICTE and DTE,Goverment of Maharashtra, Affiliated to University of Pune

CERTIFICATE

This is to certify that following students from **Final Year Electrical Engineering** have successfully completed project work for semester-II on **"Demand Response Based Congestion Management of Power System with Uncertain Renewable Resources"** at Jawahar Education Society's Institute of Technology, Management and Research, Nashik in the partial fulfillment of the Bachelor's Degree in Electrical Engineering in the academic year 2021-22.

Mis. Pranoti P Pagar	**Roll No. 11**
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(Prof. Mrs. S. A. Thete)
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Jawahar Education Society's ★ Institute of Technology, Management and Research ★ NASHIK

Abstract

In this project, the combined approach of rescheduling of generators and demand-side management using various Demand Response Program (DRP) for congestion management is analyzed. The uncertainties of wind and solar output power are modelled in MATLAB. These uncertainties result in a large number of scenarios which increases the computational burden. The k-means clustering algorithm is applied to reduce the number of scenarios. This system is analyzed by using Monte Carlo simulation. The impact of various DRPs on technical and economic characteristics of the load profile is investigated. The priority of DRPs for the reduction in rescheduling cost and a bill is derived. The result has shown that all DRPs are not profitable for minimizing rescheduling cost compared to without DRPs. The best preferred DRP for congestion management is determined among all DRPs. The proposed approach is modelled in MATLAB and solved by two methods one is Gradient based method & another one is Interior point method. Results shows that the impact of DRP on rescheduling cost is different for various DRPs. It is concluded that DRP such as TOU, CAP, RTP and DLC are economical as they give reduced rescheduling cost compared to the base case. It is also derived that the DRPs such as DLC and CAP are considered as best preferred DRPs for congestion management problem.

Keywords: Rescheduling of Generators, Demand Response Program, Congestion Management, Congestion Management Technique's, Renewable Energy Resources, Uncertainty.

CHAPTER IX

SIMULATION RESULTS

In this section, first of all, we solve the all DRP cases with all three methods and then we compare revenue generation results and losses results of all three methods. The following tables and graphs show the comparison results for each DRP case.

Table 5: Base Case Revenue Generation

Generator data	Bus data	Power Generation (MW)	Revenue Generated		
			Newton Raphson Method	Gradient Based Method	Interior Point Method
1	30	416.00	3873.21	3521.24	3893.39
2	31	467.65	4369.69	3294.60	4851.01
3	32	435.00	4038.86	3673.82	4058.39
4	33	391.20	3566.15	3240.83	3586.59
5	34	406.40	3706.43	3367.14	3728.00
6	35	412.20	3761.17	3424.07	3782.89
7	36	464.00	4213.77	2881.93	4238.18
8	37	451.20	4033.48	2817.59	4049.57
9	38	435.13	3894.37	2836.80	4473.89
10	39	440.00	4216.92	3829.82	4239.28
Total		4318.77	39674.06	32887.84	40901.19

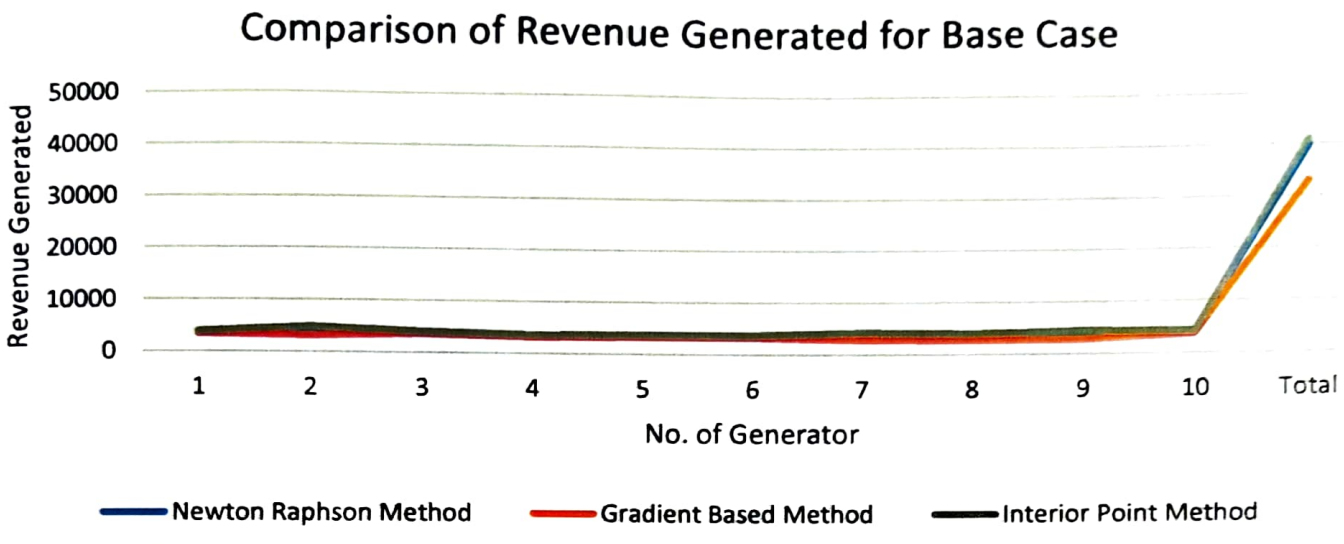

Figure 6: Base Case Revenue Generation

Table 6: CAP Case Revenue Generation

Generator data	Bus data	Power Generation (MW)	Revenue Generated		
			Newton Raphson Method	Gradient Based Method	Interior Point Method
1	30	416.00	3875.09	6581.88	6581.88
2	31	467.65	4628.01	5563.49	5563.49
3	32	435.00	4039.45	6196.44	6196.44
4	33	391.20	3569.04	5443.22	5443.22
5	34	406.40	3709.56	5300.04	5300.04
6	35	412.20	3764.20	5769.04	5769.05
7	36	464.00	4217.21	4851.62	4851.63
8	37	451.20	4036.15	4685.62	4685.62
9	38	435.13	4005.22	5385.92	5385.92
10	39	440.00	4218.60	4861.89	4861.89
Total		4318.77	40062.54	54639.16	54639.17

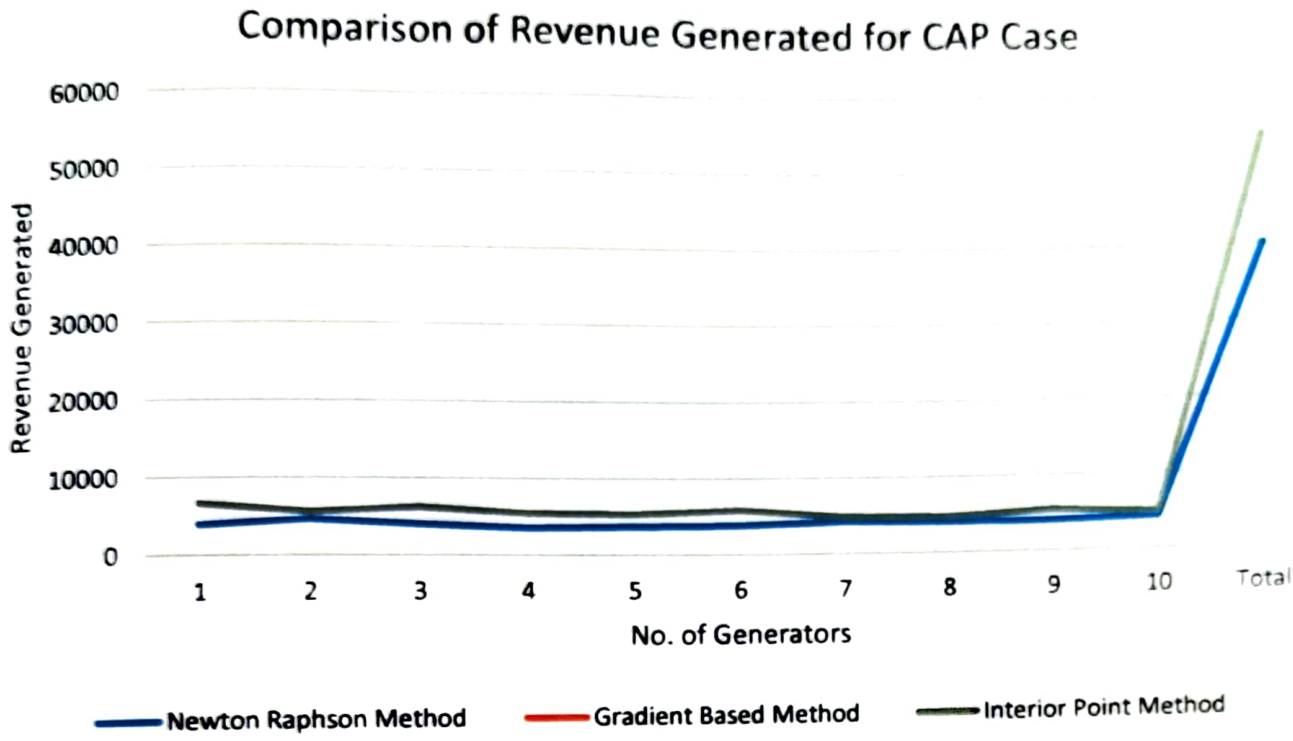

Figure 7: CAP Case Revenue Generation

Table 7: CPP Case Revenue Generation

Generator data	Bus data	Power Generation (MW)	Revenue Generated		
			Newton Raphson Method	Gradient Based Method	Interior Point Method
1	30	416.00	3873.21	4039.14	4039.47
2	31	467.65	4369.69	5033.85	5034.30
3	32	435.00	4038.86	4210.50	4210.89
4	33	391.20	3566.15	4918.11	4894.89
5	34	406.40	3706.43	4143.14	4166.92
6	35	412.20	3761.17	3912.76	3913.07
7	36	464.00	4213.77	4384.53	4384.87
8	37	451.20	4033.48	4203.36	4203.71
9	38	435.13	3894.37	4817.44	4817.84
10	39	440.00	4216.92	4400.69	4401.05
Total		4318.77	39674.06	44063.53	44067.01

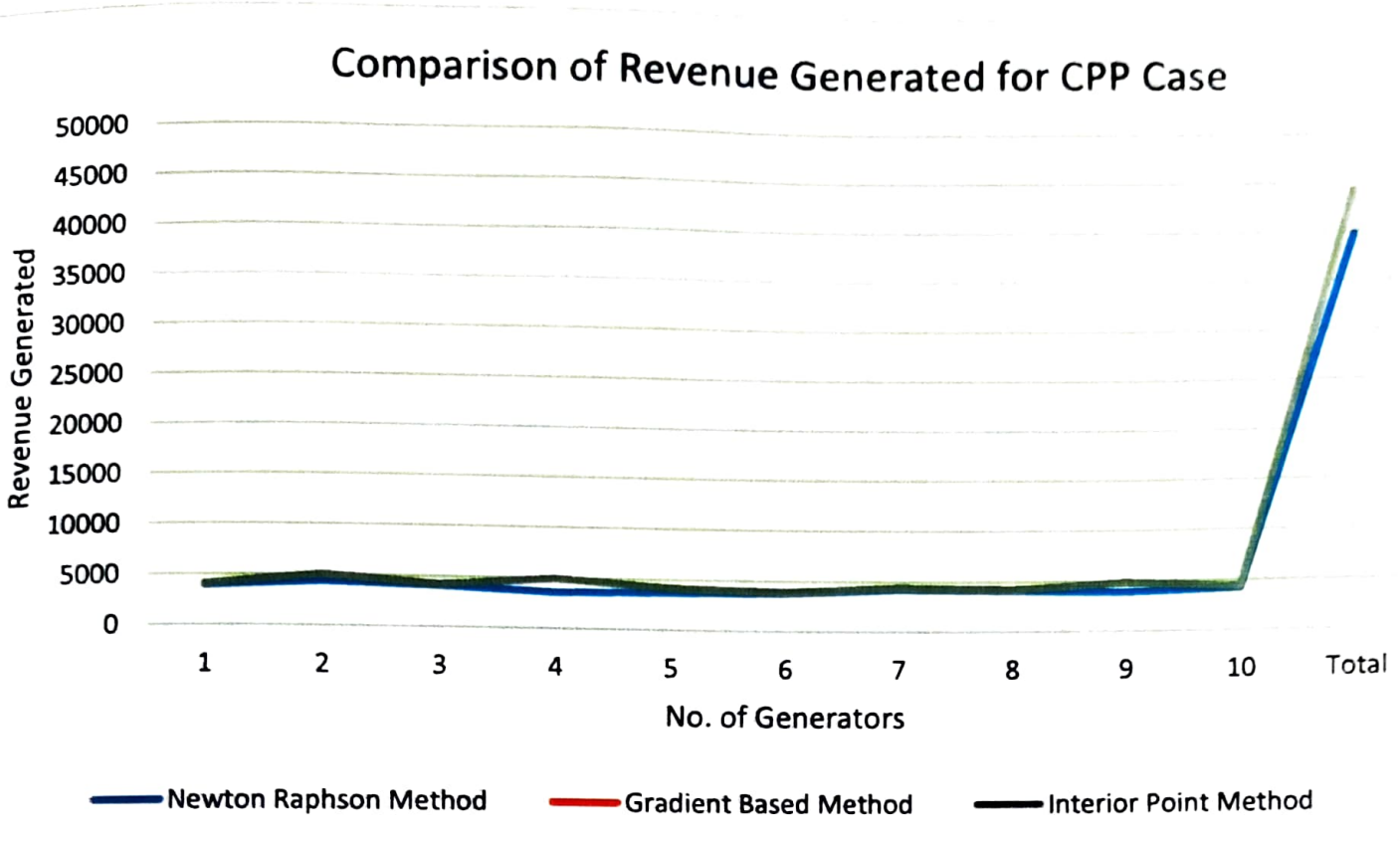

Figure 8: CPP Case Revenue Generation

Table 8: DLP Case Revenue Generation

Generator data	Bus data	Power Generation (MW)	Revenue Generated		
			Newton Raphson Method	Gradient Based Method	Interior Point Method
1	30	416.00	3874.65	6851.35	6851.38
2	31	467.65	4562.72	5719.87	5719.85
3	32	435.00	4039.28	6372.27	6372.23
4	33	391.20	3568.33	5606.20	5606.20
5	34	406.40	3708.79	5460.34	5460.34
6	35	412.20	3763.45	5933.20	5933.20
7	36	464.00	4216.36	5931.41	5930.88
8	37	451.20	4035.50	5987.59	5987.71
9	38	435.13	3978.21	5551.20	5551.20
10	39	440.00	4218.23	6555.15	6555.70
Total		4318.77	39965.51	59968.59	59968.68

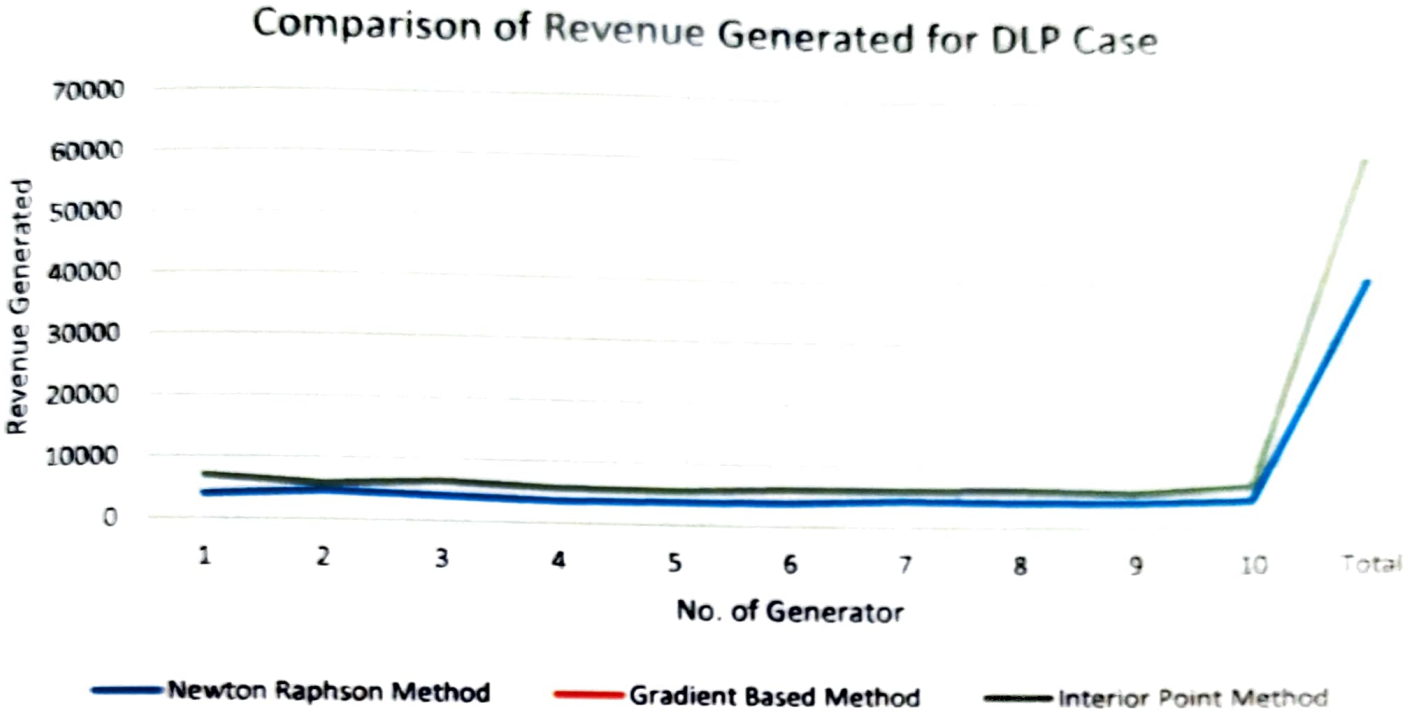

Figure 9: DLP Case Revenue Generation

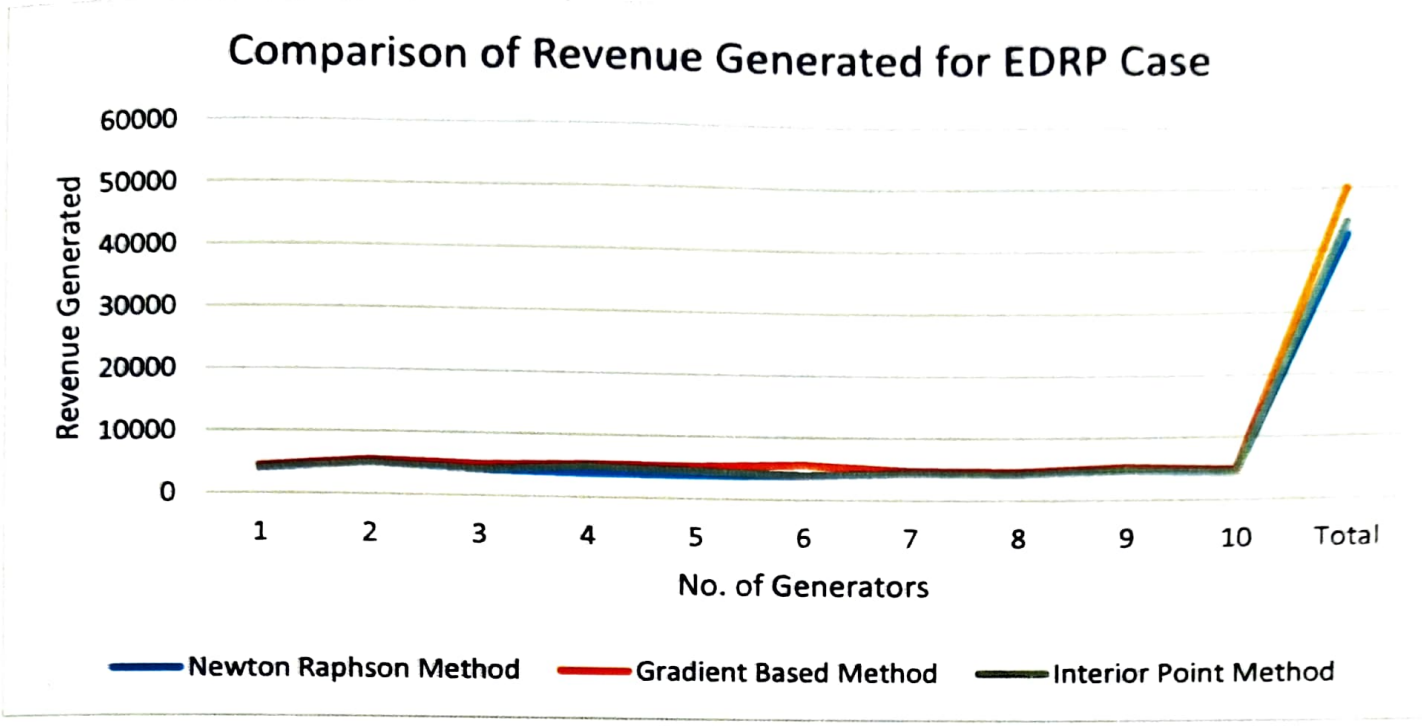

Figure 10: EDRP Case Revenue Generation

Table 10: IC Case Revenue Generation

Generator data	Bus data	Power Generation (MW)	Revenue Generated		
			Newton Raphson Method	Gradient Based Method	Interior Point Method
1	30	416.00	4520.06	4053.38	4053.41
2	31	467.65	5536.12	5051.59	5051.68
3	32	435.00	6164.14	4225.10	4225.18
4	33	391.20	5409.70	4926.27	4926.24
5	34	406.40	5266.55	4623.93	4623.96
6	35	412.20	5737.33	3924.47	3924.50
7	36	464.00	4824.12	4397.71	4367.74
8	37	451.20	4715.96	4219.67	4219.71
9	38	435.13	5340.34	4836.66	4836.72
10	39	440.00	4848.31	4416.67	4416.74
Total		4318.77	52362.66	44675.45	44675.87

