The Following are the syllabus copy as per Anna University curriculum and experimental learning document.

1.3.2 COURSES THAT INCLUDE EXPERIMENTIAL LEARNING THROUGH PROJECT WORK/FIELD WORK/INTERNSHIP DURING 2022-2023



1.3.2.Average percentage of courses that include experiential learning through project work/Field work/Internship during

2022-2023

S.No.	Program offering	Name of the course	Course code	Project/Field work/Internship	Page No.
1.	B.E.Electronics and Communication Engineering	Physics for Electronics Engineering	PH3254	Industrial Visit	3
2.	B.E.Electronics and Communication Engineering	Electrical and Instrumentation Engineering	BE3254	Industrial Visit	32
3.	B.E.Electronics and Communication Engineering	Circuit Analysis	EC3251	Industrial Visit	61
4.	B.E.Electronics and Communication Engineering	Signals and Systems	EC3354	IPT	90
5.	B.E.Electronics and Communication Engineering	Electronic Devices and Circuits	EC3353	IPT	96
6.	B.E.Electronics and Communication Engineering	Control Systems	EC3351	INTERNSHIP	100
7.	B.E.Electronics and Communication Engineering	Digital Systems Design	EC3352	IPT	104
8.	B.E.Electronics and Communication Engineering	Electromagnetic Fields	EC3452	INTERNSHIP	108
9.	B.E.Electronics and Communication Engineering	Networks and Security	EC3401	INTERNSHIP	112
10.	B.E.Electronics and Communication Engineering	Linear Integrated Circuits	EC3451	IPT	115
11.	B.E.Electronics and Communication Engineering	Digital Signal Processing	EC3492	IPT	118
12.	B.E.Electronics and Communication Engineering	Communication Systems	EC3491	INTERNSHIP	122
13.	B.E.Electronics and Communication Engineering	Environmental Sciences and Sustainability	GE3451	IPT	124
14.	B.E.Electronics and Communication Engineering	Digital Communication	EC8501	INTERNSHIP	128

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

15.	B.E.Electronics and Communication Engineering	Discrete-Time Signal Processing	EC8553	INTERNSHIP	132
16.	B.E.Electronics and Communication Engineering	Computer Architecture and Organization	EC8552	IPT	135
17.	B.E.Electronics and Communication Engineering	Communication Networks	EC8551	INTERNSHIP	138
18.	B.E.Electronics and Communication Engineering	Basics of Biomedical instrumentation	OMD551	Project work	141
19.	B.E.Electronics and Communication Engineering	VLSI Design	EC8095	Project work	146
20.	B.E.Electronics and Communication Engineering	Wireless Communication	EC8652	Project work	152
21.	B.E.Electronics and Communication Engineering	Transmission Lines and RF Systems	EC8651	Project work	161
22.	B.E.Electronics and Communication Engineering	Antennas and Microwave Engineering	EC8701	Project work	166
23.	B.E.Electronics and Communication Engineering	Optical Communication	EC8751	Project work	172
24.	B.E.Electronics and Communication Engineering	Embedded and Real Time Systems	EC8791	Project work	178
25.	B.E.Electronics and Communication Engineering	Ad hoc and Wireless Sensor Networks	EC8702	Project work	182
26.	B.E.Electronics and Communication Engineering	Advanced Wireless Communication	EC8092	Project work	195
27.	B.E.Electronics and Communication Engineering	Project Work	EC811	Project work	201

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

PH3254	PHYSICS FOR ELECTRONICS ENGINEERING	L	T	P	C
		3	0	0	3

COURSE OBJECTIVES:

- To make the students to understand the basics of crystallography and its importance instudying materials properties.
- To understand the electrical properties of materials including free electron theory,applications of quantum mechanics and magnetic materials.
- To instil knowledge on physics of semiconductors, determination of charge carriers anddevice applications
- To establish a sound grasp of knowledge on different optical properties of materials, opticaldisplays and applications
- To inculcate an idea of significance of nano structures, quantum confinement and ensuingnano device applications.

UNIT I CRYSTALLOGRAPHY 9

Crystal structures: Crystal lattice – basis - unit cell and lattice parameters – crystal systems and Bravais lattices – Structure and packing fractions of SC, BCC, FCC, diamond cubic, NaCl, ZnS structures – crystal planes, directions and Miller indices – distance between successive planes – linear and planar densities – crystalline and noncrystalline materials –Example use of Miller indices: wafer surface orientation – wafer flats and notches – pattern alignment - imperfections in crystals.

UNIT II ELECTRICAL AND MAGNETIC PROPERTIES OF MATERIALS 9

Classical free electron theory - Expression for electrical conductivity – Thermal conductivity, expression - Quantum free electron theory :Tunneling – degenerate states – Fermi- Dirac statistics– Density of energy states – Electron in periodic potential – Energy bands in solids – tight binding approximation - Electron effective mass – concept of hole. Magnetic materials: Dia, para and ferromagnetic effects – paramagnetism in the conduction electrons in metals – exchange interaction and ferromagnetism – quantum interference devices – GMR devices.

UNIT III SEMICONDUCTORS AND TRANSPORT PHYSICS 9

Intrinsic Semiconductors – Energy band diagram – direct and indirect band gap semiconductors – Carrier concentration in intrinsic semiconductors – extrinsic semiconductors - Carrier concentration in N-type & P-type semiconductors – Variation of carrier concentration with temperature – Carrier transport in Semiconductors: Drift, mobility and diffusion – Hall effect and devices – Ohmic contacts– Schottky diode

UNIT IV OPTICAL PROPERTIES OF MATERIALS 9

Classification of optical materials – Optical processes in semiconductors: optical absorption and emission, charge injection and recombination, optical absorption, loss and gain. Optical processes in quantum wells – Optoelectronic devices: light detectors and solar cells – light emitting diode – laser diode - optical processes in organic semiconductor devices –excitonic state – Electro-optics and nonlinear optics: Modulators and switching devices – plasmonics.

UNIT V NANO DEVICES 9

Density of states for solids - Significance between Fermi energy and volume of the material – Quantum confinement – Quantum structures – Density of states for quantum wells, wires and dots –Band gap of nanomaterials –Tunneling – Single electron phenomena – Single electron Transistor. Conductivity of metallic nanowires – Ballistic transport – Quantum resistance and conductance – Carbon nanotubes: Properties and applications - Spintronic devices and applications – Optics in quantum structures – quantum well laser.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course, the students should be able to

CO1:Know basics of crystallography and its importance for varied materials properties

CO2:Gain knowledge on the electrical and magnetic properties of materials and their applications CO3:understand clearly of semiconductor physics and functioning of semiconductor devices CO4:understand the optical properties of materials and working principles of various optical devicesCO5:appreciate the importance of nanotechnology and nanodevices.

TEXT BOOKS:

1. S.O. Kasap. Principles of Electronic Materials and Devices, McGraw Hill Education (IndianEdition), 2020.
2. R.F.Pierret. Semiconductor Device Fundamentals. Pearson (Indian Edition), 2006.
3. G.W.Hanson. Fundamentals of Nanoelectronics. Pearson Education (Indian Edition), 2009.

REFERENCES:

1. Laszlo Solymar, Walsh, Donald, Syms and Richard R.A., Electrical Properties ofMaterials, Oxford Univ. Press (Indian Edition) 2015.
2. Jasprit Singh, Semiconductor Optoelectronics: Physics and Technology, McGraw-HillEducation (Indian Edition), 2019.
3. Charles Kittel, Introduction to Solid State Physics, Wiley India Edition, 2019.
4. Mark Fox, Optical Properties of Solids, Oxford Univ.Press, 2001.N.Gershenfeld. The Physics of Information Technology. Cambridge University Press, 2011.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Scanned with OKEN Scanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT REPORT

DEPARTMENT OF SCIENCE AND HUMANITIES

ACADEMIC YEAR 2022 – 2023

DATE OF VISIT: 20/6/2023 and 21/6/2023

PLACE OF VISIT: VEI Technologies, Chennai.

PARTICIPANTS: BE - I Year

INDEX

S/N	Description	Page No.
1	PERMISSION LETTER	2
2	ABOUT VEI TECHNOLOGIES	3
3	REQUISTITION LETTER	4
4	CONFIRMATION LETTER FROM INDUSTRY	5
5	INDUSTRIAL VISIT SCHEDULE	6
6	STUDENTS' LIST	7
7	CONSENT FORM	15
8	STUDENT'S FEEDBACK FORM	20
9	FEEDBACK SUMMARY	25
10	FEEDBACK ANALYSIS	26
11	PHOTO GALLERY	27
12	SUMMARY REPORT	28

FACULTY COORDINATOR (Dr. P. Rani, Asp/Maths)

HOD-I Year (Dr. P. S. Satheesh Kumar)

IQAC COORDINATOR

PRINCIPAL
Dr. J. SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

PERMISSION LETTER

From

Dr. P.S. Satheesh Kumar,
Head of the Department,
Department of Science and Humanities,
NPR College of Engineering & Technology, Natham,
Dindigul – 624 401.

To

The Administrative Office,
NPR Group of Institutions,
Natham,
Dindigul – 624 401.

Through Proper Channel

Sub: Requesting permission for Industrial visit – Reg.

Respected Sir,

I am writing to formally request permission for an industrial visit to VEI Technologies for our 1st Year students. The visit is scheduled to take place on two days, as outlined below:

I Batch - Departments: CSE A, CSE B, and EEE on 20.06.2023

II Batch - Departments: ECE, AI & DS, MECH and IT on 21.06.2023

We are planning for a total of 270 students from the 1st Year, consisting of 180 boys and 90 girls, accompanied by 6 staff members. The staff members accompanying the students are Dr. P.S. Satheesh Kumar, Prof/Physics, Dr. N. Kavitha, ASP/Physics, Dr. P. Rani, ASP/Maths, Dr. P. Shanmuga Priya, ASP/English, Dr. N. Prabakaran, ASP/Chemistry and Mrs. C. Yogitha, AP/Maths.

We assure you that all necessary arrangements regarding transportation, supervision, and safety measures will be diligently taken care of throughout the visit.

We kindly request your approval for this industrial visit, as it will significantly contribute to the academic and professional development of our students. We eagerly await your favorable response.

Yours Faithfully,

Natham,
12.06.2023

(Dr. P. S. Satheesh Kumar)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul Dist.

CamScanner

Industrial Visit to VEI Technologies, Chennai

ABOUT VEI TECHNOLOGIES

Vei Technologies, incorporated with a sole vision of building trustworthy customer relationship from 2009 onward across the globe by delivering quality and commitment. The talented resource of Bel-Technology is obliged to develop new technology and mechanism for a prompt customer service and satisfaction. Vei Technologies, is Research and Development Company with proficient web development and software solution company based in Chennai.

The company believe in bringing technology to help make the world better. It is their goal to deliver to clients what they expect to make their work and life easier. They have a large array of specialties which come together as a great package for the customers. The whole concept of Website and software development is changing so fast and to catch up every one needs a technology partner like US.

Vei Technologies Private Limited is a 1 year 1 month old Private Company incorporated on24 Sep 2021. Its registered office is in Villupuram, Tamil Nadu, India. The Company's status is Active. It's a company limited by shares having an authorized capital of Rs .10.00 lakh and a paid-up capital of Rs 1.00 lakh as per MCA.

VEI
TECHNOLOGIES

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

REQUISITION LETTER

From,
Dr. P.S. Satheesh Kumar,
Head of the Department,
Department of Science and Humanities,
NPR College of Engineering & Technology, Natham,
Dindigul – 624 401.

To,
Dr B Ezhilavan,
Managing Director,
VEI Technologies,
Chennai.

Dear Sir,
Greetings!
I hope this letter finds you in good health and high spirits. I am writing on behalf of NPR College of Engineering and Technology, situated in Natham, Dindigul district. Our institution is dedicated to the personal and professional development of students from rural backgrounds, offering a range of UG and PG courses.

It has been a longstanding practice in our Science and Humanities Department to organize industrial visits for our students every semester, aiming to provide them with practical exposure and industry insights. In line with this, we have planned an industrial visit to VEI Technologies for our 270 first year students and 6 accompanying staff members. The visit is scheduled for two days, with two batches visiting on 20/6/23 and 21/6/23, respectively.
We assure you, sir, that our students will adhere strictly to safety protocols and will not disrupt your regular operations during their visit.

We humbly request your esteemed organization to grant us permission for this industrial visit. We would greatly appreciate if you could confirm the permission through a formal letter or email correspondence.

We look forward to the opportunity for our students to benefit from this valuable learning experience at VEI Technologies.

Natham,
12.06.23

Yours faithfully,

(Dr. P. S. Satheesh Kumar)

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

Industrial Visit to VEI Technologies, Chennai

CONFIRMATION LETTER FROM INDUSTRY

Gmail

Inbox

info@veitechnologies.com Wed, JUNE 14,2023, 12.28 PM

To:

hodmathematicsnprcet@gmail.com

Dear Sir,

We are happy to give permission for the industrial visit to your wards in VEI Technologies, Chennai. Kindly remind us one day in advance for the visit schedule also send the original letter copy with your hand during the visit.

Thanks and Regards,

Dr B Ezhilavan,
Managing Director,
VEI Technologies,
Chennai.