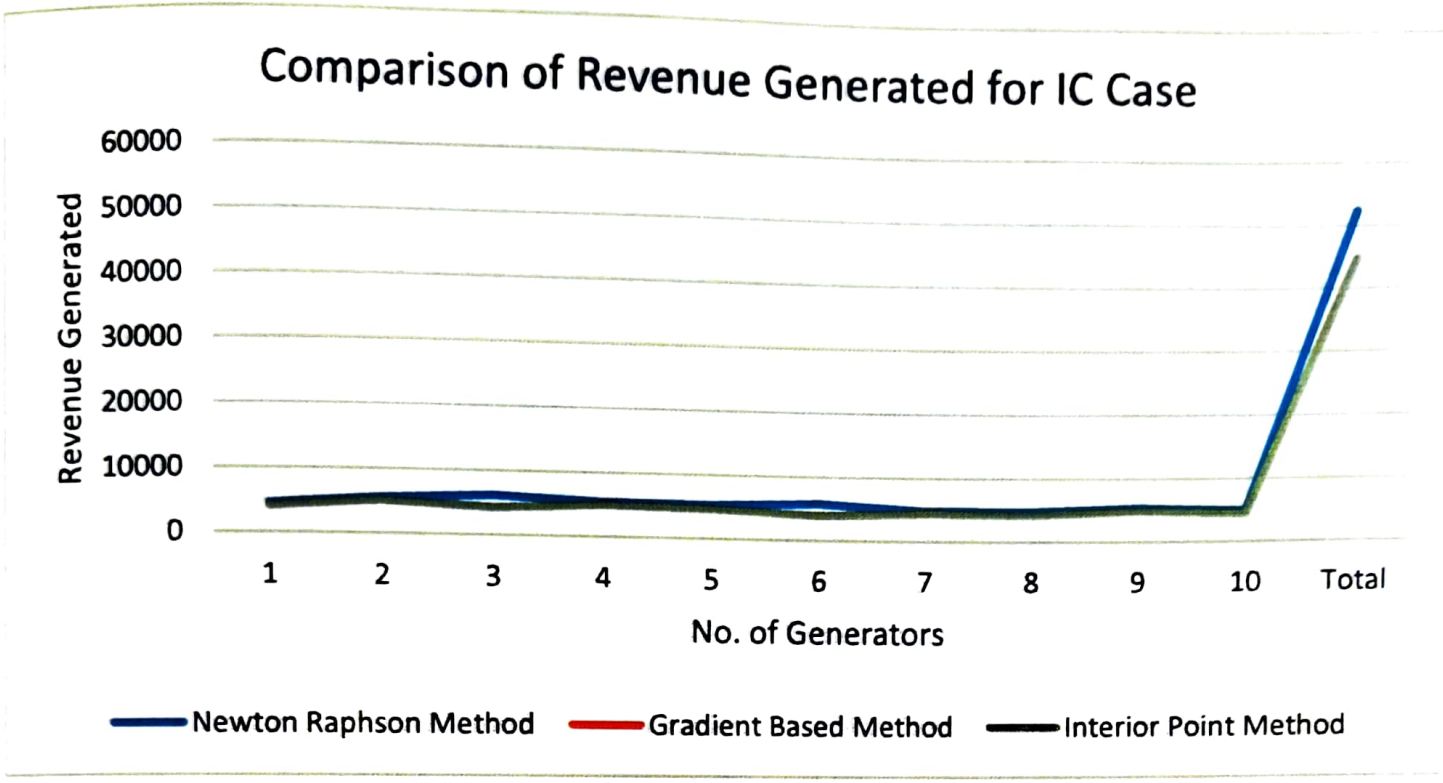

Figure 11: IC Case Revenue Generation

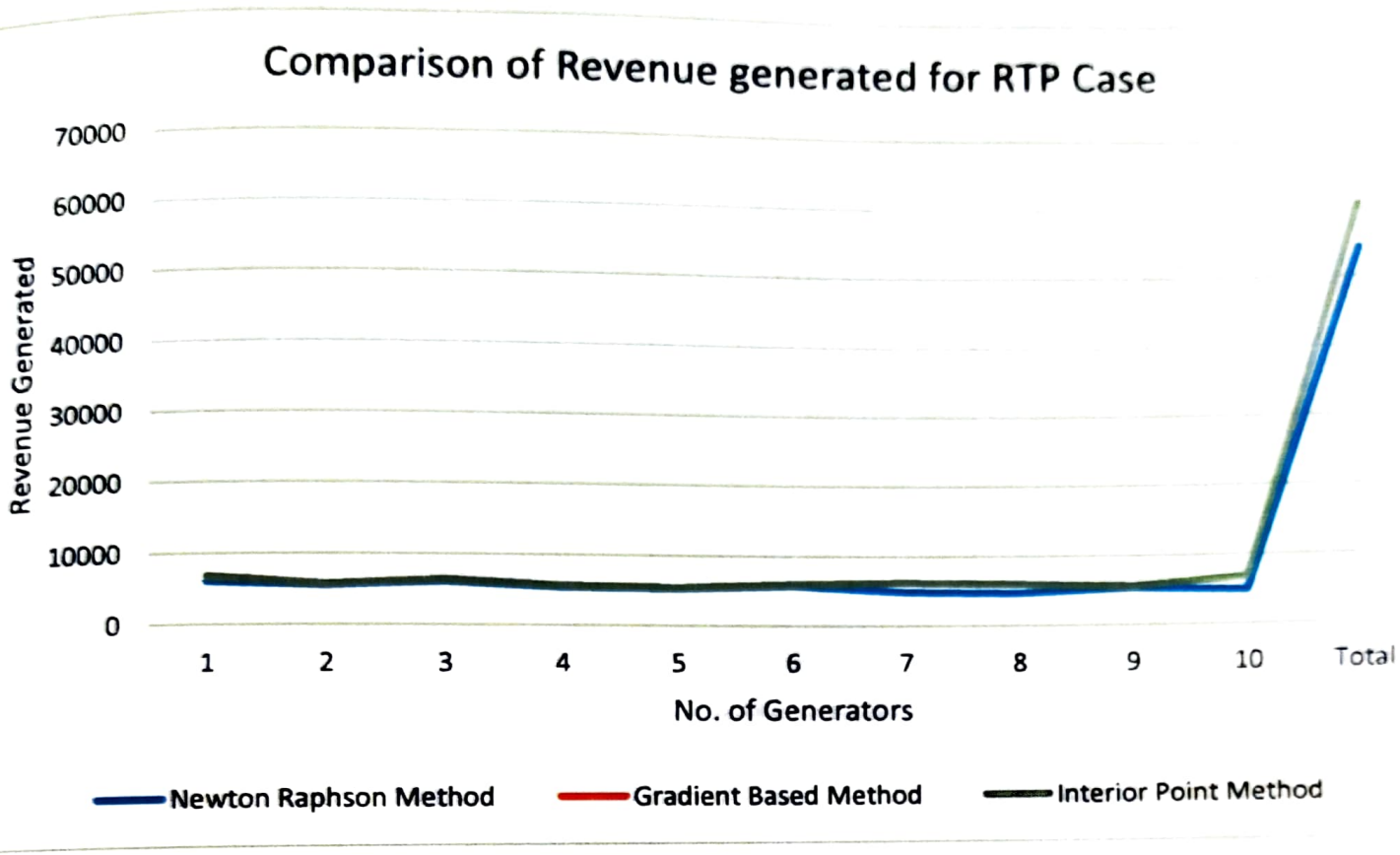

Figure 12: RTP Case Revenue Generation

Table 12: TOU Case Revenue Generation

Generator data	Bus data	Power Generation (MW)	Revenue Generated		
			Newton Raphson Method	Gradient Based Method	Interior Point Method
1	30	416.00	6112.53	6769.02	6769.02
2	31	467.65	5555.76	5646.55	5646.56
3	32	435.00	6187.18	6288.96	6288.97
4	33	391.20	5437.57	5523.88	5523.88
5	34	406.40	5294.32	5379.02	5379.02
6	35	412.20	5766.83	5854.48	5854.48
7	36	464.00	4849.11	4923.61	4923.61
8	37	451.20	4679.01	5696.22	5696.22
9	38	435.13	5376.18	5451.80	5454.81
10	39	440.00	4857.89	4934.12	4934.12
Total		4318.77	54116.39	56467.67	56467.67

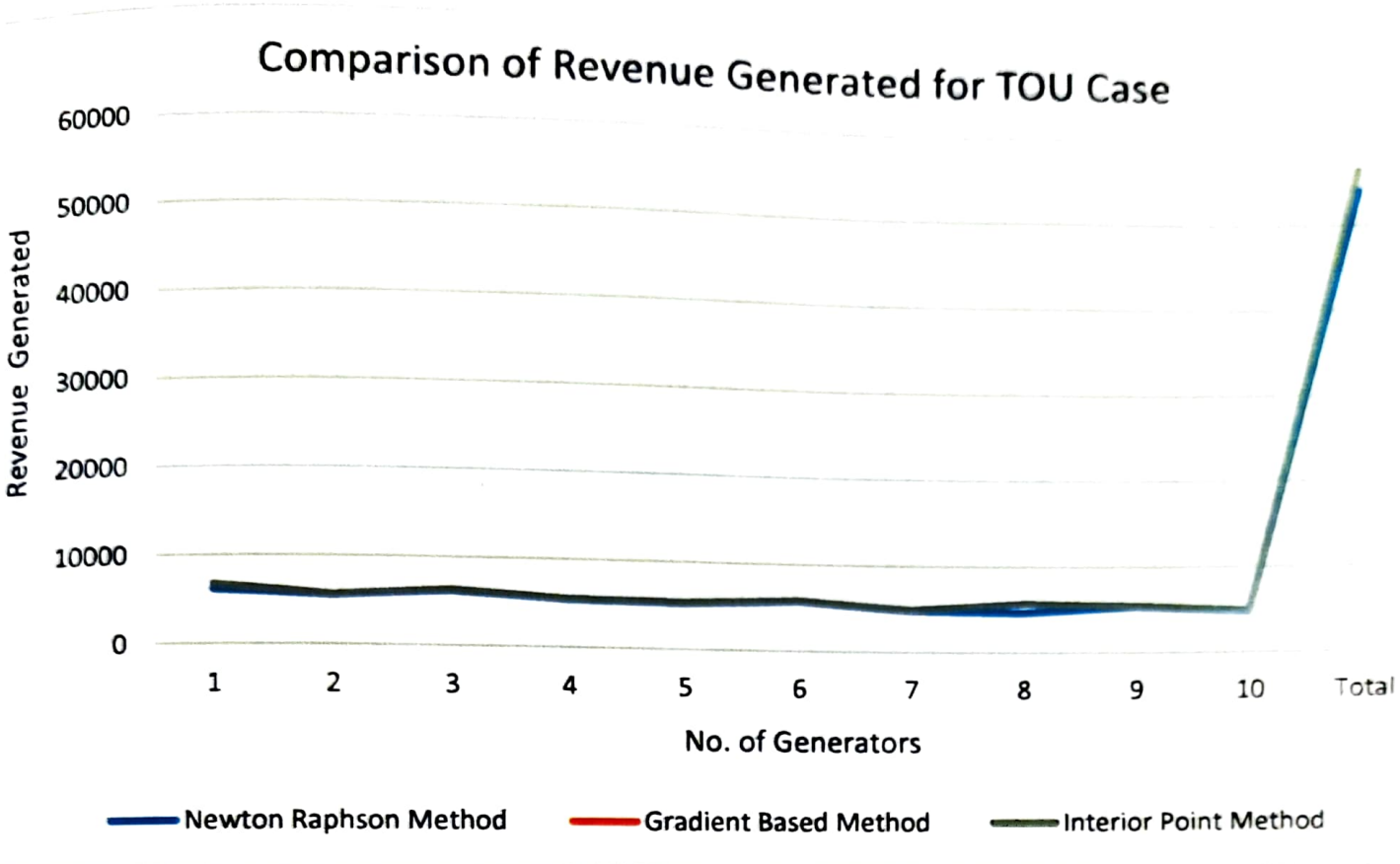

Figure 13: TOU Case Revenue Generation

Table 13: Comparison of Losses

Various Demand Response Program	Newton Raphson Method		Gradient Based Method		Interior Point Method	
	P losses (MW)	Q losses (MVAr)	P losses (MW)	Q losses (MVAr)	P losses (MW)	Q losses (MVAR)
Base Case	5.99	70.33	6.48	81.52	6.13	81.88
Capacity market program	6.20	81.88	5.75	67.51	6.05	76.58
Critical peak pricing program	6.91	81.15	6.42	81.47	7.26	85.23
Direct load control program	6.16	72.33	5.72	67.12	6.16	72.33
Emergency demand response program	6.05	76.58	5.75	67.51	6.18	72.52
Interruptible curtailable program	6.21	81.88	5.78	67.90	6.04	78.23
Real time pricing	6.29	81.26	6.46	81.66	6.76	80.31
Time of use prog	7.29	83.23	6.49	81.53	6.76	80.33

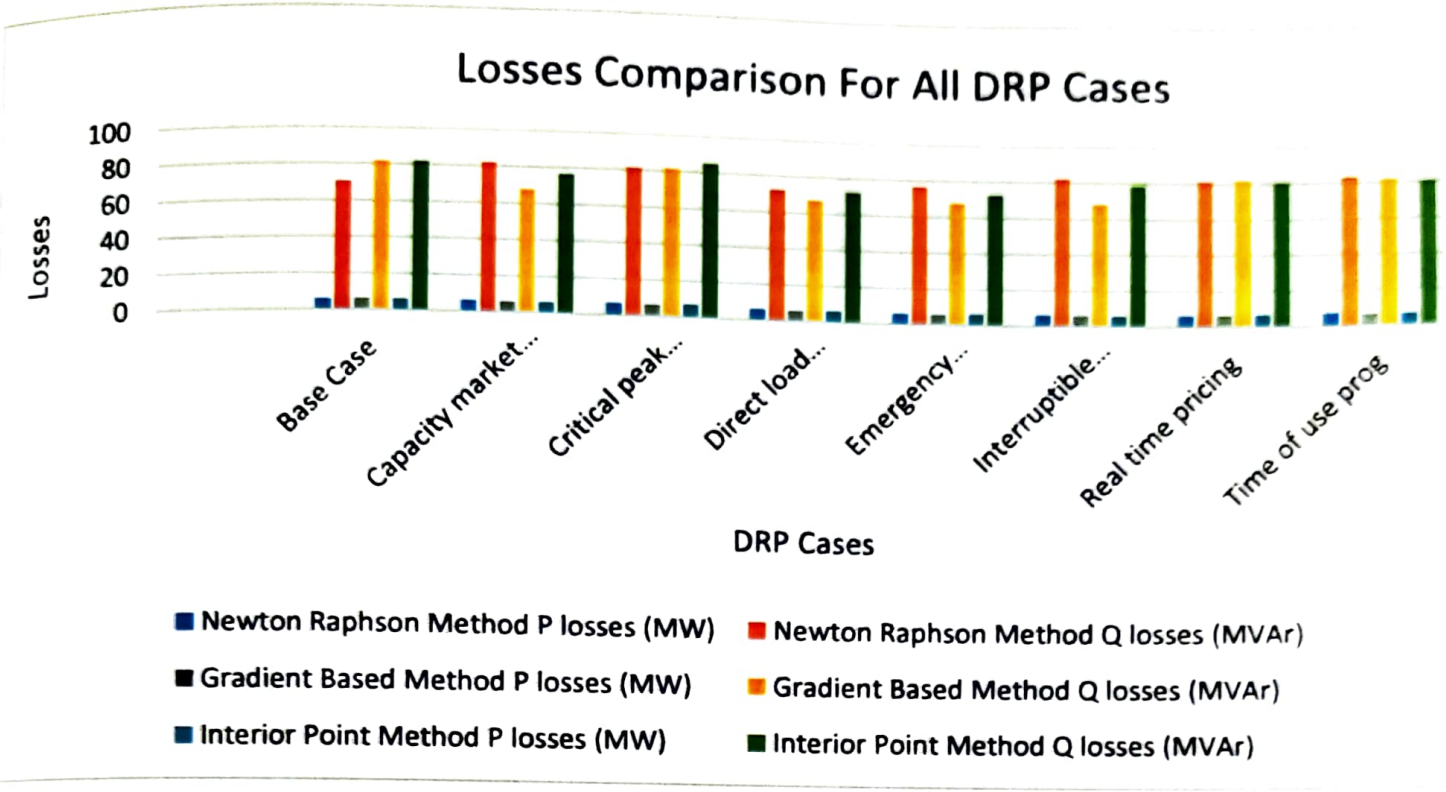

Figure 14: Comparison of Losses

A

DISSERTATION

ON

SLAT CONVEYOR FOR MATERIAL HANDLING

BY

MR. PATIL KARAN S.	EXAM NO. - B121140846
MR. PATIL PIYUSH L.	EXAM NO. - B121140848
MR. PATIL SWAPNIL K.	EXAM NO. - B121140849
MR. PANDEY ABHISHEK R.	EXAM NO. - B121140840

UNDER THE GUIDANCE OF

PROF. A. A. PATIL

DEPARTMENT OF MECHANICAL ENGINEERING

JIT

JAWAHAR EDUCATION SOCIETY'S,

INSTITUTE OF TECHNOLOGY, MANAGEMENT AND RESEARCH, NASHIK.

[2017-18]

Jawahar Education Society's, Institute of Technology, Management and Research, Nashik.

JIT
JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

CERTIFICATE

This is to certify that *Mr.Patil Karan S., Mr.Patil Piyush L., Mr.Pandey Abhishek R., Mr.Patil Swapnil K.* has successfully completed the Dissertation entitled *"Slat Conveyor for Material Handling"* under my supervision, in the partial fulfilment of Bachelor of Engineering – Mechanical Engineering of Savitribai Phule Pune University.

Date: 3/6/2018

Place: JIT, Nashik

Prof. A. A. Patil
Internal Guide

External Examiner
Department of Mechanical Engg.

Prof. D. R. Patil
Head
Department of Mechanical Engg.

Dr.M.V.Bhatkar
Principal
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Certificate

To whomsoever it may concern

This is to certify that

Mr. Patil Karan Sunil.
Mr. Patil Swapnil Kantilal.
Mr. Pandey Abhishek Ramvilas.
Mr. Patil Piyush Liladhar.

Student of ***Jawahar Education Society's Institute of Technology, Management & Research, Nashik,*** *Has successfully completed the project work titled* ***"Slat Conveyor for Materiel Handling."*** *During the period of academic session 2017- 2018 in our Organization.*

Their efforts were found to be sincere & satisfactory towards the given Assignment. We wish their successful career ahead.

The company wishes all the best in their future endeavors.

Place: Nasik
Date: 13.03.2018

Mr. Chavan G.N
Technical Services Group

GABRIEL , NASIK

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ANAND

Abstract

A conveyor system is a common piece of mechanical handling equipment that moves materials from one location to another. Conveyor systems allow quick and efficient transportation for a wide variety of materials, which make them very popular in the material handling and packaging industries. In past time, transfer of product from one machine to another is done by manually. Due to manually handling and manually existing, its affect the quality of product. Hence product rejection increases its affect on productivity. Hence to avoid this problem and for less handling of product and also for remove rejection we think to implement slat conveyor. In short To design an economically feasible conveyor with high productive capacity.

Using conveyor systems is a good way to reduce the risks of musculoskeletal injury in tasks or processes that involve manual handling, as they reduce the need for repetitive lifting and carrying. Conveyors are a powerful material handling tool. They offer the opportunity to boost productivity, reduce product handling and damage, and minimize labor required in a manufacturing or distribution facility.

KEY WORDS: Slats, chain links, conveyor selection.