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

INDUSTRIAL VISIT SCHEDULE

BATCH-I :

Date	TIME		ACTIVITY
	From	To	
19/06/2023	9.00 p.m.	9.30 p.m.	Pick up students from NPRCET
	9.30 p.m.	6.00 a.m. 20/06/2023	Travelling to Chennai
20/06/2023	6.00 a.m.	9.00 a.m.	Refreshment
	9.00 a.m.	12.00 p.m.	Visit to VEI Technologies
	12.00 Noon	1.00 p.m.	Lunch
	1.00 p.m.	3.00 p.m.	Visit to Planetarium
	3.00 p.m.	5.00 p.m.	Visit to Zoo
	5.00 p.m.	6.30 p.m.	Visit to Beach
	6.30 p.m.	8.00 p.m.	Refreshment
	8.00 p.m.	5.00 a.m. 21/06/2023	Back to NPRCET

BATCH-II:

Date	TIME		ACTIVITY
	From	To	
20/06/2023	9.00 p.m.	9.30 p.m.	Pick up students from NPRCET
	9.30 p.m.	6.00am 21/06/2023	Travelling to Chennai
21/06/2023	6.00 a.m.	9.00 a.m.	Refreshment
	9.00 a.m.	12.00 p.m.	Visit to VEI Technologies
	12.00 Noon	1.00 p.m.	Lunch
	1.00 p.m.	3.00 p.m.	Visit to Planetarium
	3.00 p.m.	5.00 p.m.	Visit to Zoo
	5.00 p.m.	6.30 p.m.	Visit to Beach
	6.30 p.m.	8.00 p.m.	Refreshment
	8.00 p.m.	5.00 a.m. 22/06/2023	Back to NPRCET

HOD - I Year
(Dr. P. S. Sathees kumar)

Dr. J.SUNDARARAJAN, B.E., M.Tech., Ph.D.,
PRINCIPAL
Principal
N.P.R. College of Engineering & Technology

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

BATCH-I STUDENT PARTICIPANTS LIST-I YEAR

Date: 20.06.23

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
1.	920822104001	Abarna T	CSE- A	Female
2.	920822104002	Adaikalaraj S	CSE- A	Male
3.	920822104003	Adhithya K	CSE- A	Male
4.	920822104004	Afzal Khan M	CSE- A	Male
5.	920822104005	Ahilesh V	CSE- A	Male
6.	920822104006	Ajay Prajan S	CSE- A	Male
7.	920822104007	Ajitha Carmel J	CSE- A	Female
8.	920822104008	Akash S	CSE- A	Male
9.	920822104009	Akshal R	CSE- A	Male
10.	920822104011	Alwin Kirubakaran Y	CSE- A	Male
11.	920822104012	Anusuya S	CSE- A	Female
12.	920822104013	Anwarsha K	CSE- A	Female
13.	920822104014	Arul Hariharan S	CSE- A	Male
14.	920822104015	Ashima Nishara D	CSE- A	Female
15.	920822104016	Asim Sumaiya J	CSE- A	Female
16.	920822104017	Aswanthwin Fried S	CSE- A	Male
17.	920822104018	Balamurugan D	CSE- A	Male
18.	920822104019	Bharath Kumar V	CSE- A	Male
19.	920822104020	Bismi Farhana A	CSE- A	Female
20.	920822104021	Cibi Raj C	CSE- A	Male
21.	920822104022	Deepadharshini G	CSE- A	Female
22.	920822104023	Ellin Arock Celcia J	CSE- A	Female
23.	920822104024	Giri Ganesh K	CSE- A	Male
24.	920822104025	Gokula Kannan T	CSE- A	Male
25.	920822104026	Gokula Praveen N	CSE- A	Male
26.	920822104027	Gowtham P	CSE- A	Male
27.	920822104028	Gowthavamoorthy S	CSE- A	Male
28.	920822104029	Hariharan D	CSE- A	Male
29.	920822104030	Indira J	CSE- A	Female
30.	920822104031	Iswarya K	CSE- A	Female
31.	920822104032	Janani Priyadharshini V	CSE- A	Female
32.	920822104033	Jawahar S	CSE- A	Male
33.	920822104034	Jeeviha S	CSE- A	Female
34.	920822104035	Jerald Reeganraj I	CSE- A	Male
35.	920822104036	Jeya Arthi S	CSE- A	Female
36.	920822104037	Jeyadeva M	CSE- A	Female

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
37.	920822104038	Joel Rajan	CSE- A	Male
38.	920822104039	Kalaiselvan A	CSE- A	Male
39.	920822104040	Kanthalarasi K	CSE- A	Female
40.	920822104041	Karthiga B	CSE- A	Female
41.	920822104042	Kishore P	CSE- A	Male
42.	920822104043	Kowsalya S	CSE- A	Female
43.	920822104044	Kumaresan S	CSE- A	Male
44.	920822104045	Leo Aandrew G	CSE- A	Male
45.	920822104046	Madhan P	CSE- A	Male
46.	920822104047	Mahalakshmi K	CSE- A	Female
47.	920822104048	Mahalakshmi S	CSE- A	Female
48.	920822104049	Mahasri M	CSE- A	Female
49.	920822104050	Mallesh T	CSE- A	Male
50.	920822104051	Manikandan R	CSE- A	Male
51.	920822104052	Marikumar G	CSE- A	Female
52.	920822104053	Marshal John Raj L	CSE- A	Male
53.	920822104054	Meenakshi K	CSE- A	Female
54.	920822104055	Mohamed Azardeen M	CSE- A	Male
55.	920822104056	Mohamed Faizal Khan A	CSE- A	Male
56.	920822104057	Mohamed Sayeef S	CSE- A	Male
57.	920822104058	Muthukrishnan V	CSE- A	Male
58.	920822104059	Muthu Mahalakshmi V	CSE- A	Female
59.	920822104060	Naga Arjun B	CSE- A	Male
60.	920822104061	Naveen J	CSE- A	Male
61.	920822104062	Naveena V	CSE- A	Female
62.	920822104063	Nevin Nehal R S	CSE- A	Male
63.	920822104064	Nirmala R	CSE- A	Female
64.	920822104065	Nishanth K	CSE- B	Male
65.	920822104066	Nithish R	CSE- B	Male
66.	920822104067	Nithish Manickam S	CSE- B	Male
67.	920822104068	Nivetha P	CSE- B	Female
68.	920822104069	Palanimurugan V	CSE- B	Male
69.	920822104070	Partheeban A	CSE- B	Male
70.	920822104071	Pavatharani S	CSE- B	Female
71.	920822104072	Perumal Kumar V	CSE- B	Male
72.	920822104073	Ponnalagar V	CSE- B	Male
73.	920822104074	Pooja Shree A	CSE- B	Female
74.	920822104075	Pooja Shri M	CSE- B	Female

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies,Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
75.	920822104076	Poornisha R	CSE- B	Female
76.	920822104077	Pradeepan M	CSE- B	Male
77.	920822104078	Pragatheeswaran A	CSE- B	Male
78.	920822104079	Praveenkumar S	CSE- B	Male
79.	920822104080	Priyadharshini G	CSE- B	Female
80.	920822104081	Priyadharshini R	CSE- B	Female
81.	920822104082	Rajamannar N G	CSE- B	Male
82.	920822104083	Rakesh V	CSE- B	Male
83.	920822104084	Ravikrishnan R	CSE- B	Male
84.	920822104085	Rexton George R	CSE- B	Male
85.	920822104086	Rohini T	CSE- B	Female
86.	920822104087	Rubinesh C	CSE- B	Male
87.	920822104088	Sabari Anandh M	CSE- B	Male
88.	920822104089	Sabura Shifana J	CSE- B	Female
89.	920822104090	Sakthivel P	CSE- B	Male
90.	920822104091	Sanjay T	CSE- B	Male
91.	920822104092	Sanjay Raj J	CSE- B	Male
92.	920822104093	Santhiya S	CSE- B	Female
93.	920822104094	Sarguna Gokul R	CSE- B	Male
94.	920822104095	Saru Malini R	CSE- B	Female
95.	920822104096	Sathish S	CSE- B	Male
96.	920822104097	Shalima S	CSE- B	Female
97.	920822104098	Shrini Prabu A	CSE- B	Male
98.	920822104099	Sivaraj Kumar M	CSE- B	Male
99.	920822104100	Sofiga R	CSE- B	Female
100	920822104101	Sona S	CSE- B	Female
101	920822104102	Sree Yogeswari S	CSE- B	Female
102	920822104103	Sri Kunguma Raja Surya V	CSE- B	Male
103	920822104104	Sri Prasath N K	CSE- B	Male
104	920822104105	Subash Rayan S	CSE- B	Male
105	920822104106	Subha Sri R	CSE- B	Female
106	920822104107	Sujithra B	CSE- B	Female
107	920822104108	Sulaika P	CSE- B	Female
108	920822104109	Surekha M	CSE- B	Female
109	920822104110	Suriya Prabha K	CSE- B	Female
110	920822104111	Surjith K	CSE- B	Male
111	920822104112	Syed Ali Fathima N	CSE- B	Female
112	920822104113	Tharini Priya J	CSE- B	Female

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies,Chennai

S.No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
113	920822104114	Veera Ramana M	CSE- B	Male
114	920822104115	Vibin Dipak K	CSE- B	Male
115	920822104116	Vignesh M	CSE- B	Male
116	920822104117	Vignesh R	CSE- B	Male
117	920822104118	Vijayalakshmi A	CSE- B	Female
118	920822104119	Vijayan S	CSE- B	Male
119	920822104120	Vimal Sanjay A	CSE- B	Male
120	920822104121	Visali S	CSE- B	Female
121	920822104122	Vishnupriya D	CSE- B	Female
122	920822104123	Viswa B	CSE- B	Male
123	920822104124	Yagavarman S	CSE- B	Male
124	920822104125	Yoganth M	CSE- B	Male
125	920822104126	Yohith Kumar Nagarajan	CSE- B	Male
126	920822105001	Abhin Krishna U V	EEE	Male
127	920822105002	Abirami P	EEE	Female
128	920822105003	Ajay S	EEE	Male
129	920822105004	Ariyadharshini B	EEE	Female
130	920822105005	Atheeswaran M	EEE	Male
131	920822105006	Chellan P	EEE	Male
132	920822105007	Deenadhayalan T	EEE	Male
133	920822105008	Dhanushkumar K	EEE	Male
134	920822105009	Dharani M	EEE	Female
135	920822105010	Dharani Daran M	EEE	Male
136	920822105011	Dhinesh Prasad S	EEE	Male
137	920822105012	Eswara Pandi R	EEE	Male
138	920822105013	Hari Haran G	EEE	Male
139	920822105014	Harini R	EEE	Female
140	920822105015	Kaja Mohaideen S	EEE	Male
141	920822105016	Karuppaiah C	EEE	Male
142	920822105017	Mohammed Hanif H	EEE	Male
143	920822105018	Nikeelash Bala M	EEE	Male
144	920822105019	Pandi Manikandan N	EEE	Male
145	920822105020	Premkumar K	EEE	Male
146	920822105021	Raghul Kanna S	EEE	Male
147	920822105022	Rajapandian R	EEE	Male
148	920822105023	Sakthi Vignesh S	EEE	Male

HOD-I Year
(Dr. P. S. Sathees Kumar)

Dr. J.SUNDARARAJAN, M.E., M.Tech., Ph.D.,
PRINCIPAL
N.P.R. College of Engineering & Technology

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

DEPARTMENT OF SCIENCE AND HUMANITIES

BATCH-II STUDENTS PARTICIPANTS LIST- I YEAR

Date: 21.06.23

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
1.	920822106001	Aajip S	ECE	Male
2.	920822106002	Archana A R	ECE	Female
3.	920822106003	Arunachalam R	ECE	Male
4.	920822106004	Arun Kumar S	ECE	Male
5.	920822106005	Athikundhan G	ECE	Male
6.	920822106006	Azhagu Selvam S	ECE	Male
7.	920822106007	Babitha N	ECE	Female
8.	920822106008	Balamurugan P	ECE	Male
9.	920822106009	Bala Sowndharya M	ECE	Male
10.	920822106010	Bazir Ahamed M	ECE	Male
11.	920822106011	Bhava Dharani S	ECE	Male
12.	920822106012	Dharshan V	ECE	Male
13.	920822106013	Divyadharshini M	ECE	Female
14.	920822106014	Divyadharshini U	ECE	Female
15.	920822106015	Geerthana T	ECE	Female
16.	920822106016	Giruthika R	ECE	Female
17.	920822106017	Gokulakrishnan P	ECE	Male
18.	920822106018	Gokul Krishnan R	ECE	Male
19.	920822106019	Hariharan S P	ECE	Male
20.	920822106020	Harimadesh S	ECE	Male
21.	920822106021	Hemalatha K	ECE	Female
22.	920822106022	Janagan A	ECE	Male
23.	920822106023	Janarthanan A S	ECE	Male
24.	920822106024	Jeeva T	ECE	Male
25.	920822106025	Jeeva Rexline A	ECE	Female
26.	920822106026	Jenifer R	ECE	Female
27.	920822106027	Jeyan James Raj A	ECE	Male
28.	920822106028	Jeyasri P	ECE	Female
29.	920822106029	Kevin Agath A	ECE	Male
30.	920822106030	Kohila K	ECE	Female
31.	920822106031	Lakshmi S	ECE	Female
32.	920822106032	Lalith Kishore M	ECE	Male
33.	920822106033	Lieyander A B	ECE	Male
34.	920822106034	Loganath S	ECE	Male
35.	920822106035	Mahesh Karthick M	ECE	Male
36.	920822106036	Maheswaran S	ECE	Male