6. ANALYSIS OF PARTS

Analysis of parts :

- For analysis we draw the 3-D part drawing on SIEMENS NX 11 software and save as that file in .jigs format.
- we import the part drawing into the hypermeshV14.0
- Material, properties are assign to the component and mesh the component by auto mesh feature. Quartz element is selected for meshing.
- Some nodes are made to fixed and force is applied on some nodes.
- Then the results are taken by the hyper view.

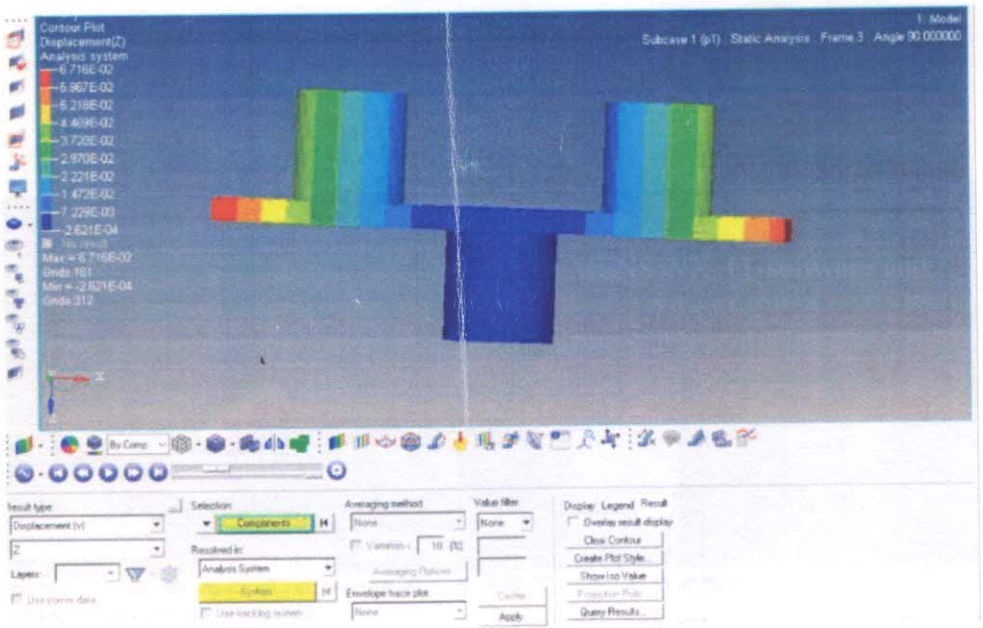


Fig. 6.1 Fixture analysis

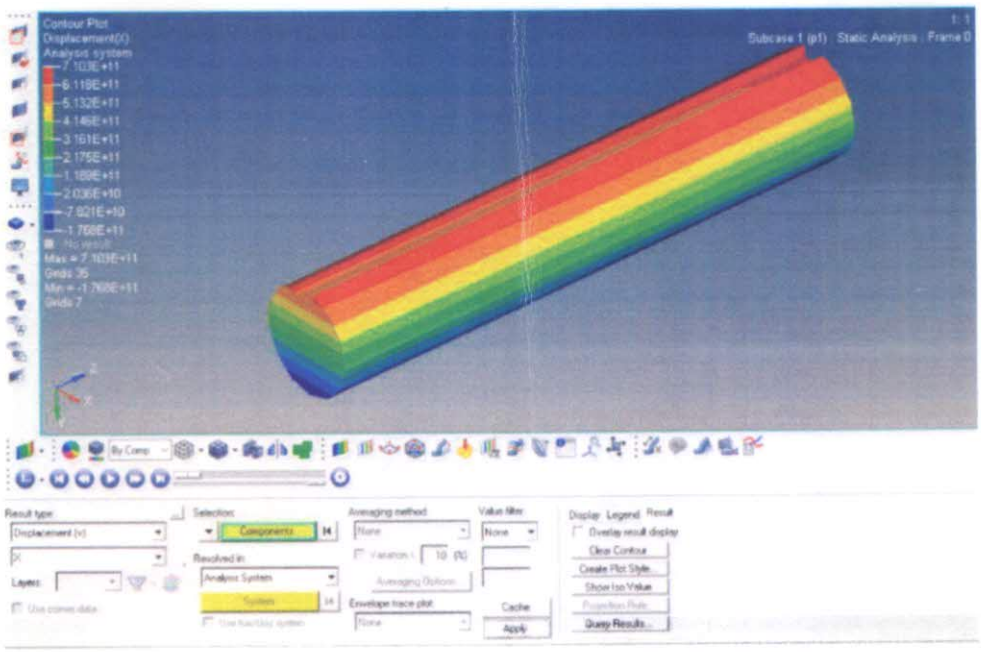


Fig. 6.2 shaft analysis

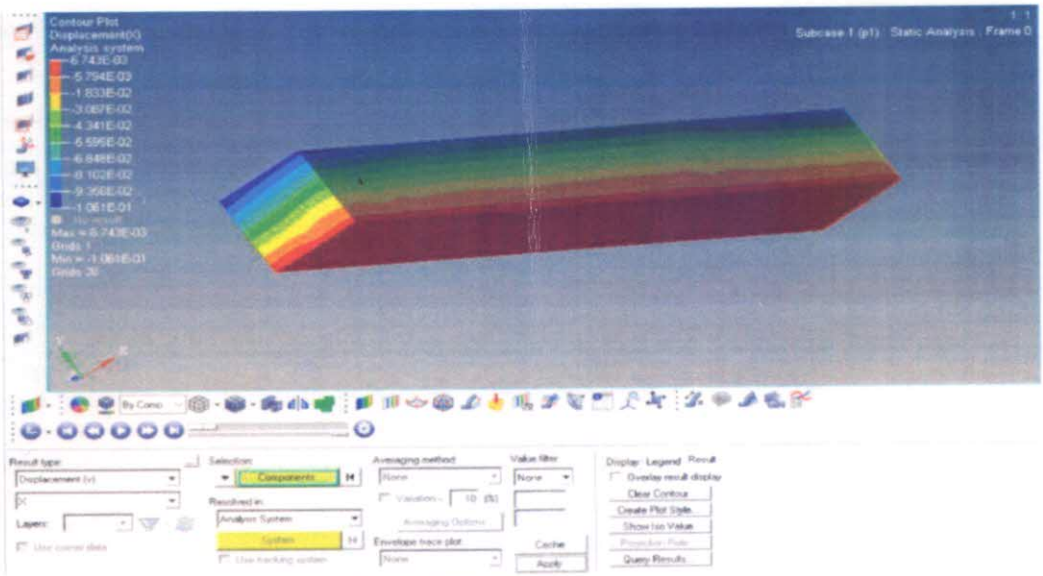


Fig. 6.3 key analysis

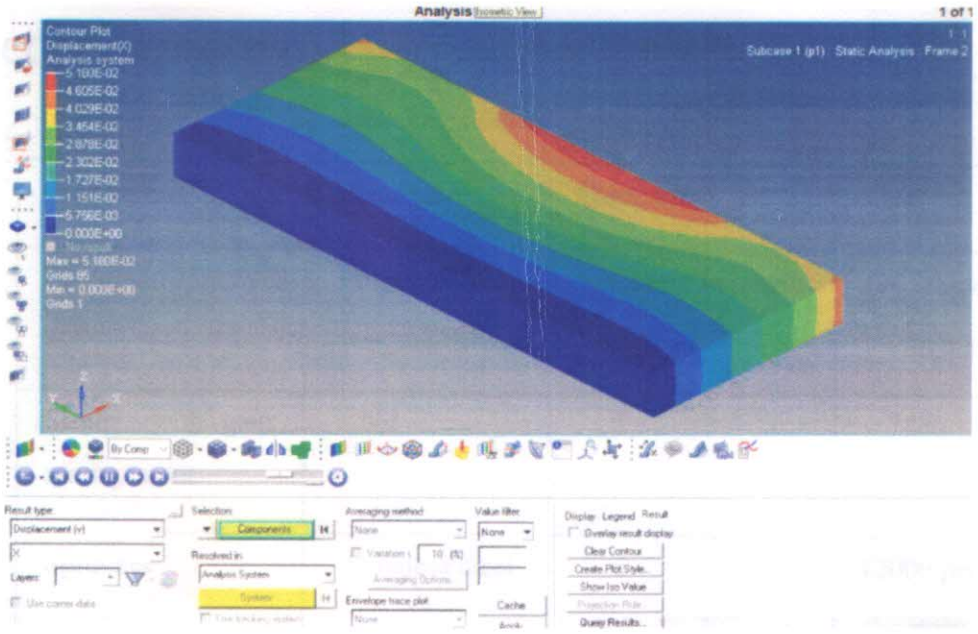


Fig. 6.4 Slat analysis

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Industry Sponsored Projects

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

A

PRO JECT REPORT

SOLID STATE INDUCTION HEATING MACHINE PROTOTHYP UNIT

BY

MR. GURHALE SACHIN SANJIV [EXAM SEATNO.B151142514]

MR. SHAIKH MOIZ ANSAR [EXAM SEATNO B151142532]

UNDER THE GUIDANCE

OF

PROF. YASH BANGALI

JAWAHAR EDUCATION SOCIETYS

INSTITUTE OF TECHNOLOGY MANAGEMENT

AND RESEARCH, NASHIK-422222

DEPARTMENT OF ELECTRICAL ENGINEERING SAVITRIBAI PHULE PUNE UNIVERSITY ACADEMIC

YEAR:2021-22

Jawahar Education Society's
Institute of Technology,Management & Research,Nashik
Approved by AICTE and DTE,Goverment of Maharashtra, Affiliated to University of Pune

CERTIFICATE

This is to certify that following students from Final Year Electrical Engineering have successfully completed project work for semester-II on **"Solid State Induction Heating Machine Prototyp unit"** at Jawahar Education Society's Institute of Technology, Management and Research, Nashik in the partial fulfillment of the Bachelor's Degree in Electrical Engineering in the academic year2021-22.

Mr. Sachin Sanjiv Gurhale
Mr. Shaikh Moiz Ansar

(Prof.....)
ExternalExaminar

Jawahar Education Society's NASHIK Institute of Technology, Management and Research

(Pro. Yash Bangali)
Project Guide

(Prof.M.S.Shelar)
ProjectCoordinator

(Prof.S.A.Thete)
HeadOfTheDepartment

(Prof.Dr.M.V.Bhatkar)
Principal

Date 18/08/2021

To,
Principal
JIT nashik

Sub:- To Regarding Sponsership Permission

I am sachin sanjiv Gurhale final year BE Electrical student my group Project is a sponsered by Yatin Industronics nashik. So Please give me a Permission for a sponsered Project

S. Gurhale

Sachin. S. gurhale

Yes, Sir recommended for your permission

Jawahar Education Society's ★ Institute of Technology, Management and Research, Nashik ★
Electrical Engineering Department

OK

18/8/2021

Yatin Industronics
Manufacturers of Induction Heating Equipments
W-193, MIDC, AMBAD, Nashik, 422010, India
Contact: 0253-2381210, 93236 51478, Email: yatininds@gmail.com

Date: 30/08/2021

M/s. Yatin Industronics

W-193, MIDC AMBAD,

NASHIK -422010

Subject : Sponsorship letter for College Project

TO WHOM SO EVER IT MAY CONCERN

We, Yatin Industronics, Manufacturers of Induction Heating Equipment for various Industrial Metal heating applications since 1969.

This letter is to inform you that We, Yatin Industronics confirm our sponsorship for **Mr. Sachin Gurhale & Mr. Moiz Shekh**, a student of Engineering, **Jawahar Education Society's Institute of Technology Management and Research Center, Nashik** for their College Project **2KW Induction Heating Equipment**.

We sponsored the project for Bill of material items only. The assembly work, testing and trials are done by students.

We wish him every success in life.

For, Yatin Industronics

YATIN INDUSTRONICS

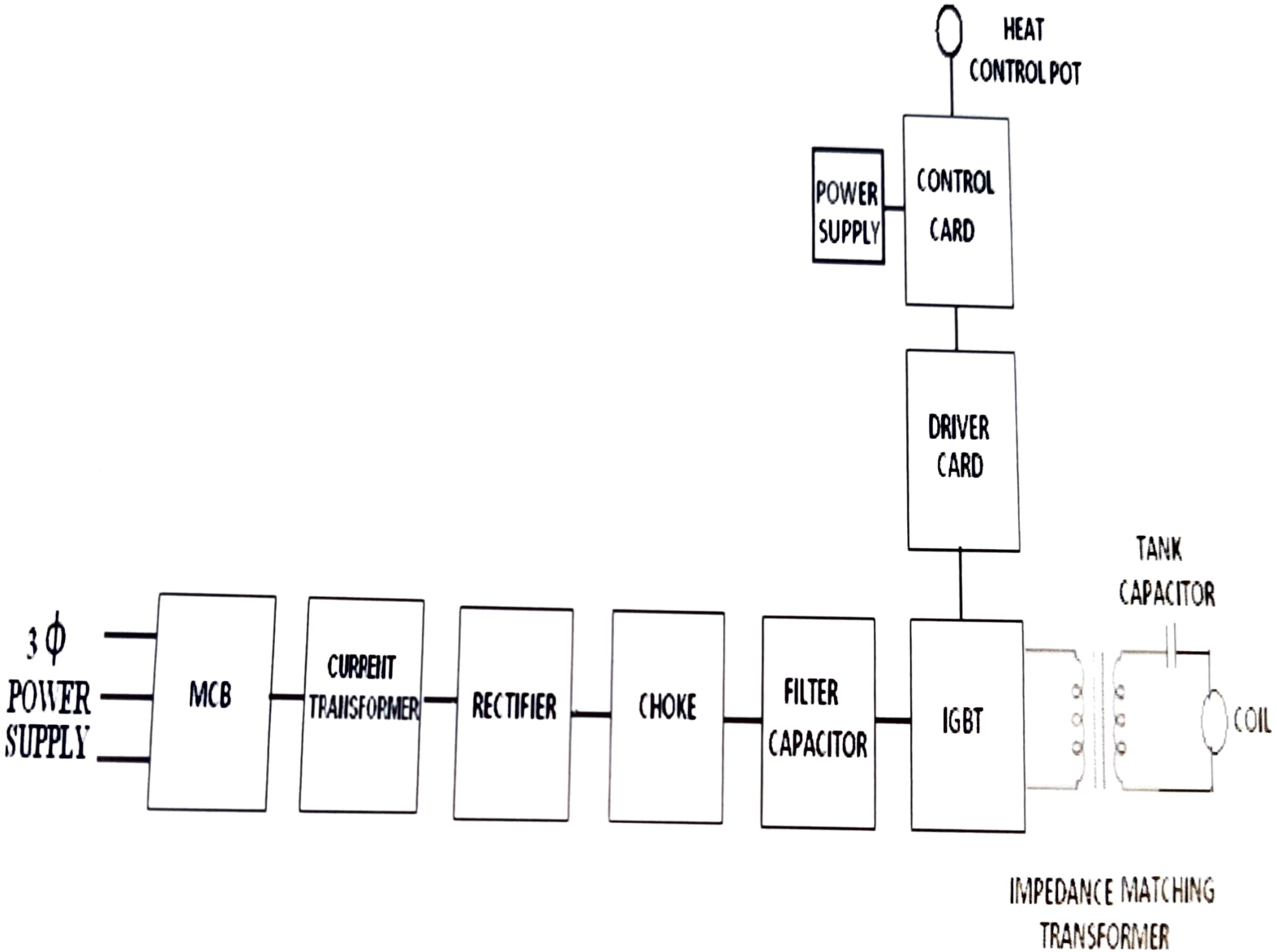
MR. JAYESH SHAH

(PARTNER)

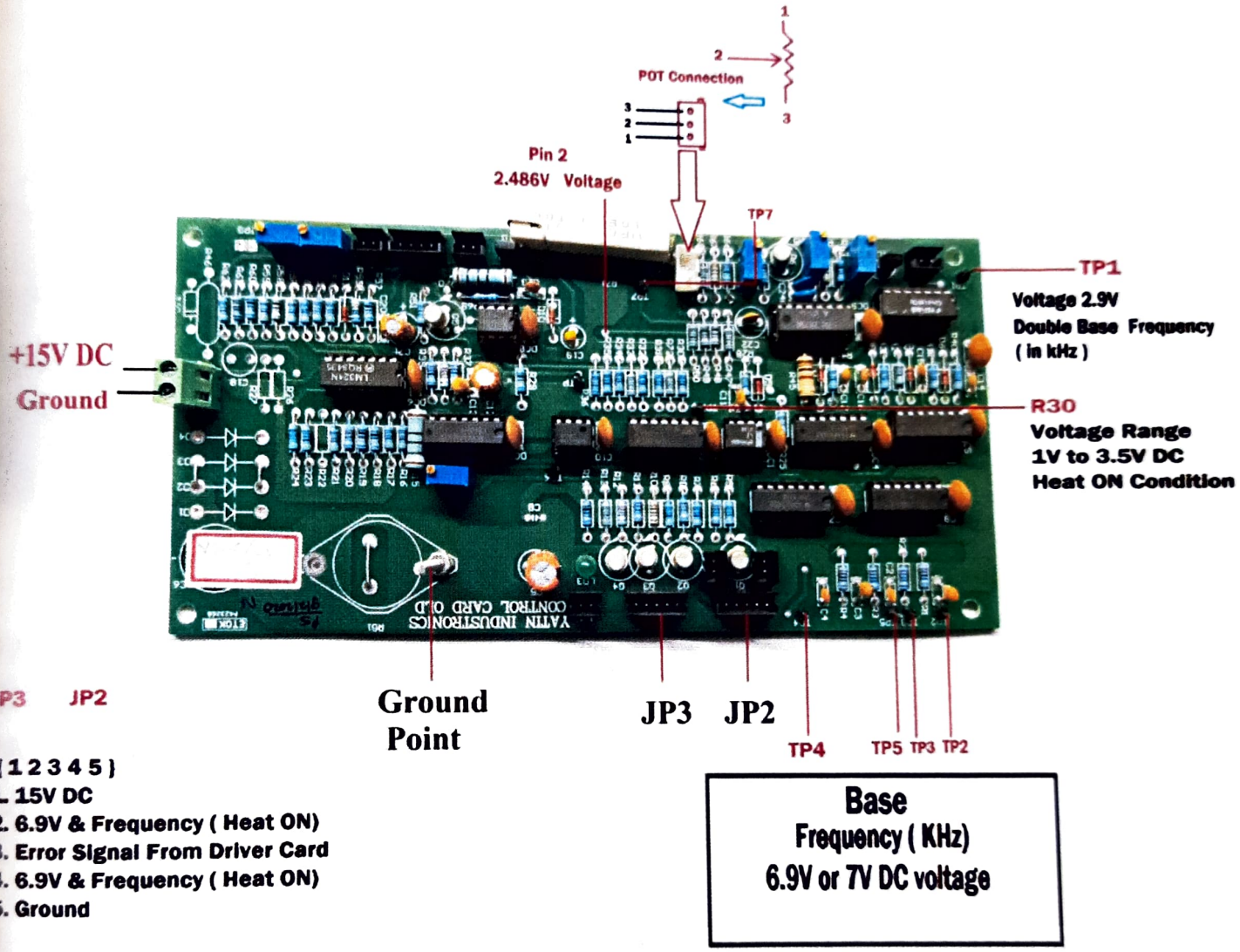
Jawahar Education Society's
Electrical Engineering Department
Institute of Technology, Management and Research, Nashik

Abstract

Induction heating (IH) technology is nowadays the heating technology of choice in many industrial, domestic, and medical applications due to its advantages regarding efficiency, fast heating, safety, cleanness, and accurate control. Advances in key technologies, i.e., power electronics, control techniques, and magnetic component design, have allowed the development of highly reliable and cost-effective systems, making this technology readily available and ubiquitous. This paper reviews IH technology summarizing the main milestones in its development and analyzing the current state of art of IH systems in industrial, domestic, and medical applications, paying special attention to the key enabling technologies involved. Finally, an overview of future research trends and challenges is given, highlighting the promising future of IH technology.

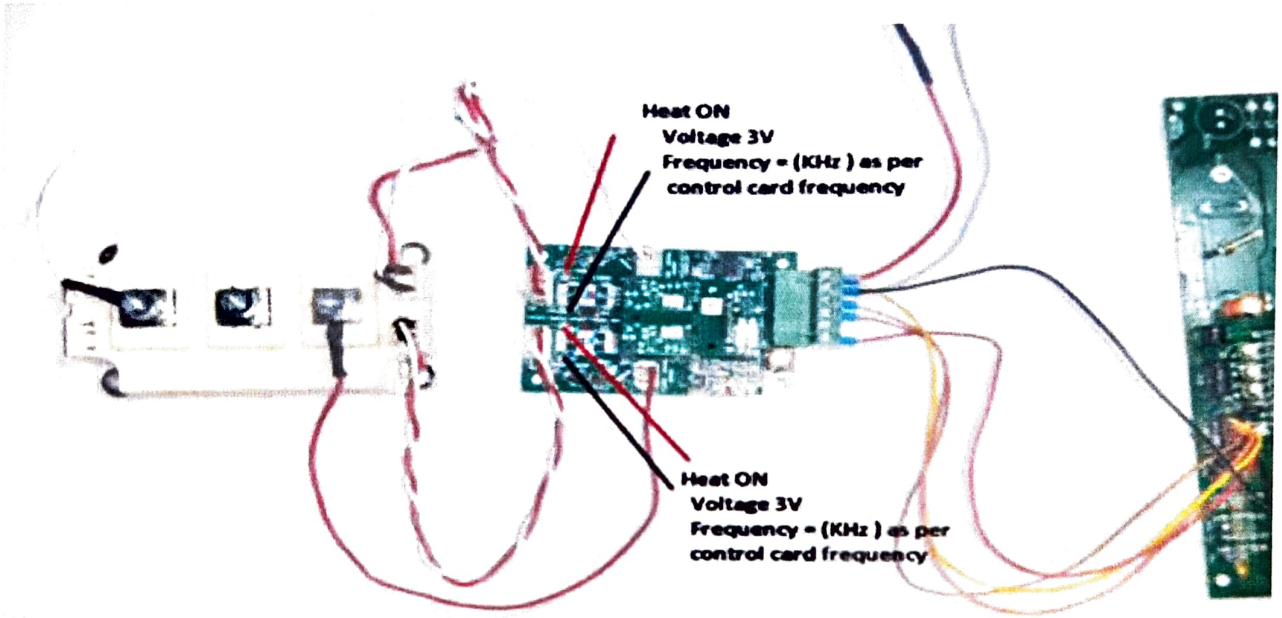

HEAT
CONTROL POT
POWER
SUPPLY
CONTROL
CARD
DRIVER
CARD
TANK
CAPACITOR
3 ϕ
POWER
SUPPLY
MCB
CURRENT
TRANSFORMER
RECTIFIER
CHOKE
FILTER
CAPACITOR
IGBT
COIL
IMPEDANCE MATCHING
TRANSFORMER

4.5 Control card

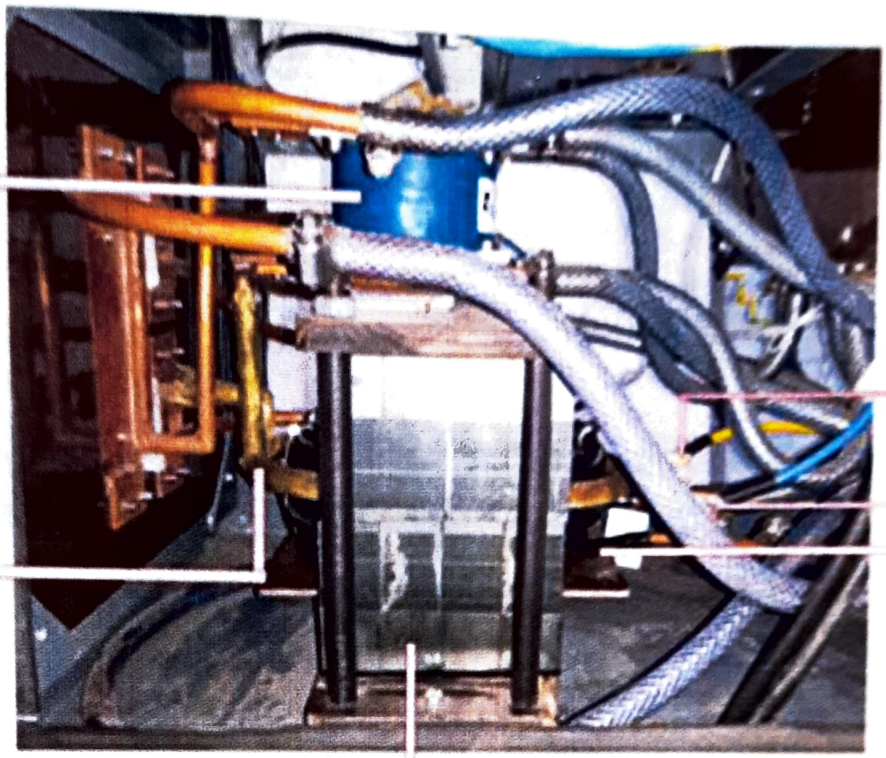


Control card is developed for a control machine different parameters of a machine. Its use a generate a high frequency signal for a IGBT (10-50khz). Card is control heat on/ off opration by reciving signal form ralay ,on jp 11 connector

4.6 Driver card & igbt



4.7 TRANSFORMER SECTION

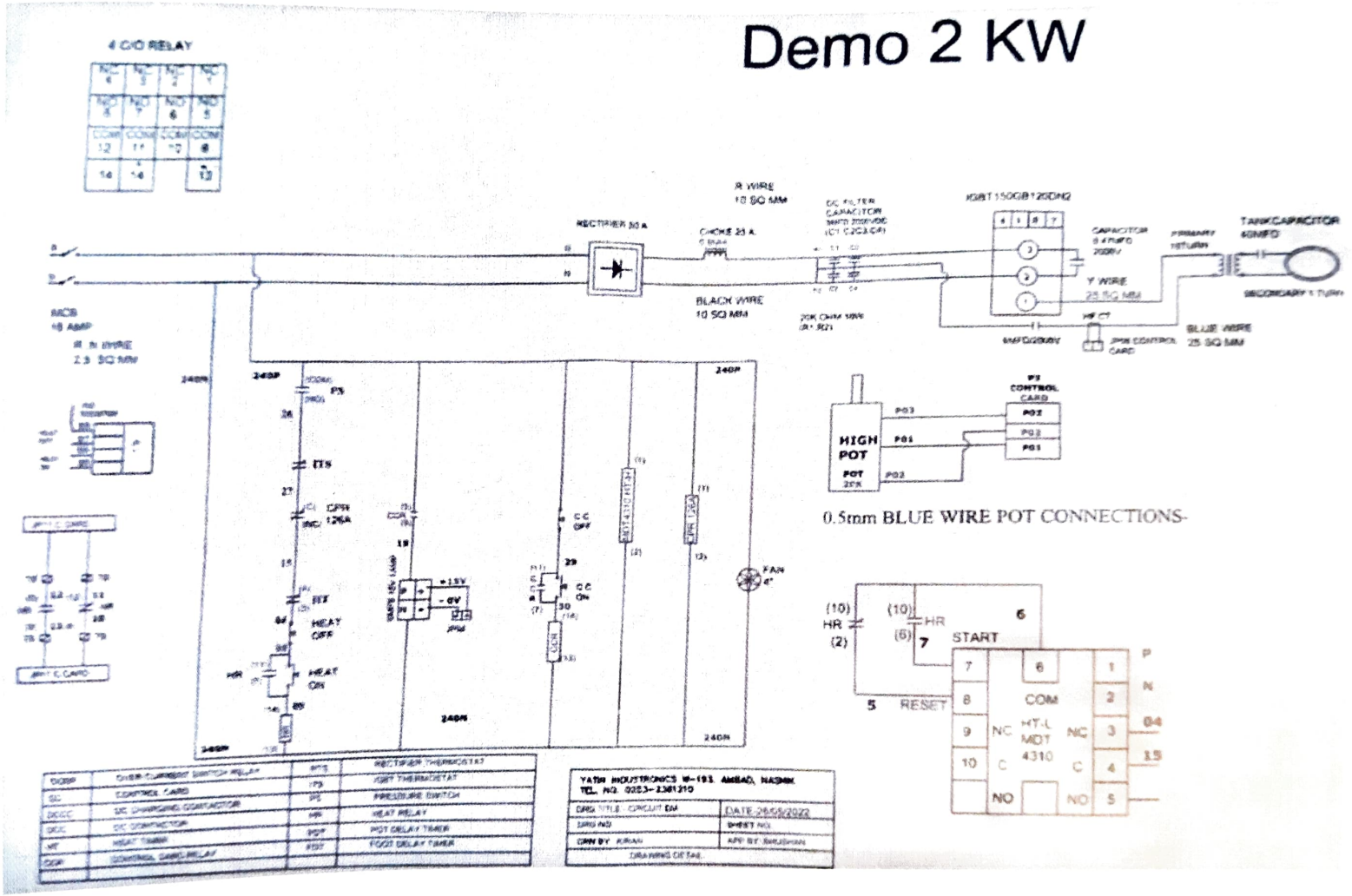


Matching Transformer has Ferrite core which is 1x2core.

Matching Transformer has Primary winding of 17 turns and Secondary winding of 1 turns. Above the transformer there is black color Tank capacitor of 40 MFD.

Drowing and design

5.1Wiring diagram



Drowing shows a wiring diagram of a unit with a all components

It shows a control wiring or power wiring

6.Cost estimation

Ampere Meter(MA 12)	240V/20Amp	nos	1	1000
Line CT	Selec 50/5	nos	1	425
Heat ON Push Button Green (NO)	10mm	nos	2	68
Heat OFF Push Button Red (NO)	10mm	nos	1	68
Toggle Switch		nos	2	100
Red LED	6 mm	nos	2	5
Green LED	6 mm	nos	3	5
LED Holder	6 mm	nos	5	100
Control card		nos	1	12000
HFCT	100/5	nos	1	100
SMPS	15V	nos	1	425
Driver card		nos	1	4500
IGBT SKM75GB63D	75GB	nos	1	5500
Rectifier 1PHASE	35Amp	nos	1	550
Tank Capacitor	3MFD	nos	8	2500
Snubber Capacitor	0.22MFD	nos	2	250
Filter Capacitor	1000MFD/250VDC	nos	2	2000
Resistor	22K	nos	2	100
Thermostat		nos	1	60
Heatsink	HS473-1-320mm	nos	1	6500
Bakelite (Filter Capacitor)	165*100mm	nos	1	200
Bakelite (Inverter Section)	240*310mm	nos	1	200
Wires	12 Core Shielded	meter	4	0
	0.5 Sq mm Green	meter	3	36
	0.5 Sq mm Red	meter	3	36
	0.5 Sq mm Black	meter	3	36
	6 Sq mm	meter	5	110
Fan	4"	nos	2	250
Filter	4"	nos	2	100
Tank capacitor	3 mfd	nos	36	100
Ferrite core	115	Nos	2	3600
primery	Lids wire	mtr	3	1500
secondery	Copper tube	mtr	0.25	450

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3-4-5 June 2022

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Organiser

IndoreInfoline

APPRECIATION FOR PARTICIPATION

YATIN INDUSTRONICS

NASHIK

A PROJECT REPORT
ON

COMPUTERIZED STRIP COUNTING MACHINE USING OPENCV

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTSOF

BACHELOR OF ENGINEERING (COMPUTER ENGINEERING)
BY

SHRIKANT PRAVIN MIRAJKAR. PRN NO:71657011E
ROBIN JOHN SADAPHULE PRN NO:71806950B
SAKSHI SANJAY SHELKE. PRN NO:71727745D
HARSHAL EKNATH AHIRE. PRN NO:71524961E

UNDER THE GUIDANCE OF

JIT

PROF. S.B.PATIL

DEPARTMENT OF COMPUTER ENGINEERING

JAWAHAR EDUCATION SOCIETY'S,

INSTITUTE OF TECHNOLOGY, MANAGEMENT AND

RESEARCH, NASHIK

SAVITRIBAI PHULE PUNE UNIVERSITY
2019 -2020

A PROJECT REPORT ON

COMPUTERIZED STRIP COUNTING MACHINE USING OPENCV

SUBMITTED TOWARDS THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS OF

BACHELOR OF ENGINEERING (Computer Engineering)

BY

Mirajkar Shrikant P.	Prn No:71657011E
Sadaphule Robin J.	Prn No:71806950B
Shelke Sakshi S.	PrnNo:71727745D
Ahire Harshal E.	Prn No.:71524961E

Under The Guidance of

Prof. S.B.Patil

DEPARTMENT OF COMPUTER ENGINEERING

Jawahar Education Society's,

Institute of Technology, Management and Research, Nashik

2019 -2020

Jawahar Education Society's,
Institute of Technology, Management and Research
DEPARTMENT OF COMPUTER ENGINEERING

CERTIFICATE

This is to certify that the Project Entitles

COMPUTERIZED STRIP COUNTING MACHINE USING OPENCV

Submitted by

Mirajkar Shrikant P.	Prn No:71657011E
Sadaphule Robin J.	Prn No:71806950B
Shelke Sakshi S.	PrnNo:71727745D
Ahire Harshal E.	Prn No.:71524961E

is a bonafide wok carried out by students under the supervision of Prof. S.B.Patil and it is submitted towards the partial fulfilment of the requirement of Bachelor of Engineering (Computer Engineering).

Prof. S.B.Patil
Internal Guide
Dept, of Computer Engg.

Prof.G.P.Mohole
H.O.D
Dept.of Computer Engg.

Department of Computer Engineering
Institute of Technology, Management & Research
Nashik.

Dr. M.V.Bhatkar
Principal

DISHA ENGINEERING AUTOMATION

Mfgrs. of jig Fixtures, Automation, Non-Contact Gauges, conveyors, Trolleys, gauges.
Shri Ganesh Apartment 37, Gujrat Colony, Kothrud, Pune - 411 038.
Mob. 9552543055 / 9225634179 /9881304582
E-mail - sadavrat.bhaskar@gmail.com **Reg. 270251106928**

Ref No.

Date : 15-10-2019

To
Head of Department
Computer Department
JIT, Nashik

Sub: Letter for Sponsorship for academic project

This is to certify that below mentioned students are working with us on the project "Strip Counting Machine using OpenCV". We would offer them a platform to nurture their skills and work on the project. The project is based on image processing.

By becoming a part of sponsorship program, following students abide to work on mentioned technologies to execute their project with help of technical expert. Institute's assent for allowing them to work with us is appreciated.

1. Shrikant Mirajkar
2. Robin Sadaphule
3. Sakshi Shelke
4. Harshal Ahire

Authorised by

Mr. Sadavarte B. N.
Director
Disha Engineering Automation

For DISHA ENGINEERING AUTOMATION

Sadavrat

PROPRIETOR

SADAVARTE B. N.
M.: 9552543055

Abstract

The Strips counting machine is a high precision measurement system that is often employed in production lines. The Machine vision operations such as product counting, error control, dimension measurement can be performed through a camera and which would be able to perform object-independent product counting. Basically, one camera is used in the system. Through this camera, an image of the products is captured which is placed on a flat platform and various images are captured to get an accurate count of strips and dimensions. In this approach using images obtained from a real experimental setup, a real-time machine vision is achieved. As a result of the experimental studies performed, it's been determined that the planed approach provides quick, accurate, and reliable results.

A

PROJECT PROGRESS

REPORT

ON

"SOLAR SYSTEM DESIGN OPERATION AND INSTALLATION"

BY

MS. SHRADHA. T. GAJARE

[EXAM SEAT NO. B121142510]

UNDER THE GUIDANCE

OF

PROF. MR. R. C. KARPE

JAWAHAR EDUCATION SOCIETY'S

INSTITUTE OF TECHNOLOGY, MANAGEMENT AND RESEARCH, NASHIK-422222

DEPARTMENT OF ELECTRICAL ENGINEERING

SAVITRIBAI PHULE PUNE UNIVERSITY ACADEMIC YEAR:2017-2018

Project Progress Report

On

Solar System Design Operation and Installation

by

Ms. Shradha. T. Gajare [Exam Seat No. B121142510]

Under the guidance

Of

Prof. Mr. R. C. Karpe

Jawahar Education Society's

Institute of Technology, Management and Research, Nashik-422222

Department of Electrical Engineering

Savitribai Phule Pune University

Academic Year:2017-2018

Jawahar Education Society's
Institute of Technology,Management & Research,Nashik
Approved by AICTE and DTE,Goverment of Maharashtra, Affiliated to University of Pune

CERTIFICATE

This is to certify that following student from **Final Year Electrical Engineering** have successfully completed their project work for semester-II on **Solar System Design Operation and Installation** at Jawahar Education Societys Institute of Technology, Management and Research. Nashik in the partial fulfilment of the Bachelors Degree in Electrical Engineering in the academic year 2016-17.

Ms. Shradha.T.Gajare [Seat No. B121142510]

(Prof. H. K. Nambiar)
External Examinar

(Prof. A. S. Karpe)
Project Guide

(Prof. A. S. Karpe)
Poject Coordinator

(Prof. Mrs. S. A. Thete)
Head Of The Department

(Prof.Dr. M. V. Bhatkar)
Principal

Nashik Plant

BOSCH

TO WHOM SO EVER IT MAY CONCERN

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HRL

10.05.2018

CERTIFICATE

This is to certify that Ms. Shradha Trymbak Gajare student of JIT College, Nashik was engaged as Project Trainee at Bosch Ltd. Nashik, from 01.08.2017 to 10.05.2018 and has worked on the project – **"Solar System Design, Operation and Installation"** under the guidance of Mr. Anil Auradkar– Deputy General Manager, Technical Engineering Functions.

We wish her success in her future endeavours.

Yours sincerely,
For Bosch Limited,

Anil Auradkar
Deputy General Manager
Technical Engineering Functions

Sneha Oak
Deputy Manager
Human Resources

Chapter 1

Introduction

The sources of conventional and non-renewable energy such as coal, petrol, diesel etc. are diminishing continuously on Earth, the formation of which is a long process. Hence a need for alternative energy sources was felt such as Wind energy, Bio-energy, Solar energy. These are called as non-conventional or renewable energy sources. Solar energy, which is abundant in nature and free of cost, is considered to be the best and most popular one.

When people think about alternative or renewable energy, the first image that comes to mind is often large blue or black solar panels on rooftops or portable highway signs that have a small panel attached. These solar panels, also known as photovoltaic modules (or PV modules), convert sunlight into electricity, and they have been the backbone of renewable energy for decades. The electricity so obtained can directly be used to charge the batteries used for various appliances. The Photovoltaic Effect (how sunlight is converted into electrical energy) was discovered over a hundred years ago. Yet widespread implementation of this technology has been very gradual. Only in very recent years has photovoltaics gained wide popularity as an alternative way to produce electricity.

Photovoltaics were initially solely used as a source of electricity for small and medium-sized applications, from the calculatorpowered by a single solar cell to remote homes powered by an off-grid rooftop PV system. Commercial concentrated solar power plants were first developed in the 1980s. The 392 MW Ivana installation is the largest concentrating solar power plant in the world, located in the Mojave Desert of California.

A typical photovoltaic system employs solar panels, each comprising a number of solar cells, which generate electrical power. PV installations may be ground-mounted, rooftop mounted or wall mounted. The mount may be fixed, or use a solar tracker to follow the sun across the sky. Solar PV has specific advantages as an energy source: its operation generates no pollution and no greenhouse gas emissions once installed, it shows simple scalability in respect of power needs and silicon has large availability in the Earths crust.

The large magnitude of solar energy available makes it a highly appealing source of electricity. Solar technologies are characterized as either passive or active depending on the way they capture, convert and distribute sunlight and enable solar energy to be harnessed at different levels around the world, mostly depending on distance from the equator. Although solar energy refers primarily to the use of solar radiation for practical ends. all renewable energies, other than Geothermal power and Tidal power, derive their energy either directly or indirectly from the Sun.

Active solar techniques use photovoltaics, concentrated solar power, solar thermal collectors, pumps, and fans to convert sunlight into useful outputs. Passive solar techniques include selecting materials with favorable thermal properties, designing spaces that naturally circulate air, and referencing the position of a building to the Sun. Active solar technologies increase the supply of energy and are considered supply side technologies, while passive solar technologies reduce the need for alternate resources and are generally considered demand side technologies.

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Seminars/Workshops/Expert Lectures to Promote Research Activities

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JIT JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

Jawahar Education Society's
Institute of Technology, Management & Research, Nashik
Department of Mechanical Engineering

Ref. No.:- JIT/Mech/2017-18/02 Date – 22/01/2018

To,
The Principal,
JIT, Nashik

Sub – Approval for Seminar on 'How to write Research Paper'

Respected Sir,

We, Mechanical Department, planning to organize two hours seminar program on the subject **'How to write Research Paper'** on 25/01/2018 for T.E& B.E students which will help them to be confident & successful in their professional career. Seminar will be delivered by Dr.Sandipkumar Sonawane .

We request your approval to conduct the same.

Thanking You,

Yours Sincerely,

Prof. D.S.Bedse
Mechanical Department

Respected sir,
forwarded for your consideration.
22/01/2018

ok

Jawahar Education Society's Institute of Technology, Management and Research, Nashik
Mechanical Engineering Department

Jawahar Education Society's
Institute of Technology, Management & Research, Nashik
Approved by AICTE and DTE, Goverment of Maharashtra, Affiliated to University of Pune

Ref: JIT/Mech/03/2017-18

Date – 18/01/2018

To,
Prof. Sandip B.Sonawane
NDMVP,
Nashik

Subject: – Invitation for Expert Lecture on "How to write Research Paper"

Dear Sir,

Jawahar Education Society's Institute of Technology, Management and Research, Nashik is providing Bachelor's Degree in Engineering Mechanical, Civil, Electrical, Computer, and E& TC.