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
INDUSTRIAL VISIT TO VEI TECHNOLOGIES, CHENNAI

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
37.	920822106037	Mani N	ECE	Male
38.	920822106038	Maragathalakshmi B	ECE	Male
39.	920822106039	Mohamed Shameer S M	ECE	Male
40.	920822106040	Muraliprasanth A	ECE	Male
41.	920822106041	Preetha S	ECE	Female
42.	920822106042	Priya Dharshini S V	ECE	Female
43.	920822106043	Rishikesh K	ECE	Male
44.	920822106044	Ruthramoorthy M	ECE	Male
45.	920822106045	Sadhaa Sivam S	ECE	Male
46.	920822106046	Sakthivel N K	ECE	Male
47.	920822106047	Sanjay M	ECE	Male
48.	920822106048	Santhiya V	ECE	Female
49.	920822106049	Sarvesh T	ECE	Male
50.	920822106050	Sathan B	ECE	Male
51.	920822106051	Shivaramakrishnan N	ECE	Male
52.	920822106052	Sivanesan S	ECE	Male
53.	920822106053	Sivaranjini A	ECE	Female
54.	920822106054	Sri Mithra M	ECE	Male
55.	920822106055	Srinithiswari O G	ECE	Female
56.	920822106056	Tamilkodi K	ECE	Female
57.	920822106057	Thirumalainathan P	ECE	Male
58.	920822106058	Thrishma Bharathi G	ECE	Female
59.	920822106059	Varsha R	ECE	Female
60.	920822106060	Venkatesh K	ECE	Male
61.	920822106061	Vimalkumar K	ECE	Male
62.	920822106062	Vinoth P	ECE	Male
63.	920822106063	Viswanathan V	ECE	Male
64.	920822243001	Aaron S	AI&DS	Male
65.	920822243002	Abinaya Sree A	AI&DS	Female
66.	920822243003	Aishuwarya Dharshini V	AI&DS	Female
67.	920822243004	Akash S	AI&DS	Male
68.	920822243005	Alen Thomas	AI&DS	Female
69.	920822243006	Anandhapranesh P	AI&DS	Male
70.	920822243007	Aririthissh A M	AI&DS	Male
71.	920822243008	Arunkumar N	AI&DS	Male
72.	920822243009	Aswin Raj H	AI&DS	Male
73.	920822243010	Balaguru B	AI&DS	Male
74.	920822243011	Balavijay M	AI&DS	Male

CamScanner

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
75.	920822243012	Bavatharani K	AI&DS	Female
76.	920822243013	Bharath Bagavathi R	AI&DS	Male
77.	920822243014	Daranee Daran R	AI&DS	Male
78.	920822243015	Deepak Indirajith M C	AI&DS	Male
79.	920822243016	Gokulprasanna V	AI&DS	Male
80.	920822243017	Guru Hariprasath R	AI&DS	Male
81.	920822243018	Guruprasath M	AI&DS	Male
82.	920822243019	Issac Sunil	AI&DS	Male
83.	920822243020	James Allwin S J	AI&DS	Male
84.	920822243021	Janani S	AI&DS	Female
85.	920822243022	Jegatheesh M	AI&DS	Male
86.	920822243023	Jeyasurya S	AI&DS	Male
87.	920822243024	Joseph Boweenraj A	AI&DS	Male
88.	920822243025	Karthick J P	AI&DS	Male
89.	920822243026	Krisha C R	AI&DS	Female
90.	920822243027	Krithick P	AI&DS	Male
91.	920822243028	Lakshmana Perumal S	AI&DS	Male
92.	920822243029	Leena Sri S	AI&DS	Female
93.	920822243030	Loga Hariharan V G	AI&DS	Female
94.	920822243031	Logeshwaran S	AI&DS	Male
95.	920822243032	Mayil Vaganan R	AI&DS	Male
96.	920822243033	Mohamed Bisail M	AI&DS	Male
97.	920822243034	Mono Balaji D	AI&DS	Male
98.	920822243035	Nagarajan M	AI&DS	Male
99.	920822243036	Nanthagobalakrishnan M	AI&DS	Male
100.	920822243037	Niranjana S	AI&DS	Female
101.	920822243038	Padmesh M	AI&DS	Male
102.	920822243039	Prasanth J	AI&DS	Male
103.	920822243040	Prithiviraj R	AI&DS	Male
104.	920822205001	Aadharsh R D	IT	Male
105.	920822205002	Bhuvaneshwari S	IT	Female
106.	920822205003	Deepadharshini D	IT	Female
107.	920822205004	Divya D	IT	Female
108.	920822205005	Gowthamkishore V	IT	Male
109.	920822205006	Hari Haran K	IT	Male
110.	920822205007	Hari Haran T	IT	Male
111.	920822205008	Harini Devi B	IT	Female
112.	920822205009	Harshavarthan B	IT	Male

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
113.	920822114001	Abdul Ajees A	MECH	Male
114.	920822114002	Alaguraja V	MECH	Male
115.	920822114003	Arvinth Nagarathinam B J	MECH	Male
116.	920822114004	Bala K	MECH	Male
117.	920822114005	Bala N	MECH	Male
118.	920822114015	Muthuvel S	MECH	Male
119.	920822114016	Nandhagopal C	MECH	Male
120.	920822114017	Naveen Kumar M	MECH	Male
121.	920822114018	Riswanth S	MECH	Male
122.	920822114019	Sabariganapathy S	MECH	Male

HOD- I Year
(Dr. P. S. Satheesh Kumar)

PRINCIPAL
Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
NPR Group of Institutions
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: K. TAMILKODI

Register No: 920822106056

Year/Department/Semester: II / ECE / II.

Place of visit: VEL TECHNOLOGIES

No. of days: 1 DAY

From: 21.6.22. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

Signature of Faculty In-charge

HoD

Student's Declaration

I, K. TAMILKODI student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23

Station: Madurai

Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. K. Tamilkodi who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: M. Kannan.

Contact no: 9865365374

Signature of the parent

COLLEGE OF ENGG. & TECH. NATHAM 15

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 244500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: M. Nagarajan

Register No: 9208 222 43035

Year/Department/Semester: II / AD DS / II

Place of visit: VEI TECHNOLOGIES

No. of days: 1 day.

From: 21.6.23 To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

P. Ramesh.
Signature of Faculty In-charge

HoD

Student's Declaration

I, M. Nagarajan ---------- student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23.

Station: Madurai

M. Nagarajan
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /~~Ms~~.---M. Nagarajan----------who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: K. Mani

Contact no: 7010890951.

K. Mani
Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu, Ph: 04544 – 246500, 501, 502.
Reach the Star

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: P. Sakthivel

Register No: 920822104090

Year/Department/Semester: I year / CSE-B / II

Place of visit: VEI Technologies.

No. of days: 1 day

From: 20.6.2023 To: —

Departure point: NPRCET, NATHAM Time: 9.00 Pm (19.6.23).

Arrival point: NPRCET, NATHAM Time: 5.00 Pm (21.6.23.

Signature of Faculty In-charge HoD

Student's Declaration

I, P. Sakthivel student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 19.6.2023

Station: Vadipatti

Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. P. [illegible] who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: C. பெரியதாயி

Contact no: 9790222576.

Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY NATHAM 17

CamScanner

NPR
Group of Institutions
Reach the Star

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.

NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: B. HARINIDEVI

Register No: 920822205008

Year/Department/Semester: I / IT / II

Place of visit: NET TECHNOLOGIES

No. of days: 1 DAY

From: 21.6.23. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

Signature of Faculty In-charge

HoD

Student's Declaration

I, B. HARINIDEVI student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23.

Station: MADURAI

B. Harinidevi
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. B. Harinidevi who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: V. Balamurugan

Contact no: 9643774680.

V. பாலமுருகன்
Signature of the parent

NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: R. Rexton George.

Register No: 920822104085

Year/Department/Semester: I / CSE - 'B' / I

Place of visit: VEI TECHNOLOGIES

No. of days: one day

From: 20.6.23. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (19.6.23)

Arrival point: NPRCET, NATHAM Time: 5~~9~~.00 pm (~~20~~ 21.6.23)

P. Kamal.
Signature of Faculty In-charge

HoD

Student's Declaration

I, R. Rexton George student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 19.6.2023

Station: DINDIGUL

R. Rexton George.
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. R. Rexton George who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: M. Rajasekaran

Contact no: 9715505079.

M. Rajasekaran
Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY * NPR * NATHAM

19

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : S. Ajip.
Register Number : 920822106001
Year & Branch : II & ECE
Place of Visit : VEI Technologies
Date of Visit : 21.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.	✓				
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

S. Ajip
Signature of the Student

20

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : S. AKASH
Register Number : 920822243004
Year & Branch : II Year & AI&DS
Place of Visit : VEI Technologies.
Date of Visit : 21.6.23

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.		✓			
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials		✓			
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures		✓			
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

S. Akash
Signature of the Student

COLLEGE OF ENGG. & TECHNOLOGY • NPR • NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : K.NISHANTH
Register Number : 920822104065
Year & Branch : II CSE-'B'
Place of Visit : VEI Technologies.
Date of Visit : 20.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.		✓			
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

K.Nishanth.
Signature of the Student

22

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : R. Saru Nedini
Register Number : 920822104095
Year & Branch : II year & CSE-B
Place of Visit : VEI Technologies
Date of Visit : 20.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.	✓				
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty		✓			
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

R. Saru Nedini
Signature of the Student

NEW COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : M. Guruprasath
Register Number : 920821224308
Year & Branch : II & AI AND DS
Place of Visit : VEI Technologies
Date of Visit : 21.6.22

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.		✓			
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable		✓			
4.	Safety precautions were instructed before the field visit by the officials/Faculty		✓			
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures		✓			
8.	Scope for doing project is available in the industry/plant		✓			
9.	Opportunity is available for getting internship/industrial training		✓			
10.	The visit was well planned and organized		✓			

M. Guruprasath.
Signature of the Student

24

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Feedback Summary

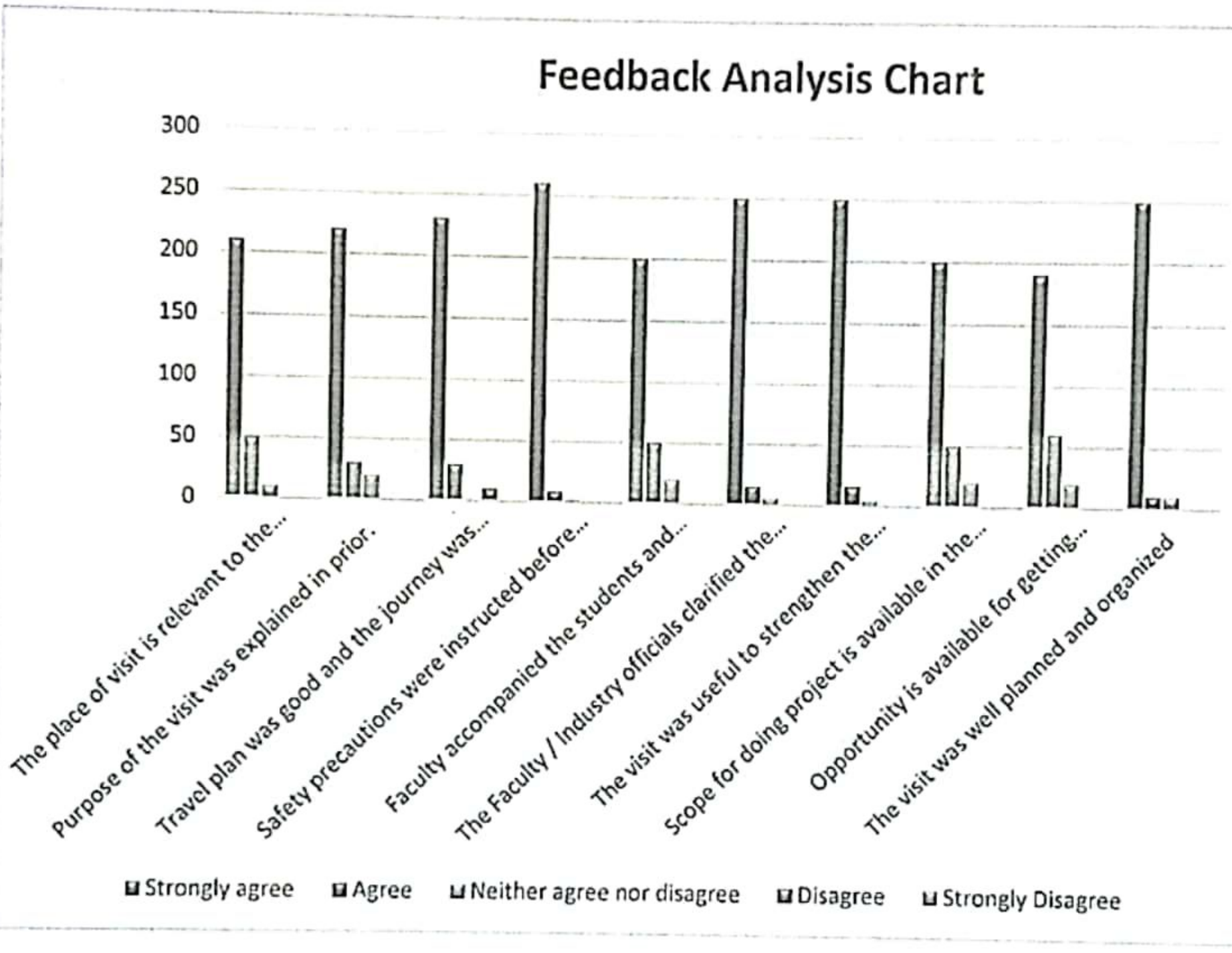
Sl.no.	Particulars	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total
1	The place of visit is relevant tothe course/courses of the programme.	210	50	10	-	-	270
2	Purpose of the visit was explained in prior.	220	30	20	-	-	270
	Travel plan was good and thejourney was comfortable.	230	30	-	10	-	270
4	Safety precautions were instructed before the field visitby the officials/Faculty	260	08	02	-	-	270
5	Faculty accompanied the students and explained in addition to the industry officials	200	50	20	-	-	270
6	The Faculty / Industry officials clarified the doubts raised by students during the visit.	250	15	05	-	-	270
7	The visit was useful to strengthen the technical knowledge gathered in lectures	250	16	04	-	-	270
8	Scope for doing project is available in the industry/plant	200	50	20	-	-	270
9	Opportunity is available for getting internship/ industrial training	190	60	20	-	-	270
10	The visit was well planned and organized	250	10	10	-	-	270

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Feedback Analysis



HOD-I YEAR
Dr. P. S. Satheesh Kumar

IQAC

PRINCIPAL
Dr. J. SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

COLLEGE OF ENGG. & TECH. NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

PHOTO GALLERY

Date:20/6/23 & Date: 21/6/23



I Year students are standing in front of VEI Technologies

COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Summary Report

Date: June 20th, 2023 (I Batch) and June 21st, 2023 (II Batch)
Venue: VEI Technologies, Poonamallee, Chennai

Purpose: The industrial visit to VEI Technologies aimed to offer students from NPRCET a practical insight into industry operations and various departments. It provided an opportunity for 270 first-year students (90 girls and 180 boys) in two batches, accompanied by six staff members, to gain valuable knowledge about the functioning of an R&D company specializing in web development and software solutions.

Schedule:

- **Departure:** Students were picked up from NPRCET on 20.6.23(I Batch) and on 21.6.23(II Batch) at 9:30 pm and traveled by bus to Chennai.
- **Arrival:** The group reached Chennai at 6:00 am the following day.
- **Visit to VEI Technologies:** From 9:00 am to 12:00 pm, students toured the facility, gaining insights into the company's various departments and operations.
- **Meeting with Director:** Students had the opportunity to meet Mr. Babu Ezhilavan, the Director of VEI Technologies, who provided information about the company's services, including web application development, website designing, e-commerce solutions, and more. They also learned about value-added courses offered by the company in areas such as IoT, Java and Python.
- **Leisure Activities:** After lunch at a nearby restaurant from 12:00 p.m to 1:00 p.m, students visited the planetarium from 1:00 p.m to 3:00 p.m, followed by a visit to the zoo from 3:00 p.m to 5:00 p.m, and a trip to the beach from 5:00 p.m to 6:30 p.m.
- **Return:** The students began their return journey at 8:00 p.m and reached NPRCET on 20.6.23(I Batch) and on 21.6.23(II Batch) at 5:00 a.m the next day.

Outcome: The industrial visit provided students with a practical understanding of industry operations and exposed them to various aspects of web development and software solutions. The interaction with staff and the Director of VEI Technologies enhanced the students' knowledge about the industry and its potential career paths. Additionally, the inclusion of leisure activities ensured a well-rounded experience for the students.

Conclusion: The visit to VEI Technologies was a valuable learning experience for the students, allowing them to bridge the gap between theoretical knowledge and practical application in the industry. The well-organized itinerary balanced educational insights with recreational activities, making it a memorable and enriching trip for all participants.

On completion of this industrial visit, the following Pos and PSOs were enabled.

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
√				√		√		√	√	√	√			

FACULTY CO-ORDINATORS
(Dr. P. Rani, ASP/Maths)

HOD
Dr. P S Satheesh Kumar

IQAC

Dr. J.SUNDARARAJAN, B.E.,M.Tech., Ph.D.,
PRINCIPAL
Principal
NPR College of Engineering & Technology
Natham

CamScanner

Scanned with OKEN Scanner

BE3254 **ELECTRICAL AND INSTRUMENTATION ENGINEERING** **L T P C**
3 0 0 3

COURSE OBJECTIVES :

- To impart knowledge in types, construction and working of transformers
- To impart knowledge in types, construction and working of DC machines
- To impart knowledge in types, construction and working of AC rotating machines
- To introduce the functional elements and working of measuring instruments.
- To introduce the basics of power system and protection schemes

UNIT I TRANSFORMER 9

Introduction - Ideal and Practical Transformer – Phasor diagram– Per Unit System – Equivalent circuit- Testing- Efficiency and Voltage Regulation– Three Phase Transformers –Applications- Auto Transformers, Advantages- Harmonics.

UNIT II DC MACHINES 9

Introduction – Constructional Features– Motor and Generator mode - EMF and Torque equation – Circuit Model – Methods of Excitation- Characteristics – Starting and Speed Control – Universal Motor- Stepper Motors – Brushless DC Motors- Applications

UNIT III AC ROTATING MACHINES 9

Principle of operation of three-phase induction motors – Construction –Types – Equivalent circuit, Speed Control - Single phase Induction motors -Construction– Types–starting methods. Alternator: Working principle–Equation of induced EMF – Voltage regulation, Synchronous motors- working principle-starting methods – Torque equation.

UNIT IV MEASUREMENTS AND INSTRUMENTATION 9

Functional elements of an instrument , Standards and calibration, Operating Principle , types - Moving Coil and Moving Iron meters, Measurement of three phase power, Energy Meter, InstrumentTransformers-CT and PT,DSO- Block diagram- Data acquisition.

UNIT V BASICS OF POWER SYSTEMS 9

Power system structure -Generation , Transmission and distribution , Various voltage levels, Earthing – methods of earthing, protective devices- switch fuse unit- Miniature circuit breaker- moulded case circuit breaker- earth leakage circuit breaker, safety precautions and First Aid

TOTAL: 45 PERIODS

COURSE OUTCOMES :

After completing this course, the students will be able to

CO1: Explain the working principle of electrical machines
CO2: Analyze the output characterizes of electrical machines
CO3: Choose the appropriate electrical machines for various applications
CO4: Explain the types and operating principles of measuring instruments
CO5: Explain the basic power system structure and protection schemes

TEXT BOOKS:

1. Kothari DP and I.J Nagrath, "Basic Electrical and Electronics Engineering", Second Edition,McGraw Hill Education, 2020
2. S. K, Bhattacharya, "Basic Electrical and Electronics Engineering", Second Edition, PearsonEducation, 2017.
3. A.K. Sawhney, Puneet Sawhney 'A Course in Electrical & Electronic Measurements & Instrumentation', Dhanpat Rai and Co, New Delhi, 2015.
4. C.L.Wadhwa, "Generation, Distribution and Utilisation of Electrical Energy", New AgeInternational pvt.ltd.,2003

REFERENCES:

1. Kothari DP and I.J Nagrath, "Basic Electrical Engineering", Fourth Edition, McGraw HillEducation, 2019
2. Mahmood Nahvi and Joseph A. Edminister, "Electric Circuits", Schaum' Outline Series,McGraw Hill, 2002.
3. H.S. Kalsi, 'Electronic Instrumentation', Tata McGraw-Hill, New Delhi, 2010.

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f)] ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT REPORT

DEPARTMENT OF SCIENCE AND HUMANITIES

ACADEMIC YEAR 2022 – 2023

DATE OF VISIT: 20/6/2023 and 21/6/2023

PLACE OF VISIT: VEI Technologies, Chennai.

PARTICIPANTS: BE - I Year

INDEX

S/N	Description	Page No.
1	PERMISSION LETTER	2
2	ABOUT VEI TECHNOLOGIES	3
3	REQUISTITION LETTER	4
4	CONFIRMATION LETTER FROM INDUSTRY	5
5	INDUSTRIAL VISIT SCHEDULE	6
6	STUDENTS' LIST	7
7	CONSENT FORM	15
8	STUDENT'S FEEDBACK FORM	20
9	FEEDBACK SUMMARY	25
10	FEEDBACK ANALYSIS	26
11	PHOTO GALLERY	27
12	SUMMARY REPORT	28

FACULTY COORDINATOR (Dr. P. Rani, Asp/Maths)

HOD-I Year (Dr. P. S. Satheesh Kumar)

IQAC COORDINATOR

PRINCIPAL
Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

PERMISSION LETTER

From

Dr. P.S. Satheesh Kumar,
Head of the Department,
Department of Science and Humanities,
NPR College of Engineering & Technology, Natham,
Dindigul – 624 401.

To

The Administrative Office,
NPR Group of Institutions,
Natham,
Dindigul – 624 401.

Through Proper Channel

Sub: Requesting permission for Industrial visit – Reg.

Respected Sir,

I am writing to formally request permission for an industrial visit to VEI Technologies for our 1st Year students. The visit is scheduled to take place on two days, as outlined below:

I Batch - Departments: CSE A, CSE B, and EEE on 20.06.2023

II Batch - Departments: ECE, AI & DS, MECH and IT on 21.06.2023

We are planning for a total of 270 students from the 1st Year, consisting of 180 boys and 90 girls, accompanied by 6 staff members. The staff members accompanying the students are Dr. P.S. Satheesh Kumar, Prof/Physics, Dr. N. Kavitha, ASP/Physics, Dr. P. Rani, ASP/Maths, Dr. P. Shanmuga Priya, ASP/English, Dr. N. Prabakaran, ASP/Chemistry and Mrs. C. Yogitha, AP/Maths.

We assure you that all necessary arrangements regarding transportation, supervision, and safety measures will be diligently taken care of throughout the visit.

We kindly request your approval for this industrial visit, as it will significantly contribute to the academic and professional development of our students. We eagerly await your favorable response.

Yours Faithfully,

Natham,
12.06.2023

(Dr. P. S. Satheesh Kumar)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul Dist.

CamScanner

Industrial Visit to VEI Technologies, Chennai

ABOUT VEI TECHNOLOGIES

Vei Technologies, incorporated with a sole vision of building trustworthy customer relationship from 2009 onward across the globe by delivering quality and commitment. The talented resource of Bel-Technology is obliged to develop new technology and mechanism for a prompt customer service and satisfaction. Vei Technologies, is Research and Development Company with proficient web development and software solution company based in Chennai.

The company believe in bringing technology to help make the world better. It is their goal to deliver to clients what they expect to make their work and life easier. They have a large array of specialties which come together as a great package for the customers. The whole concept of Website and software development is changing so fast and to catch up every one needs a technology partner like US.

Vei Technologies Private Limited is a 1 year 1 month old Private Company incorporated on24 Sep 2021. Its registered office is in Villupuram, Tamil Nadu, India. The Company's status is Active. It's a company limited by shares having an authorized capital of Rs .10.00 lakh and a paid-up capital of Rs 1.00 lakh as per MCA.

VEI
TECHNOLOGIES

NPR COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

REQUISITION LETTER

From,
Dr. P.S. Satheesh Kumar,
Head of the Department,
Department of Science and Humanities,
NPR College of Engineering & Technology, Natham,
Dindigul – 624 401.

To,
Dr B Ezhilavan,
Managing Director,
VEI Technologies,
Chennai.

Dear Sir,
Greetings!
I hope this letter finds you in good health and high spirits. I am writing on behalf of NPR College of Engineering and Technology, situated in Natham, Dindigul district. Our institution is dedicated to the personal and professional development of students from rural backgrounds, offering a range of UG and PG courses.

It has been a longstanding practice in our Science and Humanities Department to organize industrial visits for our students every semester, aiming to provide them with practical exposure and industry insights. In line with this, we have planned an industrial visit to VEI Technologies for our 270 first year students and 6 accompanying staff members. The visit is scheduled for two days, with two batches visiting on 20/6/23 and 21/6/23, respectively.
We assure you, sir, that our students will adhere strictly to safety protocols and will not disrupt your regular operations during their visit.

We humbly request your esteemed organization to grant us permission for this industrial visit. We would greatly appreciate if you could confirm the permission through a formal letter or email correspondence.

We look forward to the opportunity for our students to benefit from this valuable learning experience at VEI Technologies.

Natham,
12.06.23

Yours faithfully,

(Dr. P. S. Satheesh Kumar)

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

Industrial Visit to VEI Technologies, Chennai

CONFIRMATION LETTER FROM INDUSTRY

Gmail

Inbox

info@veitechnologies.com Wed, JUNE 14,2023, 12.28 PM

To:

hodmathematicsnprcet@gmail.com

Dear Sir,

We are happy to give permission for the industrial visit to your wards in VEI Technologies, Chennai. Kindly remind us one day in advance for the visit schedule also send the original letter copy with your hand during the visit.

Thanks and Regards,

Dr B Ezhilavan,
Managing Director,
VEI Technologies,
Chennai.