Department of Mechanical has planned to organize Expert Talk on the topic "**How to write Research Paper**" on 25/01/2018 for Third year & final year student which will help them in their professional carrier.

We invite you for the same in our college.

Thanking You,

Yours Sincerely,

Prof. D. R. Patil
Head of Mechanical Department

Head
Department of Mechanical Engineering
Institute of Technology, Management & Research
Nashik.

Jawahar Education Society's ★ Institute of Technology, Management and Research, Nashik ★
Mechanical Engineering Department

Mechanical Engg. Dept.
Date: 22/01/2018

To,
The Principal
J.E.S.I.T.M.R. Nashik

Subject: - Permission for Seminar hall.

Respected Sir,

With reference to above mentioned subject Mechanical Engg. Students Association have proposed to arrange two hours seminar program on the subject **"How to write Research Paper"** on 25/01/2018 for T.E & B.E students in the seminar hall., we request you to permit us for Seminar hall & PA System.

Thanking you.

Yours sincerely,

Prof. D.S. Bedse
(MESA Coordinator)

Respected Sir,
Forwarded for your consideration,
22/01/2018

ok, permitted
22/1/2018

Jawahar Education Society's Institute of Technology, Management and Research, Nashik
Mechanical Engineering Department

JIT
Jawahar Education Society's
Institute of Technology, Management & Research, Nashik
Approved by AICTE and DTE, Government of Maharashtra. Affiliated to University of Pune

Department Of Mechanical Engineering

Mechanical Engineering Students Association

MESA

Date: - 23/01/2018

Notice

All student of Mechanical Engineering are here by informed that the MESA committee has organize two hours seminar on subject **"How To Write Research Paper"** on **25/01/2018 at 10AM (Seminar Hall)** for Mechanical student which help them to be confident & successful in their professional career. Seminar will be delivered by Dr. Sandipkumar Sonawane. So all student are requested to present on time.

Note: Attendance is compulsory.

Faculty Advisor
Prof. D. B. Bedse

Prof. D. R. Patil
HOD Mechanical

Head
Department of Mechanical Engineering
Institute of Technology, Management & Research
Nashik.

Jawahar Education Society's Institute of Technology, Management and Research Nashik
Mechanical Engineering Department

Date – 22/01/2018

To,
The Principal,
JIT, Nashik

Sub – Approval for sanction Cash from MESA Account.

Respected Sir,

We, Mechanical Department, planning to organize two hours seminar program on the subject **'How to write Research Paper'** on 25/01/2018 for T.E& B.E students. Seminar will be delivered by Dr.Sandipkumar Sonawane. We will give them remuneration in form of cash Rs. 1000/- I kindly request you please sanction the amount from MESA account.

Thanking You,

Yours Sincerely,

Prof. D.S.Bedse
Mechanical Department

Respected sir
forwarded for your remarks,
please permite for the same
22/01/2018

OK
22/1

Jawahar Education Society's Institute of Technology, Management and Research, Nashik
Mechanical Engineering Department

JIT
JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

Jawahar Education Society's
Institute of Technology, Management & Research, Nashik
Approved by AICTE and DTE, Government of Maharashtra, Affiliated to University of Pune

Ref: JIT/Mech/04/2017-18

Date – 25/01/2018

To,
Mr. Sandip B. Sonawane
NDMVP College.
Nashik

Dear Sir,

We would like to take this opportunity to express our gratitude and sincere thanks for accepting our invitation for seminar on **"How to Write Research Paper"** in department of Mechanical Engineering at **JAWAHAR EDUCATION SOCIETY'S , INSTITUTE OF TECHNOLOGY , MANAGEMENT & RESERCH , NASHIK** on 25/01/2018.

We are looking forward for the similar support in future.

Yours Sincerely,

Prof. D. R. Patil
Head of Mechanical Department

Jawahar Education Society's ★ Institute of Technology, Management ★ Nashik
Mechanical Engineering Department

Head
Department of Mechanical Engineering
Institute of Technology, Management & Research
Nashik.

Jawahar Education Society's

Institute of Techonology, Management and Research, Nashik

Third Year — Seminar Attendance — Date: 25/01/2018

Time: 10.00 to 1:00

Sr. No	Name of Student	Sign	Sr. No	Name of Student	Sign
	Division - A			Division - A	
1	Ahire Dhanraj Santosh		31	Dhangar Jayesh Dnyaneshwar	
2	Ahire Vaibhav Dinanath		32	Dhogade Avinash Balu	
3	Ahirrao Shubham Badrinath		33	Dhongade Prathamesh Krushna	
4	Amod Arun Deshpande		34	Dixit Sarang Subash	
5	Aringale Prashant Arun		35	Dode Rohit Sudhakar	
6	Bacchav Rohit Pundalik		36	Gambhaire Kiran Pandharinath	
7	Bafna Mayur Dilip		37	Gandle Pranjal Anil	
8	Bagul Hrishikesh Vikas		38	Garud Gaurav Ashok	
9	Bahirkar Mahesh subhash		39	Gharate Sushant Suresh	
10	Balak Amit Rajendra		40	Gokul. R .Gathod	
11	Bavisane sandesh ashok		41	Gosawi Swapnil Rajendra	
12	Belekar Avinash Ashok		42	Hire Bhushan Subhash	
13	Bhagat Vaibhav Rajesh		43	Jadhav Akshay Rajendra	
14	Bhamare Bhushan Manik		44	Jadhav Akshay vishnu	
15	Bhamare Roshan Prabhakar		45	Jadhav Ketan Shantaram	
16	Bhamre Prafulla Pitambar		46	Jadhav Mayur Bapu	
17	Bhandarkar Ganesh Sanjay		47	Jagtap Prashant Jayvant	
18	Bhandure Gurav Madan		48	Jagtap Yash Sandip	
19	Bhusari Shubham Rajendra		49	Jahagir Tanvir Shamirulla	
20	Chaudhari Amol Bharat		50	Jandhade Sandip Suresh	
21	Chaudhari Kiran Jayram		51	Jethlani Yash Raju	
22	Chaudhari Prakash Kisan		52	Kadam Rohan Pandurang	
23	Chavan Pranav Jagdish		53	Kalamkar Amol Dhanaji	
24	Darade Ganesh Mahadu		54	Kale Kalpesh Kiran	
25	Darade Mayur Ashok		55	Kankarej Akshay Nandkumar	
26	Desale Devendra Girish		56	Kasar Shubham Shirish	
27	Desale Pratik Sayyajiroa		57	Kashid Sweta Jayram	
28	Deshmukh Nilesh Laxman				
29	Deshmukh Shubham Pradeep				
30	Deshpande Sumit Vijay				

Seminar coordinator

Jawahar Education Society's Institute of Technology, Management and Research, Nashik — Mechanical Engineering Department

Jawahar Education Society's

Institute of Techonology, Management and Research, Nashik

Third Year **Seminar Attendance** **Date:** 25/01/2018

Division - B

Sr. No	Name of Student	Sign
1	Katad Ajay Kacharu	
2	Kazi Tausif Akhlaque	
3	Khaire Ganesh Somnath	
4	Khairnar Tushar Sanjay	
5	Kothawade Mayur Prakash	
6	Lokhande Suraj Rajendra	
7	Mahale Rushikesh Rajendra	
8	Mande Ajinkya Girish	
9	Metkar Jitesh Dhananjay	
10	More Amit Trimbak	
11	Nagare Mahesh K.	
12	Nandan Hitesh Ramesh	
13	Nikam Abhilash Sanjay	
14	Nikam Gaurav Sanjay	
15	Nikam Saurabh Sahebroa	
16	Nimse Pankaj Suresh	
17	Pagar Dnyaneshwar Sambhaji	
18	Pagar Pratik Devidas	
19	Palde Akash Sharad	
20	Pardeshi Akhileshsingh M.	
21	Patel Ruchir Hitesh	
22	Pathan Saifalikhan Asifkhan	
23	Pathan Wasif Gulnawaz	
24	Patil Akshay Narayan	
25	Patil Harish Vinayak	
26	Patil Piyush Dhanraj	
27	Patil Prasanna Vasant	
28	Patil shubham shaligram	
29	Patil Tushar Vilas	
30	Patil vishal Bhagwat	

Division - B

Sr. No	Name of Student	Sign
31	Patole Vikram Popat	
32	Pawar Chetan	
33	Pawar Pravin Rajendra	
34	Pekhale Sachin Ramdas	
35	Pradhan Rajesh Sudhakar	
36	Rajole Rohit Sanjay	
37	Ratnaparkhi Abhisek Bharat	
38	Sable Sahil Vijay	
39	Satpute Shubham Sanjay	
40	Sawant Chetan Laxman	
41	Sayyad Sameer Naziralli	
42	Shaikh Waqar Javid	
43	Shinde Kiran Sukdev	
44	Shinkar Jayesh Vasudev	
45	Shirsath Ajay Dattatraya	
46	Sigwan shamidha vidhoba	
47	Sonar Nishant Suresh	
48	Surse Sumit Ashok	
49	Surve Akshay Hemant	
50	Suryanwanshi Mayur A.	
51	Suryawanshi Shubham Murari	
52	Thakare Pankaj dilip	
53	Thete Roshan Arjun	
54	Thete Shubham Uttam	
55	Ugale Yogesh Shivaji	
56	Waghmare Vaishalee Vasant	
57	Wani Shubham Anil	

Seminar coordinator

Jawahar Education Society's Institute of Technology, Management & Research

Mechanical Engineering Department

Jawahar Education Society's
Institute of Techonology, Management and Research, Nashik
Dept. of Mechanical Engineering

Final Year [B. E] *Attendance of seminar* *Date:* 25/01/2018

REGULAR (B.E-A) Student List

Roll No.	Name of the student	Sign
1	Ahire Ankit Bhaskar	
2	Ahire Shubham Karbhari	
3	Badade Rahul Ramnath	
4	Badgujar Pritesh Anil	
5	Bavsar Aditya Rajendra	
6	Bhamare Tejas murlidhar	
7	Bharote Shreyash Sunil	
8	Bhor Amol Punjaram	
9	Chavan kushendra raju	
10	Dashpute Tejas Govind	
11	Date Sagar Arjun	
12	Deshpande Shreyash Shriram	
13	Dhongale Yogesh Sanjay	
14	Gangurde Vivek Dilip	
15	Gaurav Kailas Maind (P)	
16	Gaurav Vaibhav Vijay	
17	Gavali Nilesh Madhukar	
18	Ghule Akshay Balasaheb	
19	Girase Chetan Ranjitsing(P)	
20	Gore Sagar Balasaheb	
21	Hingmire Swapnil Nanadkumar	
22	Jadhav Aniket Gopal	
23	Jawale Shubham Sunil	
24	Junnarkar Amol Santosh	
25	Kakade Sagar Prabhakar	
26	Kapse Swapnil Dattatray	
27	Khairnar Akash Anil	
28	Kharas Ajinkya Pandharinath	
29	Kukkar Tushar Manoj	
30	Londhe Tushar Namdev	
31	Mahajan Akshay Shrikant	
32	Mande Purnima Yashwant	
33	Mohite Akshay Vikram	
34	Muley Gaurang Rajendra	
35	Nishad Ramniwas Ramesh	

REGULAR (B.E-B) Student List

Roll No.	Name of the student	Sign
36	Pandey Abhishek Ramvilas	
37	Patel Raj Shashikant	
38	Patil Diwan Rajendra	
39	Patil Ganesh Khandu	
40	Patil Harshal atmaram	
41	Patil Karan Sunil	
42	Patil Ketan Kishor	
43	Patil Piyush Liladhar	
44	Patil swapnil kantilal	
45	Patkar Dipak Sanjay	
46	Patre Rohan Laxmikant	
47	Pawar Darshan Arun	
48	Phalgune Ghanshyam Prakash	
49	Rajole Suraj Dilip	
50	Ranmale Anil Gulab	
51	Rao Amol Gokul	
52	Sawant shubham sanjay	
53	Sayyad Affan Mustaque	
54	Sharma Aatish Tarachand	
55	Shejwal Amol Dilip	
56	Shimpi Krushnaji Prabhakar	
57	Shinde Satyajit Vijay	
58	Shinde Shriniwas Vasantrao	
59	Sonawane Harshal Vijay (P)	
60	Sonawane Mayur Sanjay	
61	Suryawanshi Sagar Ramesh	
62	Thombare Nikhil Nandkumar	
63	Ugle Mohini Raghunath	
64	Uglemugale Dhiraj Pandharinath(P)	
65	Vidhate Vinit Sahebrao	
66	Wade Rohan Atul	
67	Wagh Nikhil Sanjay	
68	Yadav Abhishek Devesh	
69	Yadav Ajit Subhash	
70	Zawar Parimal Ramnivas	

Seminar Coordinator

Jawahar Education Society's Institute of Technology, Management and Research Mechanical Engineering Department

Jawahar Education Society's
Institute of Technology, Management & Research, Nashik
Approved by AICTE and DTE, Government of Maharashtra, Affiliated to University of Pune

Feedback Form

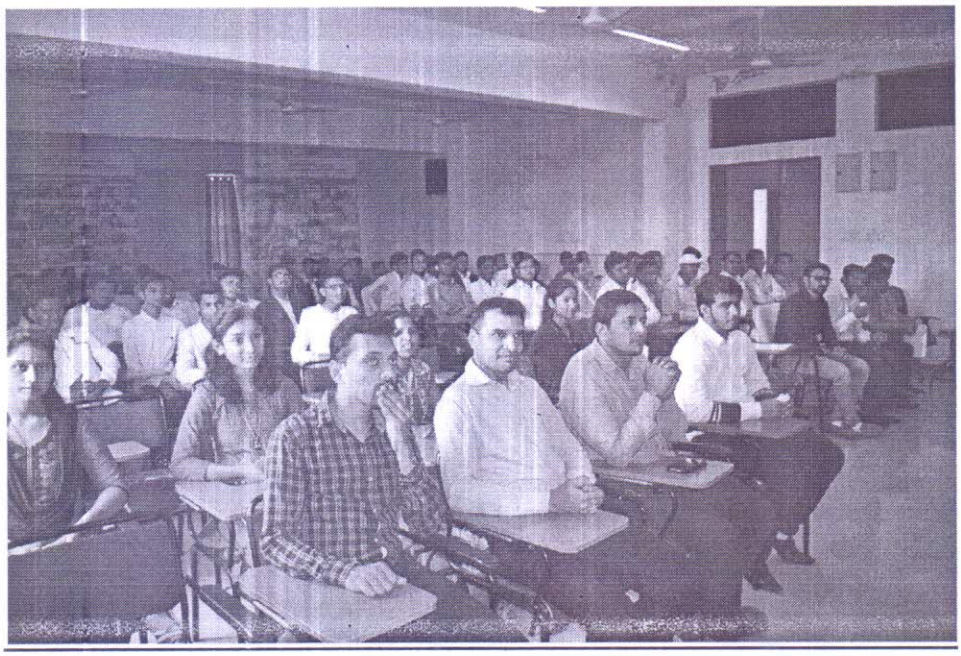
PARTICIPANT INFORMATION	
Name(Optional): _____ **Seminar on :** How to write Research paper **Date :** 25/01/2018	
Seminar/ Expert Talk/ Workshop Evaluation	
We appreciate your help in evaluating this program. Please indicate your rating of the presentation in the categories below by tick mark(√) the appropriate number	
	Comments
1. The seminar administration :	☑ Excellent ☐ Good ☐ Average
2. The seminar facilities and location :	☑ Convenient ☐ Non-Convenient
3. The seminar content, material presented	☑ Excellent ☐ Good ☐ Average
4. The presenter responded to questions :	☑ Satisfactory ☐ Not Satisfactory
5. Handouts (if provided) :	☐ Useful ☐ Not Useful
6. Overall, the session :	☑ Excellent ☐ Good ☐ Average
7. In what ways could this seminar have been improved to better suit your needs?	use full for Academic project
8. Please suggest other workshops /seminars that would be useful to University and researchers.	—
Thank you. Please return this form to the facilitator.	

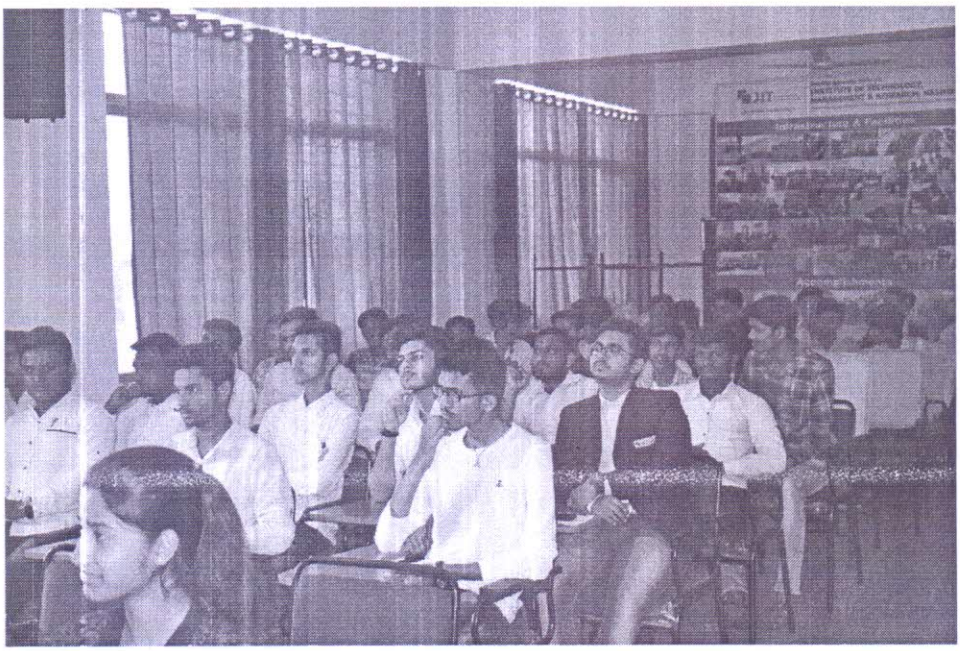
Jawahar Education Society's
Institute of Technology, Management and Research
Mechanical Engineering Department

A Seminar on "How to Write Research Paper"	
Event Topic	**A Seminar on "How to Write Research Paper"**
Event Date	25/01/2018
Event Day	Thursday
Event Time	10 am to 1 pm
Event Duration	1 Day's
Resource Person Name	Prof. Sandipkumar B. Sonawane
Agency/Organization of resource	NDMVP , Nashik
Class and No of Students participated	TE and BE. Mechanical Engg. (134)
Name of staff coordinator	Prof. D.S. Bedse
Name of Department	Department of Mechanical Engineering
Summary of Programme	Mechanical Engineering Department arranged two hours seminar on "How to write research paper" for TE and BE student.
Objective of Programme	To provide knowledge related research methodology To Increase research paper writing skill
Outcomes of Programme	Provides technical knowledge related to research methodology. Provide paper writing skill to student.

Jawahar Education Society's Institute of Technology, Management and Research
Mechanical Engineering Department

Seminar on "How to Write Research Paper"





Jawahar Education Society's
Mechanical Engineering Department
Institute of Technology, Management & Research, Nashik

Head
Department of Mechanical Engineering
Institute of Technology, Management & Research
Nashik.

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Appreciation Letters to Teachers

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

JIT JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NASHIK.
(Approved by AICTE, New Delhi, DTE, Government of Maharashtra, Affiliated to Savitribai Phule Pune University)

Ref. No.JES/ ITMRN/NPTEL Corr./ 2018-19/4662 *Date: 27/12/2018*

Appreciation Letter

To,
Mr. SHARAD BHAGWAN PATIL
Department of Computer Engineering

Subject – Appreciation letter

Dear Sir,

We believe upon each employee to perform their duties to the best of their abilities in order to keep our work environment a positive and productive one.

We would like to extend our appreciation for the amazing work done by you and showing very good efforts in NPTEL Certification examination in October 2018 for course ***Programming in C++*** *with* score 71%.

We would like to put on record your appreciation for this and sure that this will not only continue but will grow in days to come.

Prof. S.M. Deshmukh
NPTEL Coordinator

Jawahar Education Society's Institute of Technology, Management and Research NASHIK

Dr. M. V. Bhatkar
Principal

Survey No. 48, Near Gangapur Dam, Gangapur Road, Nashik - 422 222
Tel. : 0253 - 2970076, Fax : 0253 - 2970078
Website: www.jitnashik.edu.in Email: principaljitnashik@rediffmail.com

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

MoU/Collaborations/Linkages

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

JIT JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NASHIK.
(Approved by AICTE, New Delhi, DTE, Government of Maharashtra, Affiliated to Savitribai Phule Pune University)

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") is made on 20/01/2022.

Between

Visionary Technologies Pvt.ltd. a company registered under the Companies Act, 1956 and having its plant at 4th street, B-11, A - Rd, NICE Area, MIDC, Satpur Colony, Nashik, Maharashtra 422007, Maharashtra , India (hereinafter called **"VISIONARY "** which expression unless it be repugnant to the subject or its context includes their successors and assigns) of the FIRST PART.

And

Jawahar Education Society's Institute of Technology, Management & Research, Nashik (hereinafter called as **"JIT College"** which expression unless it be repugnant to the subject or its context includes their successors and assigns) of the SECOND PART.

(VISIONARY and College are hereinafter individually referred to as **"Party"** and collectively referred to as **"Parties"**)

Terms and Conditions:

1. **Duration**
   This MOU shall be valid for Five (5) years from 21 January, 2027 and thereafter it may be renewed on mutually agreed terms.

2. **Purpose**
   This MOU is for collaboration between the parties for mutual benefit wherein VISIONARY an organization that has built its core competence in Leveraging technical proficiency, They have developed their expertise in Automation Products & Services like PLC and SCADA Services, Electrical Control Systems, CCTV Security Systems, PLC, HMI, SCADA programming. These products and services are delivered to their clients based on sufficient Industrial Automation experience & technical knowledge that ensures complete accuracy. The Company would be providing technical, skill development related training at the plant and or at a training facility to the students, Faculty of the College in order to enhance the quality of the educational experience of the students and Faculty, exchange of experts for seminars, workshops, Projects for the students, field visits to the plant for faculty and students, On-job training, apprenticeship to students, recruitments and any research and development activity related to the above.

3. College's Standards of Performance:

College shall expend reasonable efforts as follows:

- College shall provide necessary infrastructure like Computers with necessary legal software & hardware configuration, Labs, Class rooms, Electricity, UPS, and Internet etc. as may be required for carrying out technical training, Project work and such other agreed training at College premises.

- College shall share the data base of the students with VISIONARY for the adequate promotion of the training and or recruitments.

- College shall provide all such marketing and publication support as may be required to ensure sufficient number of students for the training, recruitment to be conducted at the company premises /plant or College premises.

- College and or the company shall extend all such necessary co-operation for smooth conduct of above mentioned activities and training.

4. VISIONARY 's Standard of Performance:

VISIONARY shall expend reasonable efforts as follows:

- VISIONARY shall provide training, plant visit permissions in such areas as may be mutually agreed between the parties, more particularly described in this agreement.

- VISIONARY shall provide experts for the conduct of training at the Plant and or at the College premises.

- VISIONARY shall provide College /students with the study material as agreed between the parties and the College shall use these as per VISIONARY's guidelines and policies.

- VISIONARY shall provide certificates/ completion letter to all students who have successfully completed the training, projects conducted at VISIONARY or at the College premises.

5. Mutual Obligations:

- Both the parties shall appoint one person as one point of contact for smooth execution of the MOU.

- This collaboration shall not be exclusive to both parties and shall not disallow each party from having similar collaboration with others. Except as expressly stated in this MOU, there shall be no obligation on any party to compensate the other in any manner or to make any claim.
- Each party shall respect the other's intellectual property and shall use any trade name, trade mark, logo, symbol or designation belonging to the other party in accordance with this MOU.
- Nothing contained in this MoU shall be construed as resulting in the creation of a relationship of employer and employee or principal and agent between VISIONARY and College. VISIONARY and College are not authorized to make any representation, contract, or commitment on behalf of College / VISIONARY without the prior written consent of other party.
- The decision regarding introduction of new course, revision in fees etc. shall be mutually taken by both the parties.

6. Limitation and Warranties:

- Each party shall ensure that the other is not put to any liability for any act of the respective party under this MoU.
- Each party represents that they have full power and authority to enter into this MOU in general.

7. Commercials:

- VISIONARY & College can design training programs, events on mutual understanding and decide fees if any to be charged to the students.
  The training, field visit shall be conducted at the VISIONARY facility in a time bound manner as per availability and schedule at VISIONARY.

8. General:

- Both the parties may receive information proprietary to other party (the "Confidential Information") in the course of performance of their obligations under this MOU. Confidential Information is not meant to include any information which (a) is publicly available (b) is rightfully received by the parties from third parties without accompanying secrecy obligations; (c) is already in either party's possession and was lawfully received from sources other than the parties or (d) is independently developed by the parties. The two bodies understand and acknowledge that the Confidential Information is valuable and confidential and agrees that it will at all times be kept in trust, to be disclosed only to such persons as have a "need to know" the same for the effective implementation of this MOU and that it will only be used by the parties for the benefit of others.

- Both the parties understand and agrees that all written or other tangible data and documentation developed or procured by the other party in performing its obligations under this MOU, whether in printed or electronic form, belongs

to other party and that other party will have all rights, title and interest therein.

- Both parties shall not use the name and brand of the other party in any advertisement or make any public announcement without the prior written approval of the other.
- The College shall only have the right to accept and implement the syllabus/curriculum as per the advice of the statutory bodies of the College.
- Each party shall be at liberty to terminate this MOU with a written notice period of one (1) month to the other party without any compensation and seeking legal redress.
- Any and all disputes or differences between VISIONARY and College arising out of or in connection with this MoU or its performance shall, so far as it is possible, be settled by negotiations between the Parties amicably through consultation & understanding.

- **Indemnification :**

  Both the parties shall indemnify and hold each other harmless from and against any claim, loss, liability, or expense, including, but not limited to, damages, patent and trademark infringement, costs and attorneys' fees, arising out of or in connection with any acts or omissions of their agents or employees.

- **Copyrights and Ownerships:**

  - All the course material/ courseware/ books and such other training material provided by VISIONARY and allowed for distribution are its sole property (hereinafter referred as "Training Material").

  - College and/ or its employees, consultants etc. shall not claim ownership of such course material/ courseware/ books etc. or its customization.

  - Intellectual Property Rights i.e. copyrights, trademarks, patents etc. of Training Material, any changes, enhancements, upgrades, customization etc. shall always remain with VISIONARY.

  - Any changes in implementation procedures which are not as per the present MoU will be discussed and will be incorporated in agreement with two parties.

In witness whereof, both parties put their hard seal on the day, month and year herein mentioned.

IN WITNESS WHEREOF, to show their assent, the duly authorized representative of the parties hereto have signed the Agreement and set their seals as below:-

Signed for and on behalf of for

Visionary Technologies Pvt.ltd.

Mr. Santosh Binnor

(Director)

Signed for and on behalf of for

J.E.S.I.T.M.R, Nashik

Dr. M.V.Bhatkar

Principal

PRINCIPAL
Jawahar Education Society's
Institute of Technology, Management
and Research, Nashik

Sign

Witness :

1] Ramchandra Patil

2] Prof.S.A.Thete. HOD Electrical Engg. Department J.E.S.I.T.M.R, Nashik

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding [MOU] is made

Between

Jawahar Education Society's Institute of Technology, Management & Research College, Nashik

AND

Akshay Study Abroad Consultants,

W-3/4, Chandan Apartments, D'Souza Colony, Off College Road, Nashik

JIT, Nashik and **Akshay Study Abroad Consultants, Nashik** hereinafter individually referred to as **" PARTY "** and collectively referred to as **" PARTIES "**

Jawahar Education Society's Institute of Technology, Management and Research, NASHIK

Jawahar Education Society's Institute of Technology, Management and Research, Nashik
Electrical Engineering Department

Terms and Conditions :

[1] Duration: This MOU shall be valid for 03 year from 05/01/2019 and thereafter it may be renewed on mutually agreed terms.

[2] Purpose: This MOU is for the collaboration between the parties for mutual benefit.

Where

AKSHAY STUDY ABROAD CONSULTANTS will provide

[i] Expert talks/ informative seminars/ counseling sessions/ guest lectures to the faculty members and students about:

a) Education opportunities abroad in different countries
b) Process for applying to universities/ colleges abroad
c) Information about requisite standardized tests

[ii] GRE/ IELTS/ TOEFL workshops for the students and faculty members.

[iii] Informative/ counseling sessions by delegates of foreign universities subject to their availability in Nashik

[iv] Informative/ counseling sessions/ workshops by executives/delegates of institutions such as British Council Division subject to their approval and availability in Nashik

[v] Interactive sessions with students and faculty members regarding students' life abroad by our alumni subject to their approval and availability in Nashik

[vi] Literature such as posters, banners, pamphlets, leaflets, etc for conveying relevant information

These activities would be conducted either through separate sessions for respective departments or through combined/ common sessions for all departments depending on the strength/ attendance of the participants and as mutually decided upon.

And

Jawahar Education Society's Institute of Technology, Management & Research College, Nashik shall provide

[i] Permissions and cooperation in such areas as may be mutually agreed between the parties, more particularly described in this agreement.

[ii] Seminar hall(s)/ counseling room(s)/ classroom(s) for conducting of the activities.

[iii] Facilities for conduct of the seminars/ sessions/ workshops viz. projector, computer systems, mice, tables, chairs.

[iv] Notice board(s)/ suitable space for display of literature such as posters, banners, etc.

[3] Mutual Obligations:

[i] Both the parties shall appoint one person as one point of contact for the smooth execution of MOU.

[ii] This collaboration shall not be exclusive to both the parties and shall not

disallow each party from having similar collaboration with others. Except as stated in this MOU, there shall be no obligation on any party to compensate the other in any manner or to make any claim.

[iii] Each party shall respect the other's Intellectual Property.

[iv] Nothing contained in this MOU shall be constructed as resulting in the creation of a relationship of both The Principal of JIT and Management of Akshay Study Abroad Consultants.
JIT and Akshay Study Abroad Consultants are not authorized to make any representation, contract or commitment on behalf of the Akshay Study Abroad Consultants/JIT without the prior written consent of the other party.

[4] Warranties:

[i] Each party shall ensure that the other party is not to put to any liability for any act of respective party under this MOU.
[ii] Each party represents that they have full power and authority to enter this MOU in general.

[5] Commercials:

[i] JIT and Akshay Study Abroad Consultants will design programs on mutual understanding and decide upon fees, if any, to be charged to the students.

[6] General:

[i] Both the parties may receive information proprietary to other party The "Confidential Information" in the course of performance of their obligations under this MOU. Confidential information is not to meant to include any information which is
[a] Publically available
[b] Is rightfully received by the parties from the third parties without accompanying secrecy obligations
[c] Is already in the party's possession and was lawfully received from sources other than the parties
d] Is independently developed by the parties.

[ii] The two bodies understand and acknowledge that the confidential information is valuable and confidential and agrees that it will all the times be kept in trust, to be disclosed to only such persons as have a "need to know " the same for effective implementation of this MOU and that it will only be used by the parties for the benefit of the others.

[iii] Both the parties understand and agrees that all written or all tangible area and documentation developed and procured by the other party in performing its obligations under this MOU, whether in printed or in electronic for, belongs to the other party.

[iv] Both the parties shall not use the name and brand of the other party in any advertisement or make any public announcement without the prior written approval of the other.

[v] Each party shall be at the liberty to terminate this MOU with a written notice period of one month to the other party without any compensation.

[vi] Any and all the disputes or differences between KKW and Akshay Study Abroad Consultants arising out of or in the connection with this MOU or its performance shall, so far as it is possible, be settled by negotiations between the parties amicably through consultation and understanding.

[7] Indemnification:

[i] Both the parties shall indemnify and hold each other harmless from and against any claim, loss, liability, or expenses, including , but not limited to damages, patent and trademark infringement, costs.

[ii] In witness thereof, both the parties put their hard seal on the day, month and year herein mentioned.

IN WITNESS WHEREOFF, to show their assent, the duly authorized representative of the parties here to have signed the Agreement and set their seals as below.

Jawahar Education Society's Institute of Technology, Management and Research NASHIK

Signed for and on behalf of for
Mr. Amit Gore
Founder Director
Akshay Study Abroad Consultants
W-3/4, Chandan Apartments,
D'Souza Colony, Off College Road,
Nashik - 422005

Signed for and on behalf of for
Dr. M. V. Bhatkar
Principal
JIT, NASIK

Witness: Mr. Hiren Panchwani
ASAC

Witness: Prof. S. A. Thete
HOD, (Electrical Engg)
JIT, Nasik

MEMORANDUM OF UNDERSTANDING

Between

Jawahar Education Society's Institute of Technology, Management & Research College, Nashik

AND

Akshay Study Abroad Consultants,

Jawahar Education Society's Institute of Technology, Management and Research, Nashik
Electrical Engineering Department

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Students Participations in ATV Championship, Smart India Hackathon,CSI etc.

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

ATV Championship Glimpses


NIKHIL
27


27


27


27

ASI-MAC2019-0230-1809

Autosports INDIA

fmsci
The Federation of Motor Sports Clubs of India

MEG ATV championship
An ISO 9001:2015 Off-Road Racing

Certificate Of Participation

This is to certify that **Nikhil thakur** of team **TEAM KRAZ** representing **Jawahar institute of technology, nashik** has participated* in the Mega ATV Championship Season-4 held from 18th March - 20th March 2019 at Pernem,Goa.

Ajit pandey. (Event Head),
Mega ATV Championship

Shri Jitendra Deshprabhu (Convenor),
Mega ATV Championship - IV

Mr. Ranjit sinha (National Head)
Briggs & stratton india

OYO

SML ISUZU

BRIGGS & STRATTON

HP

* Validity of this certificate is subject to online verification at certs.atvchampionship.com

Certificate of
PARTICIPATION

SMART INDIA HACKATHON 2020

SOFTWARE EDITION

Grand Finale
1st , 2nd & 3rd Aug. 2020

This Certificate is awarded to

Savita Dinesh Yadav

of team jitcoder

for participating in

"Smart India Hackathon 2020"

Certificate Uniqid: 149570087

Dr. Anil D. Sahasrabudhe
Chairman, AICTE
Chairman, Organizing Committee,
Smart India Hackathon 2020

Dr. Abhay Jere
CIO, MIC, MHRD
Organizing Committee,
Smart India Hackathon 2020

Dr. Anand Deshpande
Chairman and MD, Persistent Systems
Co-Chairman, Organizing Committee,
Smart India Hackathon 2020

Sh. Amit Khare
Secretary, Higher Education
Ministry of Education
Government of India

Partners cisco DEVNET intel KPIT | Communication Partner Suma Soft | Media Partner

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Financial Support to Students for Technical Activities

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

11th October 2018

To,
The Principal,
Jawahar Education Society's Institute of Technology, Management & Research, Nashik,
Nashik-422 222.

Subject: Participation at National level Mega ATV Championship 2019.

Respected Sir,

Mega ATV (All Terrain Vehicle) championship is a national level ATV racing championship for mechanical engineering students where the students all over India participate in the event representing their own vehicle which will be held on February 2019 at Goa, India. We are looking to raise an amount in order to further our cause of ATV Championship.

As much as we look forward to the success of this event, we would like our Institute to sponsor a partial amount for the event. We believe this shall create a positive image of our institute to the public.

The detail budget (Approx) is attached herewith for your kind reference and consideration.

Sincerely,

Team KRAZ
Participant in Organization
Mega ATV championship

Faculty Advisor 1
(Prof H. R. Mahale)

Faculty Advisor 2
(Prof V. A. Revaskar)

Team Captain
(Mr. Abhilash Nikam)

For approval,

Records
Cheque for
Rs. 1,00,000/-
27.12

Encl: Budget

Approved,
20.12.18

Respected Sir,
A team of the students are interested to participate at National level Mega ATV Championship. Approx. Budget is Rs. 476,153/-

2nd Jan, 2019

To,
The Principal,
Jawahar Education Society's Institute of Technology, Management & Research, Nashik,
Nashik - 422222.

Subject: Reimbursement of expenses for Mega ATV Championship 2019.

Respected Sir,

This is in reference with the amount raised by the students for Mega ATV Championship 2019.The submitted documentation constitutes expenditure incurred by the participants of TEAM KRAZ for carrying out their project work. The expenditure amounts to Rs 1,70,915 /-. So, in this regard we would like to request you to reimburse the amount.

The detail bill is attached herewith for your kind reference and consideration.

The Proceeds should be credited to:

Name of A/c Holder: **Piyush Dhanraj Patil**
A/C No: **36211170364**
IFSC No: **SBIN0010486**

Sincerely,

Team KRAZ
Participant in Organization
Mega ATV championship

Faculty Advisor 1

(Prof H. R. Mahale)

Faculty Advisor 2

(Prof V. A. Revaskar)

Team Captain

(Mr. Abhilash Nikam)

Encl: Bills

Accounts
Fund Cheque (one Lac)
2/1

Jawahar Institute of Technology,17-18
Servey No.27,Gowardhan,Gangapur Rd
Nashik.422013

1204

25/01/19

Payment Voucher

No. : **306** Dated : 11-Jan-2019

Particulars	Amount
Account :	
Mr. Piyush D. Patil	**1,00,000.00**

Through :
S.B.I , Gangapur, 32488114540

On Account of :
Being Ch. No. 323398 dtd.11-01-2019 issue to Mr. Piyush D. Patil towards Reimbursment of Expenses for Megha A TV Championship 2019 as per att. details.,

Amount (in words) :
INR One Lakh Only

₹ 1,00,000.00

Receiver's Signature:

Authorised Signatory

23/01/19

JIT JAWAHAR INSTITUTE OF TECHNOLOGY, NASHIK

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK
(Approved by AICTE, New Delhi, DTE, Government of Maharashtra, Affiliated to University of Pune

Date-04/02/2020

To
The Principal
JES'ITMR Nashik
Nashik 422222

Subject- Application requesting cheque of 40000/- to the team KRAZ.

Respected Sir,

I am Kunal more, a member of team KRAZ writing to request you to sponsor the registration fees of ATVC 2020, a national level event going to be held in Vadodara in the month of February 2020. The registration fees paid in two installments of 12,000/- and 28,000/- .The both the installments bill with registration form attached with the application.

So kindly request you to approve cheque on priority basis. I will be thankful to you.

Thanking you,

Yours sincerely
Kunal More
(BE Mech.)

Forwarded
To Head (mech)
04/02/2020

R/Sir
Handed application
to issue cheque of Rs. 40,000/-
against registration fees for
ATVC 2020 in the name of
Mr. Kunal More.
04/02/2020

Encl- 1. Copy of e-receipt of two installments.
2. Registration Bill.

A/C
For Cheque payment
with original
Receipt.
5/2/2020

INFI LEAGUE
MOTOR SPORTS

INFI LEAGUE MOTOR SPORTS
F 701, OBEROI SPLENDOR, J V LINK ROAD,
Opp. MAJAS DEPOT ANDHERI EAST MUMBAI
PAN-AAGF16532B
Phone: +91-7023184003
+91-7597867750
www.atvcofficial.in

NAME: Team Kraz

DATE: 23/11/19

Address: jawahar education society's institute of technology management and research ,Maharashtra

Bill No.: 108

S.No.	DETAILS	QTY	Price	Total
1	Registration Fees for ATVC 2020 Final amount	1	40,000	40,000
			GRAND TOTAL	40,000

Authorised Signature

Jawahar Institute of Technology,17-18
Servey No.27,Gowardhan,Gangapur Rd
Nashik.422013

Payment Voucher

No. : **327** Dated : **5-Feb-2020**

Particulars	Amount
Account :	
MR More Kunal Y. (Stud.)	**40,000.00**

Through :
S.B.I , Gangapur, 32488114540

On Account of :
Being Ch. No. 928136 Dtd 05-02-2020 Issue to Mr KUnal More Towards Registration Fees of ATVC 2020 (Team KRAZ) for College Purpose as per Att. Details

Amount (in words) :
INR Forty Thousand Only

₹ 40,000.00

Receiver's Signature:

Authorised Signatory

Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY,
MANAGEMENT & RESEARCH, NASHIK.