NEW COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

INDUSTRIAL VISIT SCHEDULE

BATCH-I :

Date	TIME		ACTIVITY
	From	To	
19/06/2023	9.00 p.m.	9.30 p.m.	Pick up students from NPRCET
	9.30 p.m.	6.00 a.m. 20/06/2023	Travelling to Chennai
20/06/2023	6.00 a.m.	9.00 a.m.	Refreshment
	9.00 a.m.	12.00 p.m.	Visit to VEI Technologies
	12.00 Noon	1.00 p.m.	Lunch
	1.00 p.m.	3.00 p.m.	Visit to Planetarium
	3.00 p.m.	5.00 p.m.	Visit to Zoo
	5.00 p.m.	6.30 p.m.	Visit to Beach
	6.30 p.m.	8.00 p.m.	Refreshment
	8.00 p.m.	5.00 a.m. 21/06/2023	Back to NPRCET

BATCH-II:

Date	TIME		ACTIVITY
	From	To	
20/06/2023	9.00 p.m.	9.30 p.m.	Pick up students from NPRCET
	9.30 p.m.	6.00am 21/06/2023	Travelling to Chennai
21/06/2023	6.00 a.m.	9.00 a.m.	Refreshment
	9.00 a.m.	12.00 p.m.	Visit to VEI Technologies
	12.00 Noon	1.00 p.m.	Lunch
	1.00 p.m.	3.00 p.m.	Visit to Planetarium
	3.00 p.m.	5.00 p.m.	Visit to Zoo
	5.00 p.m.	6.30 p.m.	Visit to Beach
	6.30 p.m.	8.00 p.m.	Refreshment
	8.00 p.m.	5.00 a.m. 22/06/2023	Back to NPRCET

HOD - I Year
(Dr. P. S. Sathees kumar)

Dr. J.SUNDARARAJAN, B.E., M.Tech., Ph.D.,
PRINCIPAL
Principal
N.P.R. College of Engineering & Technology

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

BATCH-I STUDENT PARTICIPANTS LIST-I YEAR

Date: 20.06.23

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
1.	920822104001	Abarna T	CSE- A	Female
2.	920822104002	Adaikalaraj S	CSE- A	Male
3.	920822104003	Adhithya K	CSE- A	Male
4.	920822104004	Afzal Khan M	CSE- A	Male
5.	920822104005	Ahilesh V	CSE- A	Male
6.	920822104006	Ajay Prajan S	CSE- A	Male
7.	920822104007	Ajitha Carmel J	CSE- A	Female
8.	920822104008	Akash S	CSE- A	Male
9.	920822104009	Akshal R	CSE- A	Male
10.	920822104011	Alwin Kirubakaran Y	CSE- A	Male
11.	920822104012	Anusuya S	CSE- A	Female
12.	920822104013	Anwarsha K	CSE- A	Female
13.	920822104014	Arul Hariharan S	CSE- A	Male
14.	920822104015	Ashima Nishara D	CSE- A	Female
15.	920822104016	Asim Sumaiya J	CSE- A	Female
16.	920822104017	Aswanthwin Fried S	CSE- A	Male
17.	920822104018	Balamurugan D	CSE- A	Male
18.	920822104019	Bharath Kumar V	CSE- A	Male
19.	920822104020	Bismi Farhana A	CSE- A	Female
20.	920822104021	Cibi Raj C	CSE- A	Male
21.	920822104022	Deepadharshini G	CSE- A	Female
22.	920822104023	Ellin Arock Celcia J	CSE- A	Female
23.	920822104024	Giri Ganesh K	CSE- A	Male
24.	920822104025	Gokula Kannan T	CSE- A	Male
25.	920822104026	Gokula Praveen N	CSE- A	Male
26.	920822104027	Gowtham P	CSE- A	Male
27.	920822104028	Gowthavamoorthy S	CSE- A	Male
28.	920822104029	Hariharan D	CSE- A	Male
29.	920822104030	Indira J	CSE- A	Female
30.	920822104031	Iswarya K	CSE- A	Female
31.	920822104032	Janani Priyadharshini V	CSE- A	Female
32.	920822104033	Jawahar S	CSE- A	Male
33.	920822104034	Jeeviha S	CSE- A	Female
34.	920822104035	Jerald Reeganraj I	CSE- A	Male
35.	920822104036	Jeya Arthi S	CSE- A	Female
36.	920822104037	Jeyadeva M	CSE- A	Female

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
37.	920822104038	Joel Rajan	CSE- A	Male
38.	920822104039	Kalaiselvan A	CSE- A	Male
39.	920822104040	Kanthalarasi K	CSE- A	Female
40.	920822104041	Karthiga B	CSE- A	Female
41.	920822104042	Kishore P	CSE- A	Male
42.	920822104043	Kowsalya S	CSE- A	Female
43.	920822104044	Kumaresan S	CSE- A	Male
44.	920822104045	Leo Aandrew G	CSE- A	Male
45.	920822104046	Madhan P	CSE- A	Male
46.	920822104047	Mahalakshmi K	CSE- A	Female
47.	920822104048	Mahalakshmi S	CSE- A	Female
48.	920822104049	Mahasri M	CSE- A	Female
49.	920822104050	Mallesh T	CSE- A	Male
50.	920822104051	Manikandan R	CSE- A	Male
51.	920822104052	Marikumar G	CSE- A	Female
52.	920822104053	Marshal John Raj L	CSE- A	Male
53.	920822104054	Meenakshi K	CSE- A	Female
54.	920822104055	Mohamed Azardeen M	CSE- A	Male
55.	920822104056	Mohamed Faizal Khan A	CSE- A	Male
56.	920822104057	Mohamed Sayeef S	CSE- A	Male
57.	920822104058	Muthukrishnan V	CSE- A	Male
58.	920822104059	Muthu Mahalakshmi V	CSE- A	Female
59.	920822104060	Naga Arjun B	CSE- A	Male
60.	920822104061	Naveen J	CSE- A	Male
61.	920822104062	Naveena V	CSE- A	Female
62.	920822104063	Nevin Nehal R S	CSE- A	Male
63.	920822104064	Nirmala R	CSE- A	Female
64.	920822104065	Nishanth K	CSE- B	Male
65.	920822104066	Nithish R	CSE- B	Male
66.	920822104067	Nithish Manickam S	CSE- B	Male
67.	920822104068	Nivetha P	CSE- B	Female
68.	920822104069	Palanimurugan V	CSE- B	Male
69.	920822104070	Partheeban A	CSE- B	Male
70.	920822104071	Pavatharani S	CSE- B	Female
71.	920822104072	Perumal Kumar V	CSE- B	Male
72.	920822104073	Ponnalagar V	CSE- B	Male
73.	920822104074	Pooja Shree A	CSE- B	Female
74.	920822104075	Pooja Shri M	CSE- B	Female

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies,Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
75.	920822104076	Poornisha R	CSE- B	Female
76.	920822104077	Pradeepan M	CSE- B	Male
77.	920822104078	Pragatheeswaran A	CSE- B	Male
78.	920822104079	Praveenkumar S	CSE- B	Male
79.	920822104080	Priyadharshini G	CSE- B	Female
80.	920822104081	Priyadharshini R	CSE- B	Female
81.	920822104082	Rajamannar N G	CSE- B	Male
82.	920822104083	Rakesh V	CSE- B	Male
83.	920822104084	Ravikrishnan R	CSE- B	Male
84.	920822104085	Rexton George R	CSE- B	Male
85.	920822104086	Rohini T	CSE- B	Female
86.	920822104087	Rubinesh C	CSE- B	Male
87.	920822104088	Sabari Anandh M	CSE- B	Male
88.	920822104089	Sabura Shifana J	CSE- B	Female
89.	920822104090	Sakthivel P	CSE- B	Male
90.	920822104091	Sanjay T	CSE- B	Male
91.	920822104092	Sanjay Raj J	CSE- B	Male
92.	920822104093	Santhiya S	CSE- B	Female
93.	920822104094	Sarguna Gokul R	CSE- B	Male
94.	920822104095	Saru Malini R	CSE- B	Female
95.	920822104096	Sathish S	CSE- B	Male
96.	920822104097	Shalima S	CSE- B	Female
97.	920822104098	Shrini Prabu A	CSE- B	Male
98.	920822104099	Sivaraj Kumar M	CSE- B	Male
99.	920822104100	Sofiga R	CSE- B	Female
100	920822104101	Sona S	CSE- B	Female
101	920822104102	Sree Yogeswari S	CSE- B	Female
102	920822104103	Sri Kunguma Raja Surya V	CSE- B	Male
103	920822104104	Sri Prasath N K	CSE- B	Male
104	920822104105	Subash Rayan S	CSE- B	Male
105	920822104106	Subha Sri R	CSE- B	Female
106	920822104107	Sujithra B	CSE- B	Female
107	920822104108	Sulaika P	CSE- B	Female
108	920822104109	Surekha M	CSE- B	Female
109	920822104110	Suriya Prabha K	CSE- B	Female
110	920822104111	Surjith K	CSE- B	Male
111	920822104112	Syed Ali Fathima N	CSE- B	Female
112	920822104113	Tharini Priya J	CSE- B	Female

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies,Chennai

S.No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
113	920822104114	Veera Ramana M	CSE- B	Male
114	920822104115	Vibin Dipak K	CSE- B	Male
115	920822104116	Vignesh M	CSE- B	Male
116	920822104117	Vignesh R	CSE- B	Male
117	920822104118	Vijayalakshmi A	CSE- B	Female
118	920822104119	Vijayan S	CSE- B	Male
119	920822104120	Vimal Sanjay A	CSE- B	Male
120	920822104121	Visali S	CSE- B	Female
121	920822104122	Vishnupriya D	CSE- B	Female
122	920822104123	Viswa B	CSE- B	Male
123	920822104124	Yagavarman S	CSE- B	Male
124	920822104125	Yoganth M	CSE- B	Male
125	920822104126	Yohith Kumar Nagarajan	CSE- B	Male
126	920822105001	Abhin Krishna U V	EEE	Male
127	920822105002	Abirami P	EEE	Female
128	920822105003	Ajay S	EEE	Male
129	920822105004	Ariyadharshini B	EEE	Female
130	920822105005	Atheeswaran M	EEE	Male
131	920822105006	Chellan P	EEE	Male
132	920822105007	Deenadhayalan T	EEE	Male
133	920822105008	Dhanushkumar K	EEE	Male
134	920822105009	Dharani M	EEE	Female
135	920822105010	Dharani Daran M	EEE	Male
136	920822105011	Dhinesh Prasad S	EEE	Male
137	920822105012	Eswara Pandi R	EEE	Male
138	920822105013	Hari Haran G	EEE	Male
139	920822105014	Harini R	EEE	Female
140	920822105015	Kaja Mohaideen S	EEE	Male
141	920822105016	Karuppaiah C	EEE	Male
142	920822105017	Mohammed Hanif H	EEE	Male
143	920822105018	Nikeelash Bala M	EEE	Male
144	920822105019	Pandi Manikandan N	EEE	Male
145	920822105020	Premkumar K	EEE	Male
146	920822105021	Raghul Kanna S	EEE	Male
147	920822105022	Rajapandian R	EEE	Male
148	920822105023	Sakthi Vignesh S	EEE	Male

HOD-I Year
(Dr. P.S. Sathees Kumar)

Dr. J.SUNDARARAJAN, M.E., M.Tech., Ph.D.,
PRINCIPAL
N.P.R. College of Engineering & Technology

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

DEPARTMENT OF SCIENCE AND HUMANITIES

BATCH-II STUDENTS PARTICIPANTS LIST- I YEAR

Date: 21.06.23

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
1.	920822106001	Aajip S	ECE	Male
2.	920822106002	Archana A R	ECE	Female
3.	920822106003	Arunachalam R	ECE	Male
4.	920822106004	Arun Kumar S	ECE	Male
5.	920822106005	Athikundhan G	ECE	Male
6.	920822106006	Azhagu Selvam S	ECE	Male
7.	920822106007	Babitha N	ECE	Female
8.	920822106008	Balamurugan P	ECE	Male
9.	920822106009	Bala Sowndharya M	ECE	Male
10.	920822106010	Bazir Ahamed M	ECE	Male
11.	920822106011	Bhava Dharani S	ECE	Male
12.	920822106012	Dharshan V	ECE	Male
13.	920822106013	Divyadharshini M	ECE	Female
14.	920822106014	Divyadharshini U	ECE	Female
15.	920822106015	Geerthana T	ECE	Female
16.	920822106016	Giruthika R	ECE	Female
17.	920822106017	Gokulakrishnan P	ECE	Male
18.	920822106018	Gokul Krishnan R	ECE	Male
19.	920822106019	Hariharan S P	ECE	Male
20.	920822106020	Harimadesh S	ECE	Male
21.	920822106021	Hemalatha K	ECE	Female
22.	920822106022	Janagan A	ECE	Male
23.	920822106023	Janarthanan A S	ECE	Male
24.	920822106024	Jeeva T	ECE	Male
25.	920822106025	Jeeva Rexline A	ECE	Female
26.	920822106026	Jenifer R	ECE	Female
27.	920822106027	Jeyan James Raj A	ECE	Male
28.	920822106028	Jeyasri P	ECE	Female
29.	920822106029	Kevin Agath A	ECE	Male
30.	920822106030	Kohila K	ECE	Female
31.	920822106031	Lakshmi S	ECE	Female
32.	920822106032	Lalith Kishore M	ECE	Male
33.	920822106033	Lieyander A B	ECE	Male
34.	920822106034	Loganath S	ECE	Male
35.	920822106035	Mahesh Karthick M	ECE	Male
36.	920822106036	Maheswaran S	ECE	Male

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
INDUSTRIAL VISIT TO VEI TECHNOLOGIES, CHENNAI

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
37.	920822106037	Mani N	ECE	Male
38.	920822106038	Maragathalakshmi B	ECE	Male
39.	920822106039	Mohamed Shameer S M	ECE	Male
40.	920822106040	Muraliprasanth A	ECE	Male
41.	920822106041	Preetha S	ECE	Female
42.	920822106042	Priya Dharshini S V	ECE	Female
43.	920822106043	Rishikesh K	ECE	Male
44.	920822106044	Ruthramoorthy M	ECE	Male
45.	920822106045	Sadhaa Sivam S	ECE	Male
46.	920822106046	Sakthivel N K	ECE	Male
47.	920822106047	Sanjay M	ECE	Male
48.	920822106048	Santhiya V	ECE	Female
49.	920822106049	Sarvesh T	ECE	Male
50.	920822106050	Sathan B	ECE	Male
51.	920822106051	Shivaramakrishnan N	ECE	Male
52.	920822106052	Sivanesan S	ECE	Male
53.	920822106053	Sivaranjini A	ECE	Female
54.	920822106054	Sri Mithra M	ECE	Male
55.	920822106055	Srinithiswari O G	ECE	Female
56.	920822106056	Tamilkodi K	ECE	Female
57.	920822106057	Thirumalainathan P	ECE	Male
58.	920822106058	Thrishma Bharathi G	ECE	Female
59.	920822106059	Varsha R	ECE	Female
60.	920822106060	Venkatesh K	ECE	Male
61.	920822106061	Vimalkumar K	ECE	Male
62.	920822106062	Vinoth P	ECE	Male
63.	920822106063	Viswanathan V	ECE	Male
64.	920822243001	Aaron S	AI&DS	Male
65.	920822243002	Abinaya Sree A	AI&DS	Female
66.	920822243003	Aishuwarya Dharshini V	AI&DS	Female
67.	920822243004	Akash S	AI&DS	Male
68.	920822243005	Alen Thomas	AI&DS	Female
69.	920822243006	Anandhapranesh P	AI&DS	Male
70.	920822243007	Aririthissh A M	AI&DS	Male
71.	920822243008	Arunkumar N	AI&DS	Male
72.	920822243009	Aswin Raj II	AI&DS	Male
73.	920822243010	Balaguru B	AI&DS	Male
74.	920822243011	Balavijay M	AI&DS	Male

CamScanner

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
75.	920822243012	Bavatharani K	AI&DS	Female
76.	920822243013	Bharath Bagavathi R	AI&DS	Male
77.	920822243014	Daranee Daran R	AI&DS	Male
78.	920822243015	Deepak Indirajith M C	AI&DS	Male
79.	920822243016	Gokulprasanna V	AI&DS	Male
80.	920822243017	Guru Hariprasath R	AI&DS	Male
81.	920822243018	Guruprasath M	AI&DS	Male
82.	920822243019	Issac Sunil	AI&DS	Male
83.	920822243020	James Allwin S J	AI&DS	Male
84.	920822243021	Janani S	AI&DS	Female
85.	920822243022	Jegatheesh M	AI&DS	Male
86.	920822243023	Jeyasurya S	AI&DS	Male
87.	920822243024	Joseph Boweenraj A	AI&DS	Male
88.	920822243025	Karthick J P	AI&DS	Male
89.	920822243026	Krisha C R	AI&DS	Female
90.	920822243027	Krithick P	AI&DS	Male
91.	920822243028	Lakshmana Perumal S	AI&DS	Male
92.	920822243029	Leena Sri S	AI&DS	Female
93.	920822243030	Loga Hariharan V G	AI&DS	Female
94.	920822243031	Logeshwaran S	AI&DS	Male
95.	920822243032	Mayil Vaganan R	AI&DS	Male
96.	920822243033	Mohamed Bisail M	AI&DS	Male
97.	920822243034	Mono Balaji D	AI&DS	Male
98.	920822243035	Nagarajan M	AI&DS	Male
99.	920822243036	Nanthagobalakrishnan M	AI&DS	Male
100.	920822243037	Niranjana S	AI&DS	Female
101.	920822243038	Padmesh M	AI&DS	Male
102.	920822243039	Prasanth J	AI&DS	Male
103.	920822243040	Prithiviraj R	AI&DS	Male
104.	920822205001	Aadharsh R D	IT	Male
105.	920822205002	Bhuvaneshwari S	IT	Female
106.	920822205003	Deepadharshini D	IT	Female
107.	920822205004	Divya D	IT	Female
108.	920822205005	Gowthamkishore V	IT	Male
109.	920822205006	Hari Haran K	IT	Male
110.	920822205007	Hari Haran T	IT	Male
111.	920822205008	Harini Devi B	IT	Female
112.	920822205009	Harshavarthan B	IT	Male

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
113.	920822114001	Abdul Ajees A	MECH	Male
114.	920822114002	Alaguraja V	MECH	Male
115.	920822114003	Arvinth Nagarathinam B J	MECH	Male
116.	920822114004	Bala K	MECH	Male
117.	920822114005	Bala N	MECH	Male
118.	920822114015	Muthuvel S	MECH	Male
119.	920822114016	Nandhagopal C	MECH	Male
120.	920822114017	Naveen Kumar M	MECH	Male
121.	920822114018	Riswanth S	MECH	Male
122.	920822114019	Sabariganapathy S	MECH	Male

HOD- I Year
(Dr. P. S. Satheesh Kumar)

PRINCIPAL
Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
NPR Group of Institutions
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: K. TAMILKODI

Register No: 920822106056

Year/Department/Semester: II / ECE / II.

Place of visit: VEL TECHNOLOGIES

No. of days: 1 DAY

From: 21.6.22. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

Signature of Faculty In-charge

HoD

Student's Declaration

I, K. TAMILKODI student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23

Station: Madurai

Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. K. Tamilkodi who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: M. Kannan.

Contact no: 9865365374

Signature of the parent

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 244500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: M. Nagarajan

Register No: 9208 222 43035

Year/Department/Semester: II / AD DS / II

Place of visit: VEI TECHNOLOGIES

No. of days: 1 day.

From: 21.6.23 To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

P. Ramesh.
Signature of Faculty In-charge

HoD

Student's Declaration

I, M. Nagarajan ---------- student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23.

Station: Madurai

M. Nagarajan
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /~~Ms~~.---M. Nagarajan----------who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: K. Mani

Contact no: 7010890951.

K. Mani
Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu, Ph: 04544 – 246500, 501, 502.
Reach the Star

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: P. Sakthivel

Register No: 920822104090

Year/Department/Semester: I year / CSE-B / II

Place of visit: VEI Technologies.

No. of days: 1 day

From: 20.6.2023 To: —

Departure point: NPRCET, NATHAM Time: 9.00 Pm (19.6.23).

Arrival point: NPRCET, NATHAM Time: 5.00 Pm (21.6.23.

Signature of Faculty In-charge HoD

Student's Declaration

I, P. Sakthivel student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 19.6.2023

Station: Vadipatti

Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. P. [illegible] who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: C. பெரியதாயி

Contact no: 9790222576.

Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY NATHAM 17

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.

NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: B. HARINIDEVI

Register No: 920822205008

Year/Department/Semester: I / IT / II

Place of visit: NET TECHNOLOGIES

No. of days: 1 DAY

From: 21.6.23. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

Signature of Faculty In-charge

HoD

Student's Declaration

I, B. HARINIDEVI student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23.

Station: MADURAI

B. Harinidevi
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. B. Harinidevi who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: V. Balamurugan

Contact no: 9643774680.

V. பாலமுருகன்
Signature of the parent

NATHAM

18

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 244500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: R. Rexton George.

Register No: 920822104085

Year/Department/Semester: I / CSE - 'B' / I

Place of visit: VEI TECHNOLOGIES

No. of days: one day

From: 20.6.23. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (19.6.23)

Arrival point: NPRCET, NATHAM Time: 5~~9~~.00 pm (~~20~~ 21.6.23)

P. Kamal.
Signature of Faculty In-charge

HoD

Student's Declaration

I, R. Rexton George student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 19.6.2023

Station: DINDIGUL

R. Rexton George.
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. R. Rexton George who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: M. Rajasekaran

Contact no: 9715505079.

M. Rajasekaran
Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY * NPR * NATHAM

19

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : S. Ajip.
Register Number : 920822106001
Year & Branch : II & ECE
Place of Visit : VEI Technologies
Date of Visit : 21.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.	✓				
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

S. Ajip
Signature of the Student

20

COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : S. AKASH
Register Number : 920822243004
Year & Branch : II Year & AI&DS
Place of Visit : VEI Technologies.
Date of Visit : 21.6.23

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.		✓			
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials		✓			
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures		✓			
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

S. Akash
Signature of the Student

COLLEGE OF ENGG. & TECHNOLOGY • NPR • NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : K.NISHANTH
Register Number : 920822104065
Year & Branch : II CSE-'B'
Place of Visit : VEI Technologies.
Date of Visit : 20.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.		✓			
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

K.Nishanth.
Signature of the Student

22

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : R. Saru Nedini
Register Number : 920822104095
Year & Branch : II year & CSE-B
Place of Visit : VEI Technologies
Date of Visit : 20.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.	✓				
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty		✓			
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

R. Saru Nedini
Signature of the Student

NEW COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : M. Guruprasath
Register Number : 920821224308
Year & Branch : II & AI AND DS
Place of Visit : VEI Technologies
Date of Visit : 21.6.22

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.		✓			
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable		✓			
4.	Safety precautions were instructed before the field visit by the officials/Faculty		✓			
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures		✓			
8.	Scope for doing project is available in the industry/plant		✓			
9.	Opportunity is available for getting internship/industrial training		✓			
10.	The visit was well planned and organized		✓			

M. Guruprasath.
Signature of the Student

24

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Feedback Summary

Sl.no.	Particulars	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total
1	The place of visit is relevant tothe course/courses of the programme.	210	50	10	-	-	270
2	Purpose of the visit was explained in prior.	220	30	20	-	-	270
	Travel plan was good and thejourney was comfortable.	230	30	-	10	-	270
4	Safety precautions were instructed before the field visitby the officials/Faculty	260	08	02	-	-	270
5	Faculty accompanied the students and explained in addition to the industry officials	200	50	20	-	-	270
6	The Faculty / Industry officials clarified the doubts raised by students during the visit.	250	15	05	-	-	270
7	The visit was useful to strengthen the technical knowledge gathered in lectures	250	16	04	-	-	270
8	Scope for doing project is available in the industry/plant	200	50	20	-	-	270
9	Opportunity is available for getting internship/ industrial training	190	60	20	-	-	270
10	The visit was well planned and organized	250	10	10	-	-	270

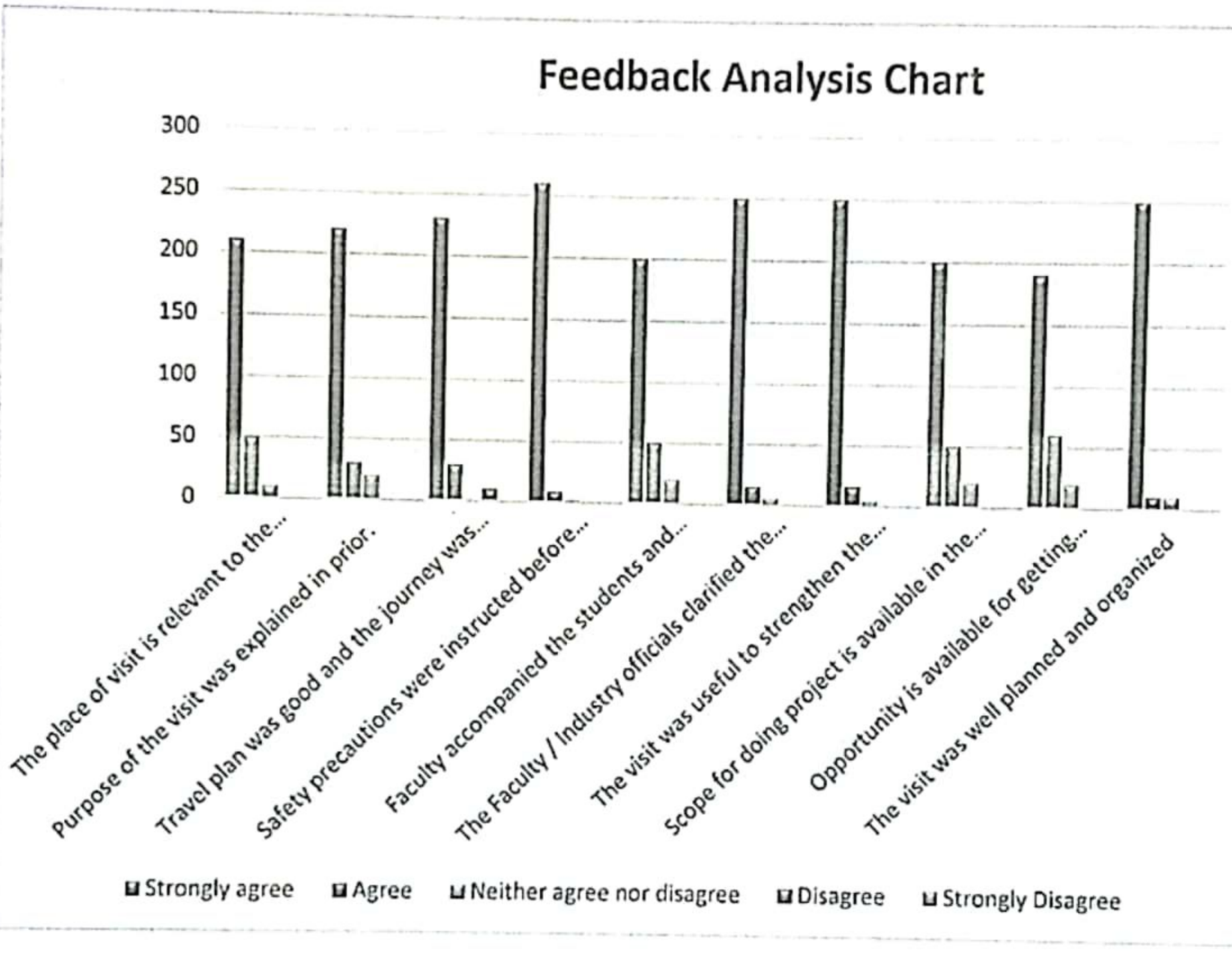
CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Feedback Analysis



HOD-I YEAR
Dr. P. S. Satheesh Kumar

IQAC

PRINCIPAL
Dr. J. SUNDARARAJAN, B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

COLLEGE OF ENGG. & TECH. NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

PHOTO GALLERY

Date:20/6/23 & Date: 21/6/23



I Year students are standing in front of VEI Technologies

COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Summary Report

Date: June 20th, 2023 (I Batch) and June 21st, 2023 (II Batch)
Venue: VEI Technologies, Poonamallee, Chennai

Purpose: The industrial visit to VEI Technologies aimed to offer students from NPRCET a practical insight into industry operations and various departments. It provided an opportunity for 270 first-year students (90 girls and 180 boys) in two batches, accompanied by six staff members, to gain valuable knowledge about the functioning of an R&D company specializing in web development and software solutions.