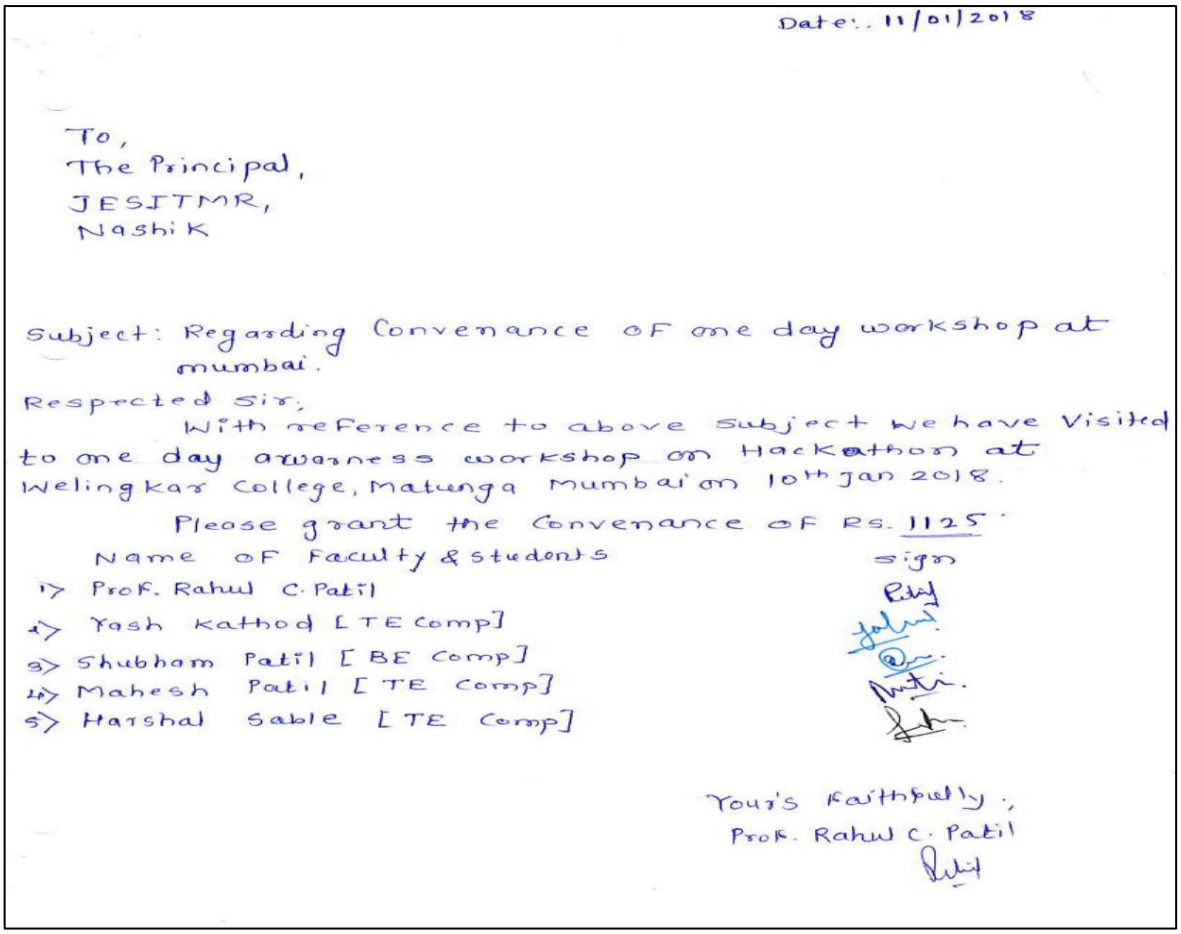
(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Financial Support To Staff for Attending Workshops/Seminars/ Conferences etc.

Survey No 48, Gowardhan, Gangapur Road,
Nashik - 422 222. Maharashtra, India
www.jitnashik.edu.in

1) Prof. R. C. Patil

In 2018, Institute has provided financial support to Prof. R. C. Patil for attending Workshop on Smart India Hackathon at Welingar College, Matunga, Mumbai.



Date: 11/01/2018

To,
The Principal,
JESITMR,
Nashik

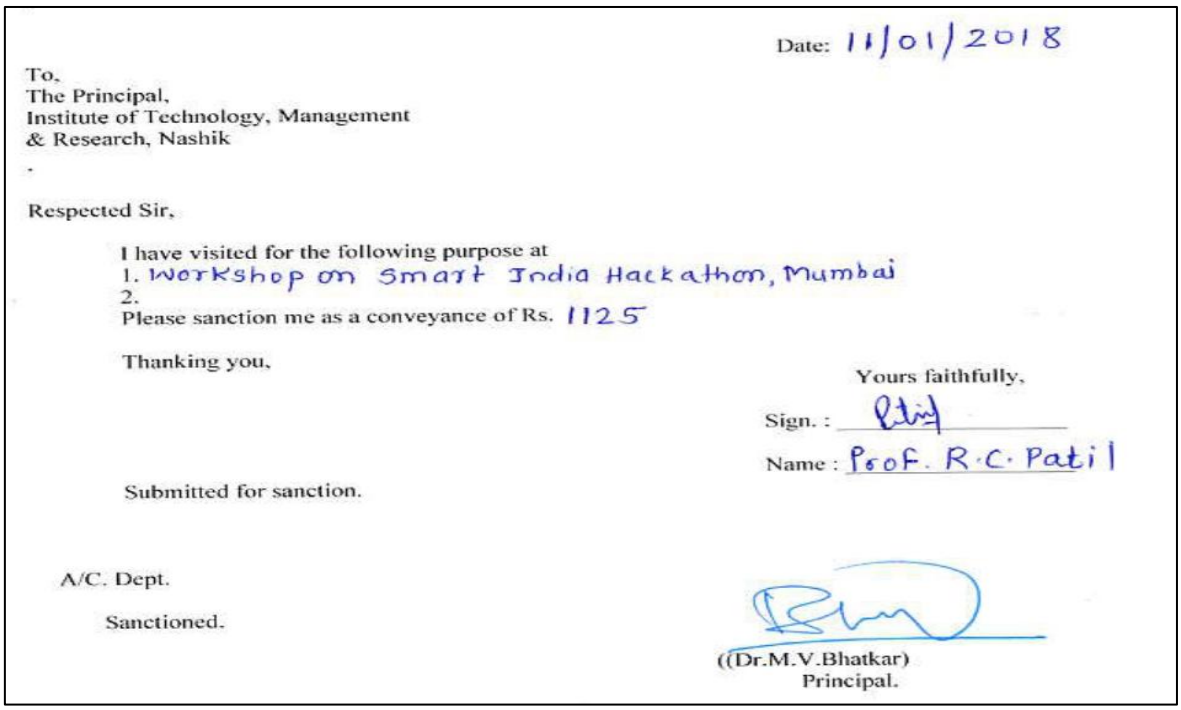
Subject: Regarding Convenance OF one day workshop at mumbai.

Respected Sir,
With reference to above subject we have Visited to one day awarness workshop on Hackathon at Welingkar College, Matunga Mumbai on 10th Jan 2018.

Please grant the Convenance OF Rs. 1125.

Name OF Faculty & students	sign
1> Prof. Rahul C. Patil	
2> Yash Kathod [TE Comp]	
3> Shubham Patil [BE Comp]	
4> Mahesh Patil [TE Comp]	
5> Harshal Sable [TE Comp]	

Your's faithfully,
Prof. Rahul C. Patil



Date: 11/01/2018

To,
The Principal,
Institute of Technology, Management
& Research, Nashik

Respected Sir,

I have visited for the following purpose at
1. Workshop on Smart India Hackathon, Mumbai
2.
Please sanction me as a conveyance of Rs. 1125

Thanking you,

Yours faithfully,
Sign. :
Name : Prof. R.C. Patil

Submitted for sanction.

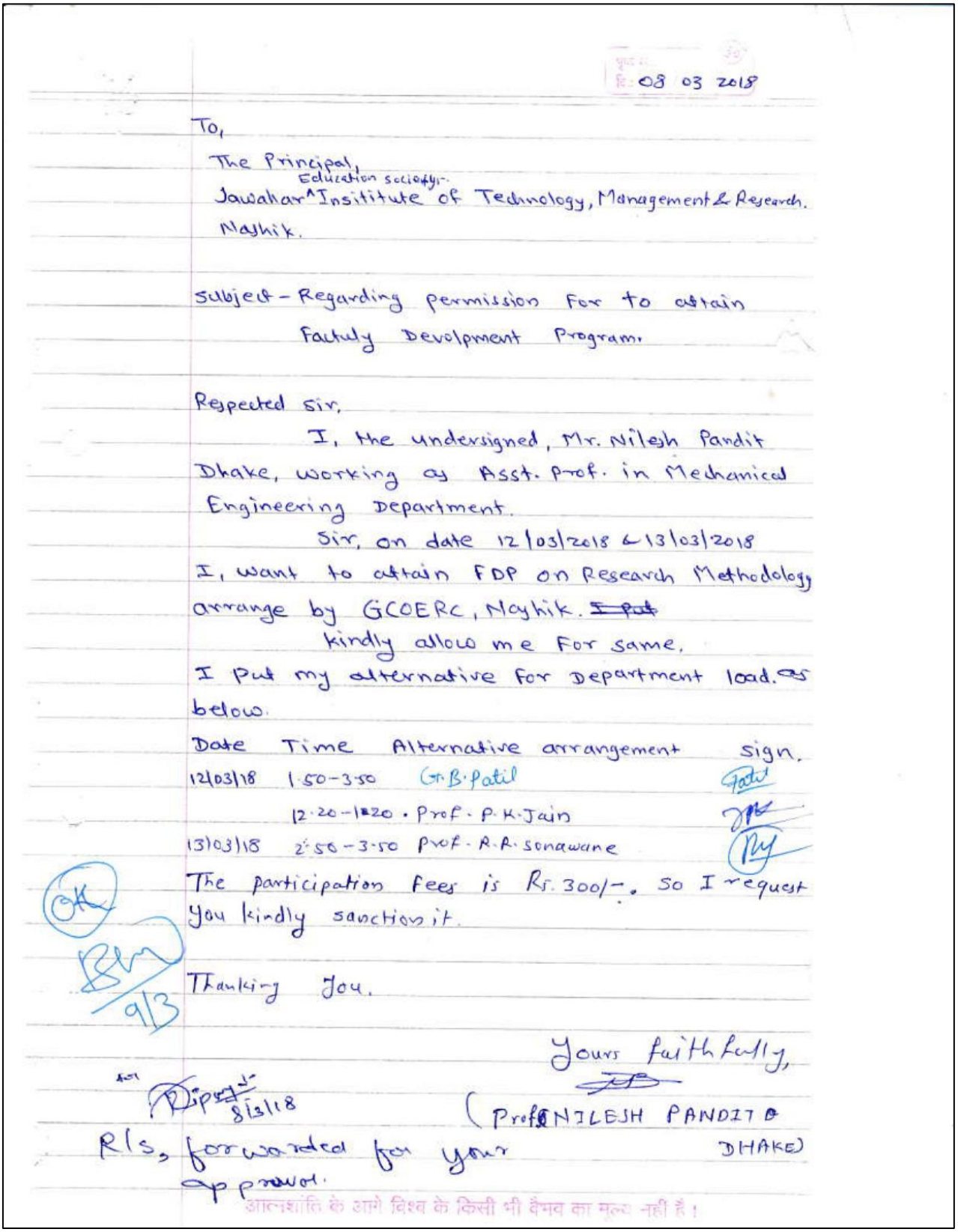
A/C. Dept.

Sanctioned.

((Dr.M.V.Bhatkar)
Principal.

2) Prof. N. P. Dhake

In 2018, Institute has provided financial support to Prof. N. P. Dhake for attending Faculty Development Programme for Research Methodology System Design at Guru Gobind Collge Nashik.



08 03 2018

To,

The Principal,
Education society's
Jawahar^Insititute of Technology, Management & Research.
Nashik.

Subject - Regarding permission For to attain
Factuly Develpment Program.

Respected sir,

I, the undersigned, Mr. Nilesh Pandit Dhake, working as Asst. Prof. in Mechanical Engineering Department.

Sir, on date 12/03/2018 & 13/03/2018 I, want to attain FDP on Research Methodology arrange by GCOERC, Nashik. ~~I Put~~
kindly allow me For same.

I Put my alternative for Department load. as below.

Date	Time	Alternative arrangement	sign.
12/03/18	1.50-3.50	Gr. B. Patil	Patil
	12.20-1.20	Prof. P. K. Jain	
13/03/18	2.50-3.50	Prof. R. R. Sonawane	

The participation fees is Rs. 300/-. So I request you kindly sanction it.

Thanking You.

Yours faithfully,

(Prof. NILESH PANDIT DHAKE)

8/3/18

Rls, forwarded for your approval.

आत्मशांति के आगे विश्व के किसी भी वैभव का मूल्य नहीं है।

To,
The Principal,
Institute of Technology, Management
& Research, Nashik

Date: 16/03/18

Respected Sir,

I have visited for the following purpose at Guru Gobind Singh College of Engg. & Research Center Nashik
1. 2 day workshop on Research methodology at GCOERC, Nashik
2.

Please sanction me as a conveyance of Rs. 300/-

Thanking you.

Yours faithfully,

Sign. :

Name : Prof. Nilesh Pandit Dhake.

Submitted for sanction.

A.C. Dept.

Sanctioned.

Registration fee Rs. 300/-

(Dr. M.V. Bhatkar)
Principal

No. 12/3/2018.

Date :

RECEIVED with thanks from Nilesh D. Dhake.

the sum of Rupees Three hundred only.

by cheque / draft / cash, in full / part / advance

payment of our Bill No. _____ Dated 12/3/18. / A/c of. _____

₹ 300/-

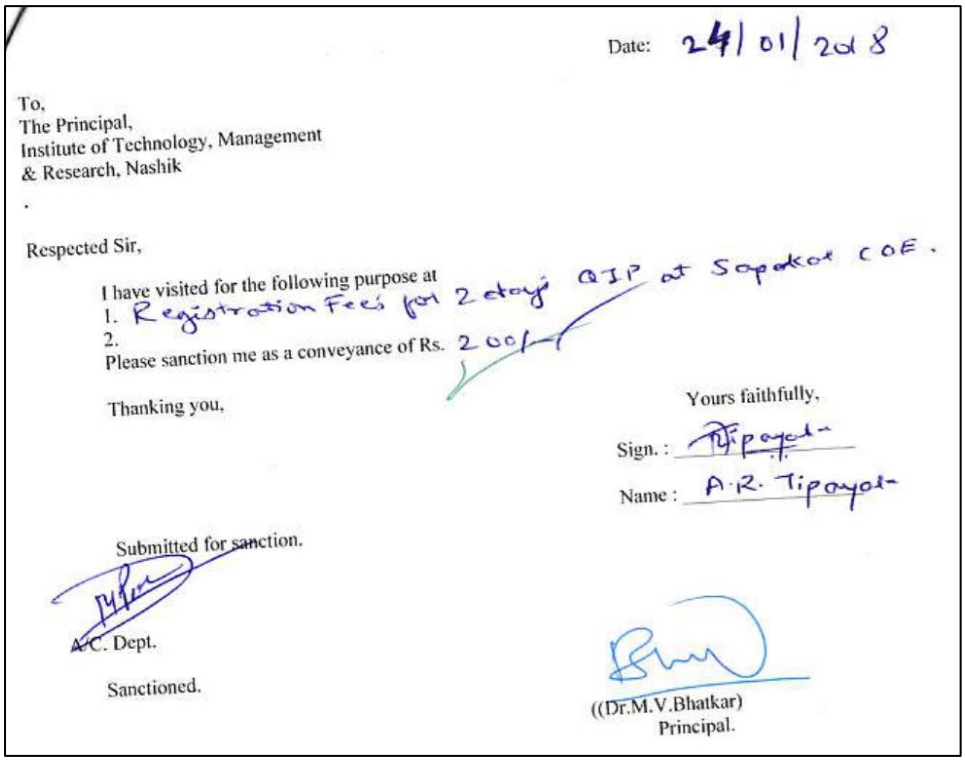
This receipt is valid subject to Realisation of cheque.

GURU GOBIND SINGH COLLEGE OF ENGINEERING AND RESEARCH CENTRE NASHIK AICTE-F.NO. WESTERN/2013/1-1404766811 Dt. 22.04.2013

Signature

3) Prof. A. R. Tipayale

In 2018, Institute has provided financial support to Prof. A. R. Tipayale for attending Workshop on Multi-Objective Design at Sapkal College of Engineering Nashik.



Date: 24/01/2018

To,
The Principal,
Institute of Technology, Management
& Research, Nashik

Respected Sir,

I have visited for the following purpose at
1. Registration Fees for 2 days QIP at Sapakal COE.
2.
Please sanction me as a conveyance of Rs. 200/-

Thanking you,

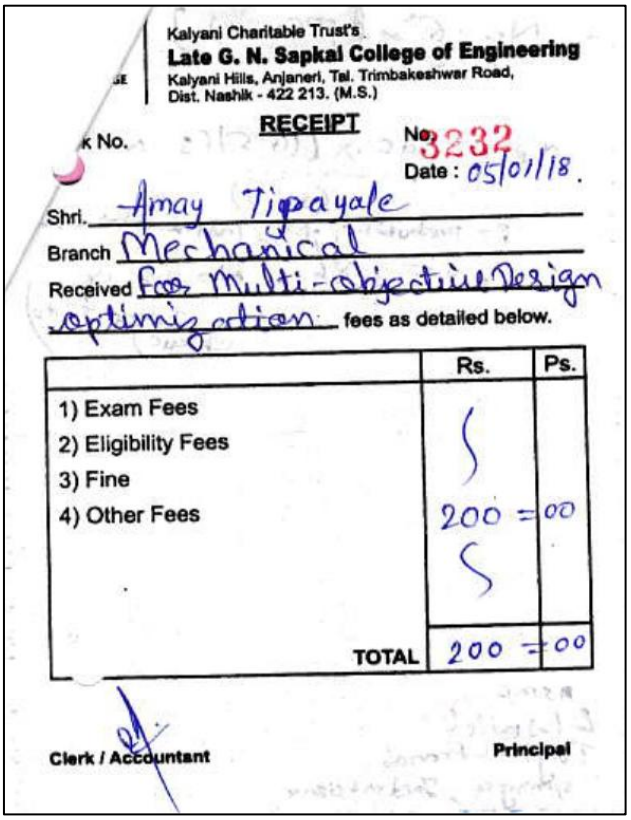
Yours faithfully,
Sign. : Tipayale
Name : A.R. Tipayale

Submitted for sanction.

A/C. Dept.

Sanctioned.

((Dr.M.V.Bhatkar)
Principal.



Kalyani Charitable Trust's
Late G. N. Sapkal College of Engineering
Kalyani Hills, Anjaneri, Tal. Trimbakeshwar Road,
Dist. Nashik - 422 213. (M.S.)

RECEIPT

K No. No. 3232
Date : 05/01/18.

Shri. Amay Tipayale
Branch Mechanical
Received For Multi-objective Design optimization fees as detailed below.

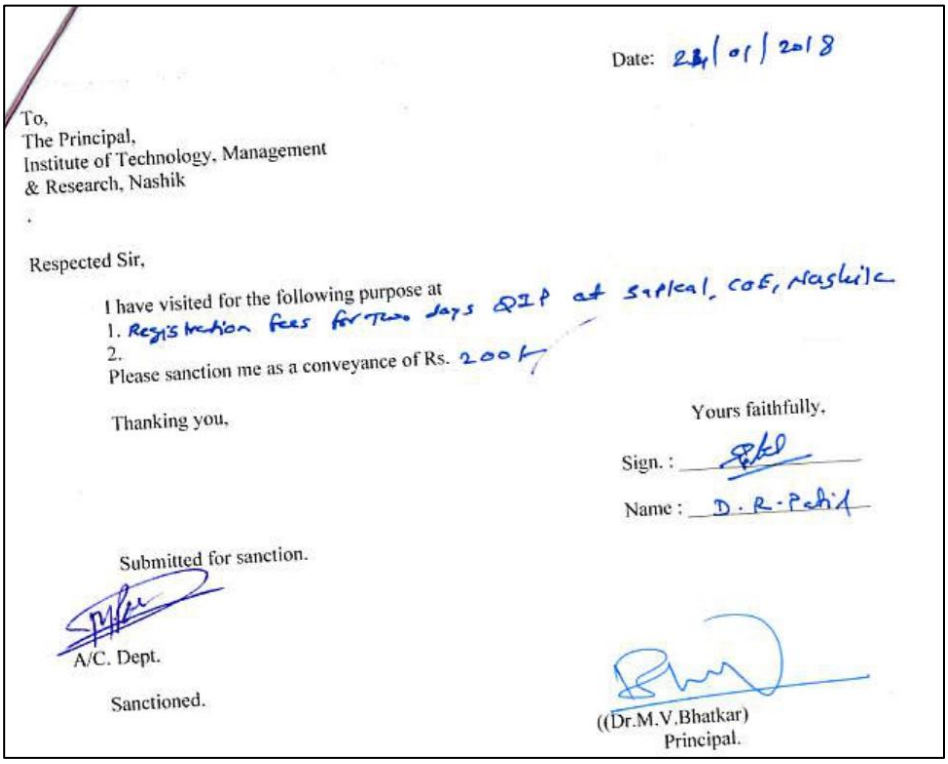
	Rs.	Ps.
1) Exam Fees		
2) Eligibility Fees		
3) Fine		
4) Other Fees	200	00
TOTAL	200	00

Clerk / Accountant

Principal

4) Prof. D. R. Patil

In 2018, Institute has provided financial support to Prof. D. R. Patil for attending Workshop on Multi Objective Design at Sapkal College of Engineering Nashik.



Date: 23/01/2018

To,
The Principal,
Institute of Technology, Management
& Research, Nashik

Respected Sir,

I have visited for the following purpose at
1. Registration fees for Two days QIP at Sapkal, COE, Nashik
2.
Please sanction me as a conveyance of Rs. 200/-

Thanking you,

Yours faithfully,

Sign. :

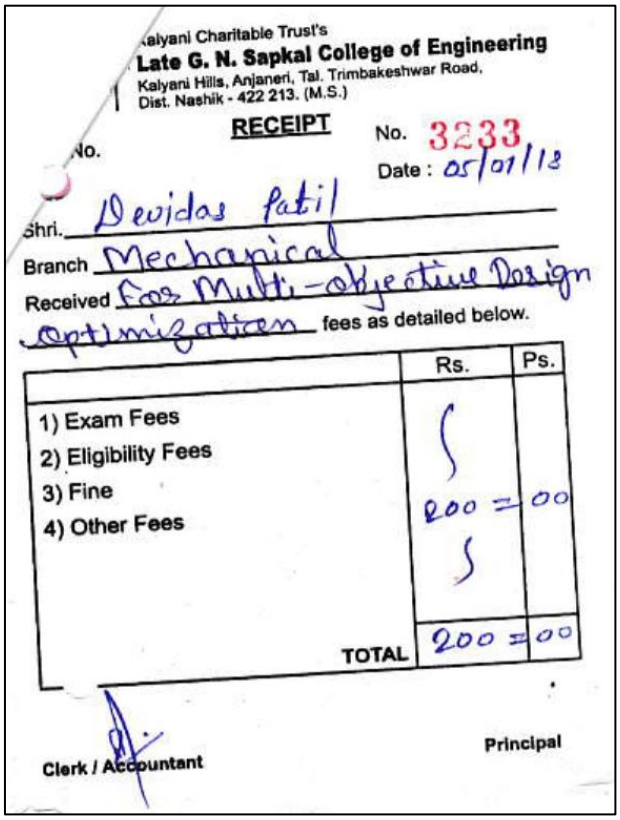
Name : D. R. Patil

Submitted for sanction.

A/C. Dept.

Sanctioned.

((Dr.M.V.Bhatkar)
Principal.



Kalyani Charitable Trust's
Late G. N. Sapkal College of Engineering
Kalyani Hills, Anjaneri, Tal. Trimbakeshwar Road,
Dist. Nashik - 422 213. (M.S.)

RECEIPT No. 3233

No.

Date : 05/01/18

Shri. Devidas Patil

Branch Mechanical

Received Fee Multi-objective Design Optimization fees as detailed below.

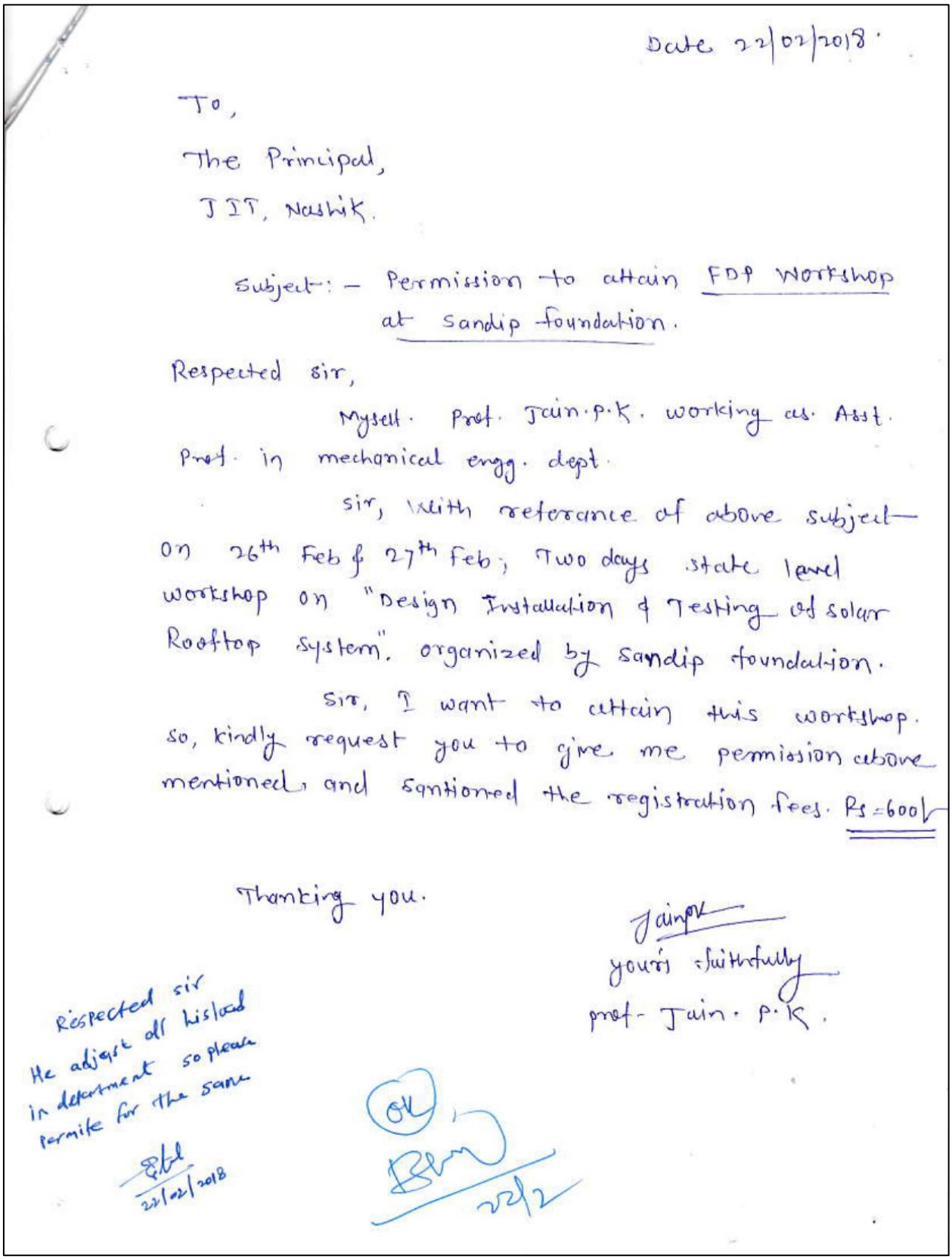
	Rs.	Ps.
1) Exam Fees 2) Eligibility Fees 3) Fine 4) Other Fees	200	00
TOTAL	200	00

Clerk / Accountant

Principal

5) Prof. P. K. Jain

In 2018, Institute has provided financial support to Prof. P. K. Jain for attending Faculty Development Programme for Solar System Design at Sandip Foundation, Nashik.



Date 22/02/2018.

To,

The Principal,

JIT, Nashik.

Subject:- Permission to attain FDP Workshop at sandip foundation.

Respected sir,

Myself. Prof. Jain.P.K. working as. Asst. Prof. in mechanical engg. dept.

sir, With reference of above subject— On 26th Feb & 27th Feb; Two days state level workshop on "Design Installation & Testing of solar Rooftop system", organized by sandip foundation.

sir, I want to attain this workshop. so, kindly request you to give me permission above mentioned, and sanctioned the registration fees. Rs-600/-

Thanking you.

Jainpk

yours faithfully

prof- Jain. P.K.

Respected sir
He adjust all his load in department so please permite for the same

22/02/2018

OK

22/2

Date: 9/03/2018

To,
The Principal,
Institute of Technology, Management
& Research, Nashik

Respected Sir,

I have visited for the following purpose at

1. FDP workshop on Solar system Design at Sandip foundation.
2. ———

Please sanction me as a conveyance of Rs. 750/—

Thanking you,

Yours faithfully,

Sign. : Jainpk

Name : Prof - Jain. P. K

Submitted for sanction.

A/C. Dept.

Sanctioned.

((Dr.M.V.Bhatkar)
Principal.

SANDIP FOUNDATION

Sandip Foundation's

Sandip Institute of Engineering & Management,

Mahiravani, Trimbak Road, Nashik, (M.S.) India

Department of Mechanical Engineering

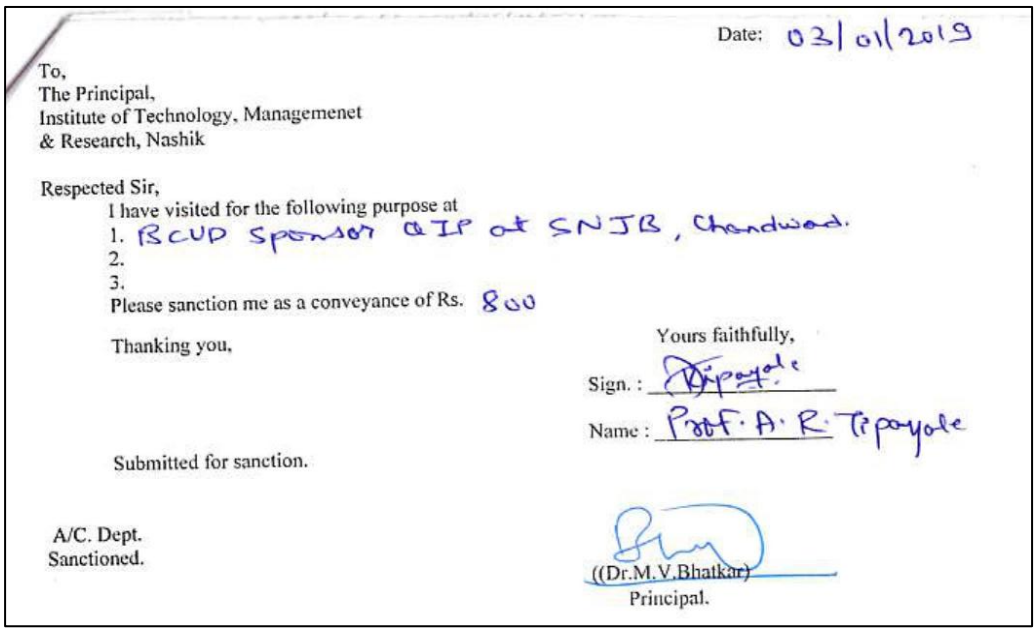
Certificate

This is to certify that, Mr./~~Ms.~~ Pankaj K. Jain has participated in Two Days State Level Workshop on **"Design, Installation and Testing of Solar Rooftop System"** sponsored by BCUD, Savitribai Phule Pune University, Pune organized by Department of Mechanical Engineering, held on 26th & 27th February 2018.

Prof. K. U. Shinde	Prof. A. S. Dube	Dr. R. V. Kshirsagar
(Coordinator)	**(Head of Department)**	**(Principal)**

6) Prof. A. R. Tipayale

In 2019, Institute has provided financial support to Prof. A. R. Tipayale for attending Workshop on AIEM at SNJB Chandwad, Nashik.



Date: 03/01/2019

To,
The Principal,
Institute of Technology, Managemenet
& Research, Nashik

Respected Sir,

I have visited for the following purpose at
1. BCUD Sponsor AIP at SNJB, Chandwad.
2.
3.
Please sanction me as a conveyance of Rs. 800

Thanking you,

Yours faithfully,

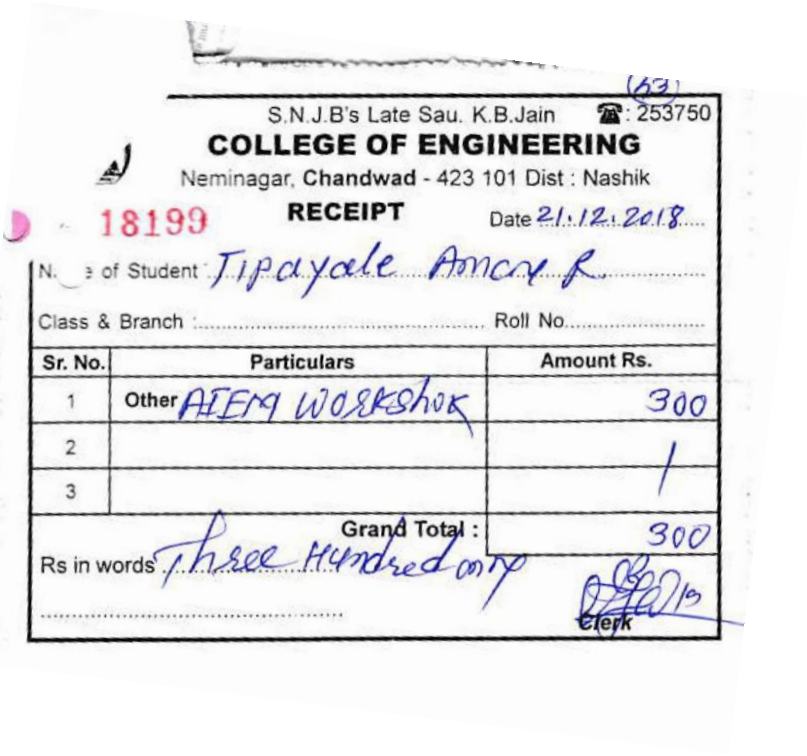
Sign. : Tipayale

Name : Prof. A. R. Tipayale

Submitted for sanction.

A/C. Dept.
Sanctioned.

((Dr.M.V.Bhatkar)
Principal.



(63)

S.N.J.B's Late Sau. K.B.Jain ☎: 253750

COLLEGE OF ENGINEERING

Neminagar, **Chandwad** - 423 101 Dist : Nashik

18199 **RECEIPT** Date 21.12.2018

N. e of Student : Tipayale Amar R.

Class & Branch : ..... Roll No.....

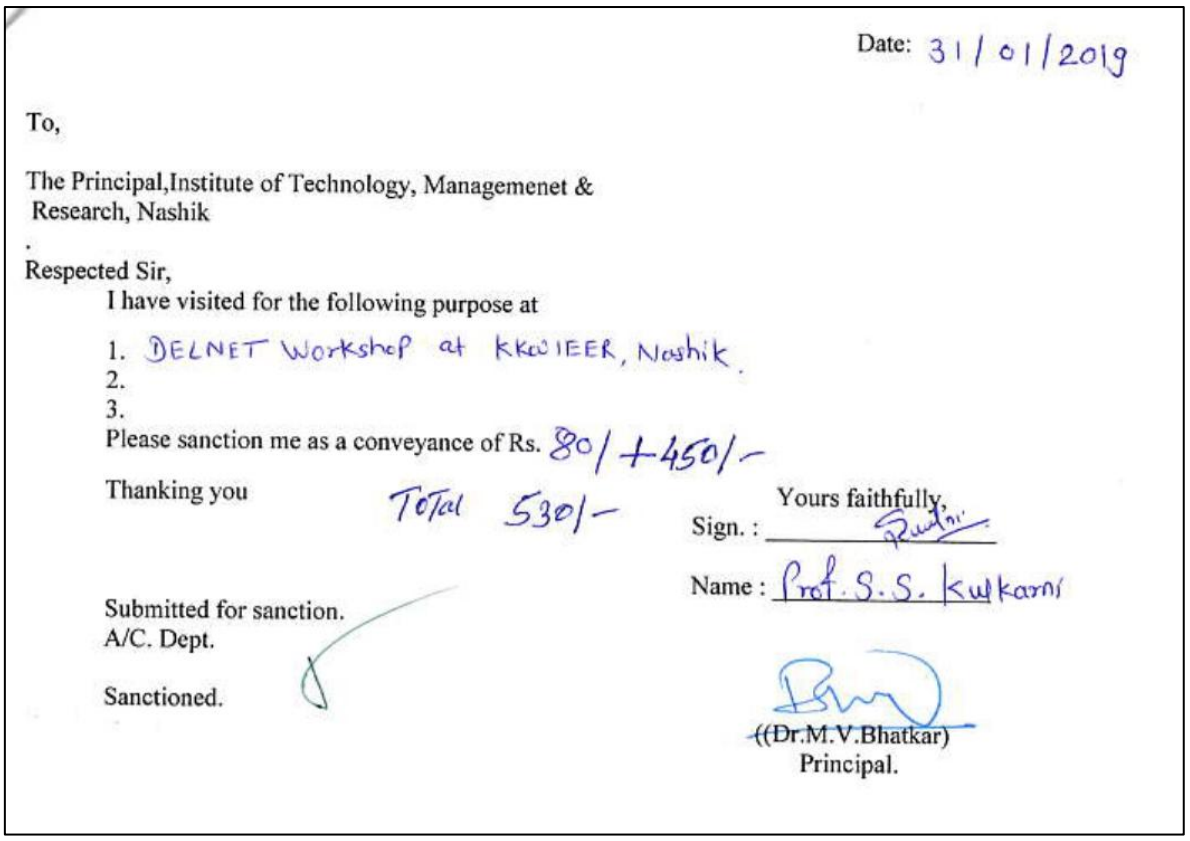
Sr. No.	Particulars	Amount Rs.
1	Other AIEM Workshop	300
2		/
3		
	Grand Total :	300

Rs in words : Three Hundred only

Clerk

7) Prof. S. S. Kulkarni

In 2019, Institute has provided financial support to Prof. S. S. Kulkarni for attending Faculty Development Programme for Delnet Library Software at KK Wagh College Nashik.



Date: 31/01/2019

To,

The Principal,Institute of Technology, Managemenet & Research, Nashik

.

Respected Sir,

I have visited for the following purpose at

1. DELNET Workshop at KKWIEER, Nashik.
2.
3.

Please sanction me as a conveyance of Rs. 80/+450/-

Thanking you

Total 530/-

Yours faithfully,

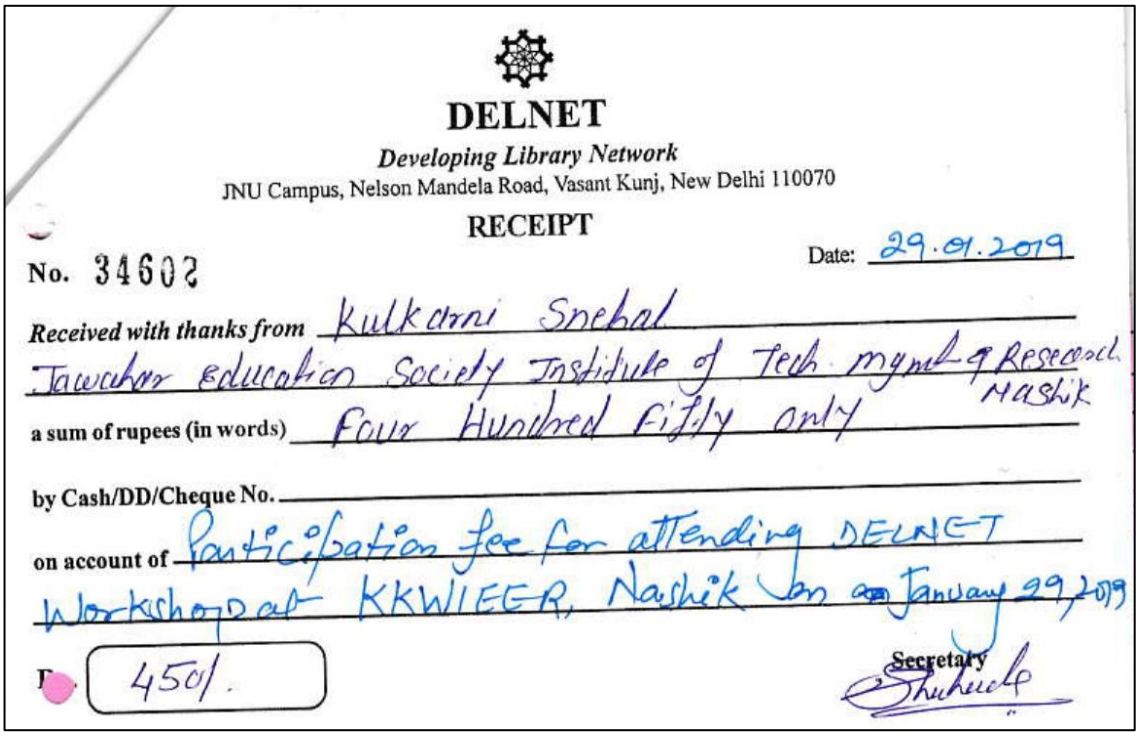
Sign. :

Name : Prof. S. S. Kulkarni

Submitted for sanction.
A/C. Dept.

Sanctioned.

((Dr.M.V.Bhatkar)
Principal.



DELNET

Developing Library Network

JNU Campus, Nelson Mandela Road, Vasant Kunj, New Delhi 110070

RECEIPT

No. 34602

Date: 29.01.2019

Received with thanks from Kulkarni Snehal

Jawahar education Society Institute of Tech. mgmt & Research Nashik

a sum of rupees (in words) Four Hundred Fifty only

by Cash/DD/Cheque No.

on account of Participation fee for attending DELNET Workshop at KKWIEER, Nashik on January 29, 2019

₹ 450/-

Secretary