Schedule:

- **Departure:** Students were picked up from NPRCET on 20.6.23(I Batch) and on 21.6.23(II Batch) at 9:30 pm and traveled by bus to Chennai.
- **Arrival:** The group reached Chennai at 6:00 am the following day.
- **Visit to VEI Technologies:** From 9:00 am to 12:00 pm, students toured the facility, gaining insights into the company's various departments and operations.
- **Meeting with Director:** Students had the opportunity to meet Mr. Babu Ezhilavan, the Director of VEI Technologies, who provided information about the company's services, including web application development, website designing, e-commerce solutions, and more. They also learned about value-added courses offered by the company in areas such as IoT, Java and Python.
- **Leisure Activities:** After lunch at a nearby restaurant from 12:00 p.m to 1:00 p.m, students visited the planetarium from 1:00 p.m to 3:00 p.m, followed by a visit to the zoo from 3:00 p.m to 5:00 p.m, and a trip to the beach from 5:00 p.m to 6:30 p.m.
- **Return:** The students began their return journey at 8:00 p.m and reached NPRCET on 20.6.23(I Batch) and on 21.6.23(II Batch) at 5:00 a.m the next day.

Outcome: The industrial visit provided students with a practical understanding of industry operations and exposed them to various aspects of web development and software solutions. The interaction with staff and the Director of VEI Technologies enhanced the students' knowledge about the industry and its potential career paths. Additionally, the inclusion of leisure activities ensured a well-rounded experience for the students.

Conclusion: The visit to VEI Technologies was a valuable learning experience for the students, allowing them to bridge the gap between theoretical knowledge and practical application in the industry. The well-organized itinerary balanced educational insights with recreational activities, making it a memorable and enriching trip for all participants.

On completion of this industrial visit, the following Pos and PSOs were enabled.

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
√				√		√		√	√	√	√			

FACULTY CO-ORDINATORS
(Dr. P. Rani, ASP/Maths)

HOD
Dr. P S Satheesh Kumar

IQAC

Dr. J.SUNDARARAJAN, B.E.,M.Tech., Ph.D.,
PRINCIPAL
Principal
NPR College of Engineering & Technology
Natham

CamScanner

EC3251 **CIRCUIT ANALYSIS** L T P C 3 1 0 4

COURSE OBJECTIVES:

- To learn the basic concepts and behaviour of DC and AC circuits.
- To understand various methods of circuit/ network analysis using network theorems.
- To understand the transient and steady state response of the circuits subjected to DC excitations and AC with sinusoidal excitations.
- To learn the concept of coupling in circuits and topologies.

UNIT I DC CIRCUIT ANALYSIS 12

Basic Components of electric Circuits, Charge, current, Voltage and Power, Voltage and Current Sources, Ohms Law, Kirchoff's Current Law, Kirchoff's voltage law, The single Node – Pair Circuit, series and Parallel Connected Independent Sources, Resistors in Series and Parallel, voltage and current division, Nodal analysis, Mesh analysis.

UNIT II NETWORK THEOREM AND DUALITY 12

Useful Circuit Analysis techniques - Linearity and superposition, Thevenin and Norton Equivalent Circuits, Maximum Power Transfer, Delta-Wye Conversion. Duals, Dual circuits. Analysis using dependent current sources and voltage sources

UNIT III SINUSOIDAL STEADY STATE ANALYSIS 12

Sinusoidal Steady – State analysis , Characteristics of Sinusoids, The Complex Forcing Function, The Phasor, Phasor relationship for R, L, and C, impedance and Admittance, Nodal and Mesh Analysis, Phasor Diagrams, AC Circuit Power Analysis, Instantaneous Power, Average Power,apparent Power and Power Factor, Complex Power.

UNIT IV TRANSIENTS AND RESONANCE IN RLC CIRCUITS 12

Basic RL and RC Circuits, The Source- Free RL Circuit, The Source-Free RC Circuit, The Unit-Step Function, Driven RL Circuits, Driven RC Circuits, RLC Circuits, Frequency Response, Parallel Resonance, Series Resonance, Quality Factor.

UNIT V COUPLED CIRCUITS AND TOPOLOGY 12

Magnetically Coupled Circuits, mutual Inductance, the Linear Transformer, the Ideal Transformer, An introduction to Network Topology, Trees and General Nodal analysis, Links and Loop analysis.

SUGGESTED ACTIVITIES:

- Practice solving variety of problems

COURSE OUTCOMES

On successful completion of this course, the student will be able to,

CO1: Apply the basic concepts of circuit analysis such as Kirchoff's laws, mesh current andnode voltage method for analysis of DC and AC circuits.

CO2: Apply suitable network theorems and analyze AC and DC circuits

CO3: Analyze steady state response of any R, L and C circuits

CO4: Analyze the transient response for any RC, RL and RLC circuits and frequency responseof parallel and series resonance circuits.

CO5: Analyze the coupled circuits and network topologies

TOTAL: 60 PERIODS

TEXT BOOKS:

1.Hayt Jack Kemmerly, Steven Durbin, "Engineering Circuit Analysis",Mc Graw Hill education,9th Edition, 2018.

2.Charles K. Alexander & Mathew N.O.Sadiku, "Fundamentals of Electric Circuits", Mc Graw-Hill, 2nd Edition, 2003.

3.Joseph Edminister and Mahmood Nahvi, —Electric Circuits, Schaum's Outline Series, TataMcGraw Hill Publishing New Delhi, Fifth Edition Reprint 2016.

REFERENCES:

1.Robert.L. Boylestead, "Introductory Circuit Analysis", Pearson Education India, 12th Edition, 2014. David Bell, "Fundamentals of Electric Circuits", Oxford University press, 7thEdition, 2009.

2.John O Mallay, Schaum's Outlines "Basic Circuit Analysis", The Mc Graw Hill companies, 2nd Edition, 2011

3.Allan H.Robbins, Wilhelm C.Miller, "Circuit Analysis Theory and Practice", Cengage Learning, Fifth Edition.

COLLEGE OF ENGG & TECHNOLOGY NATHAM

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Nathan, Dindigul (Dt) - 624 401.

Scanned with OKEN Scanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT REPORT

DEPARTMENT OF SCIENCE AND HUMANITIES

ACADEMIC YEAR 2022 – 2023

DATE OF VISIT: 20/6/2023 and 21/6/2023

PLACE OF VISIT: VEI Technologies, Chennai.

PARTICIPANTS: BE - I Year

INDEX

S/N	Description	Page No.
1	PERMISSION LETTER	2
2	ABOUT VEI TECHNOLOGIES	3
3	REQUISTITION LETTER	4
4	CONFIRMATION LETTER FROM INDUSTRY	5
5	INDUSTRIAL VISIT SCHEDULE	6
6	STUDENTS' LIST	7
7	CONSENT FORM	15
8	STUDENT'S FEEDBACK FORM	20
9	FEEDBACK SUMMARY	25
10	FEEDBACK ANALYSIS	26
11	PHOTO GALLERY	27
12	SUMMARY REPORT	28

FACULTY COORDINATOR (Dr. P. Rani, Asp/Maths)

HOD-I Year (Dr. P. S. Satheesh Kumar)

IQAC COORDINATOR

PRINCIPAL
Dr. J. SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

PERMISSION LETTER

From

Dr. P.S. Satheesh Kumar,
Head of the Department,
Department of Science and Humanities,
NPR College of Engineering & Technology, Natham,
Dindigul – 624 401.

To

The Administrative Office,
NPR Group of Institutions,
Natham,
Dindigul – 624 401.

Through Proper Channel

Sub: Requesting permission for Industrial visit – Reg.

Respected Sir,

I am writing to formally request permission for an industrial visit to VEI Technologies for our 1st Year students. The visit is scheduled to take place on two days, as outlined below:

I Batch - Departments: CSE A, CSE B, and EEE on 20.06.2023

II Batch - Departments: ECE, AI & DS, MECH and IT on 21.06.2023

We are planning for a total of 270 students from the 1st Year, consisting of 180 boys and 90 girls, accompanied by 6 staff members. The staff members accompanying the students are Dr. P.S. Satheesh Kumar, Prof/Physics, Dr. N. Kavitha, ASP/Physics, Dr. P. Rani, ASP/Maths, Dr. P. Shanmuga Priya, ASP/English, Dr. N. Prabakaran, ASP/Chemistry and Mrs. C. Yogitha, AP/Maths.

We assure you that all necessary arrangements regarding transportation, supervision, and safety measures will be diligently taken care of throughout the visit.

We kindly request your approval for this industrial visit, as it will significantly contribute to the academic and professional development of our students. We eagerly await your favorable response.

Yours Faithfully,

Natham,
12.06.2023

(Dr. P. S. Satheesh Kumar)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul Dist.

CamScanner

Industrial Visit to VEI Technologies, Chennai

ABOUT VEI TECHNOLOGIES

Vei Technologies, incorporated with a sole vision of building trustworthy customer relationship from 2009 onward across the globe by delivering quality and commitment. The talented resource of Bel-Technology is obliged to develop new technology and mechanism for a prompt customer service and satisfaction. Vei Technologies, is Research and Development Company with proficient web development and software solution company based in Chennai.

The company believe in bringing technology to help make the world better. It is their goal to deliver to clients what they expect to make their work and life easier. They have a large array of specialties which come together as a great package for the customers. The whole concept of Website and software development is changing so fast and to catch up every one needs a technology partner like US.

Vei Technologies Private Limited is a 1 year 1 month old Private Company incorporated on24 Sep 2021. Its registered office is in Villupuram, Tamil Nadu, India. The Company's status is Active. It's a company limited by shares having an authorized capital of Rs .10.00 lakh and a paid-up capital of Rs 1.00 lakh as per MCA.

VEI
TECHNOLOGIES

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

Industrial Visit to VEI Technologies, Chennai

REQUISITION LETTER

From,
Dr. P.S. Satheesh Kumar,
Head of the Department,
Department of Science and Humanities,
NPR College of Engineering & Technology, Natham,
Dindigul – 624 401.

To,
Dr B Ezhilavan,
Managing Director,
VEI Technologies,
Chennai.

Dear Sir,
Greetings!
I hope this letter finds you in good health and high spirits. I am writing on behalf of NPR College of Engineering and Technology, situated in Natham, Dindigul district. Our institution is dedicated to the personal and professional development of students from rural backgrounds, offering a range of UG and PG courses.

It has been a longstanding practice in our Science and Humanities Department to organize industrial visits for our students every semester, aiming to provide them with practical exposure and industry insights. In line with this, we have planned an industrial visit to VEI Technologies for our 270 first year students and 6 accompanying staff members. The visit is scheduled for two days, with two batches visiting on 20/6/23 and 21/6/23, respectively.
We assure you, sir, that our students will adhere strictly to safety protocols and will not disrupt your regular operations during their visit.

We humbly request your esteemed organization to grant us permission for this industrial visit. We would greatly appreciate if you could confirm the permission through a formal letter or email correspondence.

We look forward to the opportunity for our students to benefit from this valuable learning experience at VEI Technologies.

Natham,
12.06.23

Yours faithfully,

(Dr. P. S. Satheesh Kumar)

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

Industrial Visit to VEI Technologies, Chennai

CONFIRMATION LETTER FROM INDUSTRY

Gmail

Inbox

info@veitechnologies.com Wed, JUNE 14,2023, 12.28 PM

To:

hodmathematicsnprcet@gmail.com

Dear Sir,

We are happy to give permission for the industrial visit to your wards in VEI Technologies, Chennai. Kindly remind us one day in advance for the visit schedule also send the original letter copy with your hand during the visit.

Thanks and Regards,

Dr B Ezhilavan,
Managing Director,
VEI Technologies,
Chennai.

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

INDUSTRIAL VISIT SCHEDULE

BATCH-I :

Date	TIME		ACTIVITY
	From	To	
19/06/2023	9.00 p.m.	9.30 p.m.	Pick up students from NPRCET
	9.30 p.m.	6.00 a.m. 20/06/2023	Travelling to Chennai
20/06/2023	6.00 a.m.	9.00 a.m.	Refreshment
	9.00 a.m.	12.00 p.m.	Visit to VEI Technologies
	12.00 Noon	1.00 p.m.	Lunch
	1.00 p.m.	3.00 p.m.	Visit to Planetarium
	3.00 p.m.	5.00 p.m.	Visit to Zoo
	5.00 p.m.	6.30 p.m.	Visit to Beach
	6.30 p.m.	8.00 p.m.	Refreshment
	8.00 p.m.	5.00 a.m. 21/06/2023	Back to NPRCET

BATCH-II:

Date	TIME		ACTIVITY
	From	To	
20/06/2023	9.00 p.m.	9.30 p.m.	Pick up students from NPRCET
	9.30 p.m.	6.00am 21/06/2023	Travelling to Chennai
21/06/2023	6.00 a.m.	9.00 a.m.	Refreshment
	9.00 a.m.	12.00 p.m.	Visit to VEI Technologies
	12.00 Noon	1.00 p.m.	Lunch
	1.00 p.m.	3.00 p.m.	Visit to Planetarium
	3.00 p.m.	5.00 p.m.	Visit to Zoo
	5.00 p.m.	6.30 p.m.	Visit to Beach
	6.30 p.m.	8.00 p.m.	Refreshment
	8.00 p.m.	5.00 a.m. 22/06/2023	Back to NPRCET

HOD - I Year
(Dr. P. S. Sathees kumar)

Dr. J.SUNDARARAJAN, B.E., M.Tech., Ph.D.,
PRINCIPAL
Principal
N.P.R. College of Engineering & Technology

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

BATCH-I STUDENT PARTICIPANTS LIST-I YEAR

Date: 20.06.23

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
1.	920822104001	Abarna T	CSE- A	Female
2.	920822104002	Adaikalaraj S	CSE- A	Male
3.	920822104003	Adhithya K	CSE- A	Male
4.	920822104004	Afzal Khan M	CSE- A	Male
5.	920822104005	Ahilesh V	CSE- A	Male
6.	920822104006	Ajay Prajan S	CSE- A	Male
7.	920822104007	Ajitha Carmel J	CSE- A	Female
8.	920822104008	Akash S	CSE- A	Male
9.	920822104009	Akshal R	CSE- A	Male
10.	920822104011	Alwin Kirubakaran Y	CSE- A	Male
11.	920822104012	Anusuya S	CSE- A	Female
12.	920822104013	Anwarsha K	CSE- A	Female
13.	920822104014	Arul Hariharan S	CSE- A	Male
14.	920822104015	Ashima Nishara D	CSE- A	Female
15.	920822104016	Asim Sumaiya J	CSE- A	Female
16.	920822104017	Aswanthwin Fried S	CSE- A	Male
17.	920822104018	Balamurugan D	CSE- A	Male
18.	920822104019	Bharath Kumar V	CSE- A	Male
19.	920822104020	Bismi Farhana A	CSE- A	Female
20.	920822104021	Cibi Raj C	CSE- A	Male
21.	920822104022	Deepadharshini G	CSE- A	Female
22.	920822104023	Ellin Arock Celcia J	CSE- A	Female
23.	920822104024	Giri Ganesh K	CSE- A	Male
24.	920822104025	Gokula Kannan T	CSE- A	Male
25.	920822104026	Gokula Praveen N	CSE- A	Male
26.	920822104027	Gowtham P	CSE- A	Male
27.	920822104028	Gowthavamoorthy S	CSE- A	Male
28.	920822104029	Hariharan D	CSE- A	Male
29.	920822104030	Indira J	CSE- A	Female
30.	920822104031	Iswarya K	CSE- A	Female
31.	920822104032	Janani Priyadharshini V	CSE- A	Female
32.	920822104033	Jawahar S	CSE- A	Male
33.	920822104034	Jeeviha S	CSE- A	Female
34.	920822104035	Jerald Reeganraj I	CSE- A	Male
35.	920822104036	Jeya Arthi S	CSE- A	Female
36.	920822104037	Jeyadeva M	CSE- A	Female

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
37.	920822104038	Joel Rajan	CSE- A	Male
38.	920822104039	Kalaiselvan A	CSE- A	Male
39.	920822104040	Kanthalarasi K	CSE- A	Female
40.	920822104041	Karthiga B	CSE- A	Female
41.	920822104042	Kishore P	CSE- A	Male
42.	920822104043	Kowsalya S	CSE- A	Female
43.	920822104044	Kumaresan S	CSE- A	Male
44.	920822104045	Leo Aandrew G	CSE- A	Male
45.	920822104046	Madhan P	CSE- A	Male
46.	920822104047	Mahalakshmi K	CSE- A	Female
47.	920822104048	Mahalakshmi S	CSE- A	Female
48.	920822104049	Mahasri M	CSE- A	Female
49.	920822104050	Mallesh T	CSE- A	Male
50.	920822104051	Manikandan R	CSE- A	Male
51.	920822104052	Marikumar G	CSE- A	Female
52.	920822104053	Marshal John Raj L	CSE- A	Male
53.	920822104054	Meenakshi K	CSE- A	Female
54.	920822104055	Mohamed Azardeen M	CSE- A	Male
55.	920822104056	Mohamed Faizal Khan A	CSE- A	Male
56.	920822104057	Mohamed Sayeef S	CSE- A	Male
57.	920822104058	Muthukrishnan V	CSE- A	Male
58.	920822104059	Muthu Mahalakshmi V	CSE- A	Female
59.	920822104060	Naga Arjun B	CSE- A	Male
60.	920822104061	Naveen J	CSE- A	Male
61.	920822104062	Naveena V	CSE- A	Female
62.	920822104063	Nevin Nehal R S	CSE- A	Male
63.	920822104064	Nirmala R	CSE- A	Female
64.	920822104065	Nishanth K	CSE- B	Male
65.	920822104066	Nithish R	CSE- B	Male
66.	920822104067	Nithish Manickam S	CSE- B	Male
67.	920822104068	Nivetha P	CSE- B	Female
68.	920822104069	Palanimurugan V	CSE- B	Male
69.	920822104070	Partheeban A	CSE- B	Male
70.	920822104071	Pavatharani S	CSE- B	Female
71.	920822104072	Perumal Kumar V	CSE- B	Male
72.	920822104073	Ponnalagar V	CSE- B	Male
73.	920822104074	Pooja Shree A	CSE- B	Female
74.	920822104075	Pooja Shri M	CSE- B	Female

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies,Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	CLASS	GENDER
75.	920822104076	Poornisha R	CSE- B	Female
76.	920822104077	Pradeepan M	CSE- B	Male
77.	920822104078	Pragatheeswaran A	CSE- B	Male
78.	920822104079	Praveenkumar S	CSE- B	Male
79.	920822104080	Priyadharshini G	CSE- B	Female
80.	920822104081	Priyadharshini R	CSE- B	Female
81.	920822104082	Rajamannar N G	CSE- B	Male
82.	920822104083	Rakesh V	CSE- B	Male
83.	920822104084	Ravikrishnan R	CSE- B	Male
84.	920822104085	Rexton George R	CSE- B	Male
85.	920822104086	Rohini T	CSE- B	Female
86.	920822104087	Rubinesh C	CSE- B	Male
87.	920822104088	Sabari Anandh M	CSE- B	Male
88.	920822104089	Sabura Shifana J	CSE- B	Female
89.	920822104090	Sakthivel P	CSE- B	Male
90.	920822104091	Sanjay T	CSE- B	Male
91.	920822104092	Sanjay Raj J	CSE- B	Male
92.	920822104093	Santhiya S	CSE- B	Female
93.	920822104094	Sarguna Gokul R	CSE- B	Male
94.	920822104095	Saru Malini R	CSE- B	Female
95.	920822104096	Sathish S	CSE- B	Male
96.	920822104097	Shalima S	CSE- B	Female
97.	920822104098	Shrini Prabu A	CSE- B	Male
98.	920822104099	Sivaraj Kumar M	CSE- B	Male
99.	920822104100	Sofiga R	CSE- B	Female
100	920822104101	Sona S	CSE- B	Female
101	920822104102	Sree Yogeswari S	CSE- B	Female
102	920822104103	Sri Kunguma Raja Surya V	CSE- B	Male
103	920822104104	Sri Prasath N K	CSE- B	Male
104	920822104105	Subash Rayan S	CSE- B	Male
105	920822104106	Subha Sri R	CSE- B	Female
106	920822104107	Sujithra B	CSE- B	Female
107	920822104108	Sulaika P	CSE- B	Female
108	920822104109	Surekha M	CSE- B	Female
109	920822104110	Suriya Prabha K	CSE- B	Female
110	920822104111	Surjith K	CSE- B	Male
111	920822104112	Syed Ali Fathima N	CSE- B	Female
112	920822104113	Tharini Priya J	CSE- B	Female

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies,Chennai

S.No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
113	920822104114	Veera Ramana M	CSE- B	Male
114	920822104115	Vibin Dipak K	CSE- B	Male
115	920822104116	Vignesh M	CSE- B	Male
116	920822104117	Vignesh R	CSE- B	Male
117	920822104118	Vijayalakshmi A	CSE- B	Female
118	920822104119	Vijayan S	CSE- B	Male
119	920822104120	Vimal Sanjay A	CSE- B	Male
120	920822104121	Visali S	CSE- B	Female
121	920822104122	Vishnupriya D	CSE- B	Female
122	920822104123	Viswa B	CSE- B	Male
123	920822104124	Yagavarman S	CSE- B	Male
124	920822104125	Yoganth M	CSE- B	Male
125	920822104126	Yohith Kumar Nagarajan	CSE- B	Male
126	920822105001	Abhin Krishna U V	EEE	Male
127	920822105002	Abirami P	EEE	Female
128	920822105003	Ajay S	EEE	Male
129	920822105004	Ariyadharshini B	EEE	Female
130	920822105005	Atheeswaran M	EEE	Male
131	920822105006	Chellan P	EEE	Male
132	920822105007	Deenadhayalan T	EEE	Male
133	920822105008	Dhanushkumar K	EEE	Male
134	920822105009	Dharani M	EEE	Female
135	920822105010	Dharani Daran M	EEE	Male
136	920822105011	Dhinesh Prasad S	EEE	Male
137	920822105012	Eswara Pandi R	EEE	Male
138	920822105013	Hari Haran G	EEE	Male
139	920822105014	Harini R	EEE	Female
140	920822105015	Kaja Mohaideen S	EEE	Male
141	920822105016	Karuppaiah C	EEE	Male
142	920822105017	Mohammed Hanif H	EEE	Male
143	920822105018	Nikeelash Bala M	EEE	Male
144	920822105019	Pandi Manikandan N	EEE	Male
145	920822105020	Premkumar K	EEE	Male
146	920822105021	Raghul Kanna S	EEE	Male
147	920822105022	Rajapandian R	EEE	Male
148	920822105023	Sakthi Vignesh S	EEE	Male

HOD-I Year
(Dr. P.S. Sathees Kumar)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
PRINCIPAL
N.P.R. College of Engineering & Technology

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.

Industrial Visit to VEI Technologies, Chennai

DEPARTMENT OF SCIENCE AND HUMANITIES

BATCH-II STUDENTS PARTICIPANTS LIST- I YEAR

Date: 21.06.23

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
1.	920822106001	Aajip S	ECE	Male
2.	920822106002	Archana A R	ECE	Female
3.	920822106003	Arunachalam R	ECE	Male
4.	920822106004	Arun Kumar S	ECE	Male
5.	920822106005	Athikundhan G	ECE	Male
6.	920822106006	Azhagu Selvam S	ECE	Male
7.	920822106007	Babitha N	ECE	Female
8.	920822106008	Balamurugan P	ECE	Male
9.	920822106009	Bala Sowndharya M	ECE	Male
10.	920822106010	Bazir Ahamed M	ECE	Male
11.	920822106011	Bhava Dharani S	ECE	Male
12.	920822106012	Dharshan V	ECE	Male
13.	920822106013	Divyadharshini M	ECE	Female
14.	920822106014	Divyadharshini U	ECE	Female
15.	920822106015	Geerthana T	ECE	Female
16.	920822106016	Giruthika R	ECE	Female
17.	920822106017	Gokulakrishnan P	ECE	Male
18.	920822106018	Gokul Krishnan R	ECE	Male
19.	920822106019	Hariharan S P	ECE	Male
20.	920822106020	Harimadesh S	ECE	Male
21.	920822106021	Hemalatha K	ECE	Female
22.	920822106022	Janagan A	ECE	Male
23.	920822106023	Janarthanan A S	ECE	Male
24.	920822106024	Jeeva T	ECE	Male
25.	920822106025	Jeeva Rexline A	ECE	Female
26.	920822106026	Jenifer R	ECE	Female
27.	920822106027	Jeyan James Raj A	ECE	Male
28.	920822106028	Jeyasri P	ECE	Female
29.	920822106029	Kevin Agath A	ECE	Male
30.	920822106030	Kohila K	ECE	Female
31.	920822106031	Lakshmi S	ECE	Female
32.	920822106032	Lalith Kishore M	ECE	Male
33.	920822106033	Lieyander A B	ECE	Male
34.	920822106034	Loganath S	ECE	Male
35.	920822106035	Mahesh Karthick M	ECE	Male
36.	920822106036	Maheswaran S	ECE	Male

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES
INDUSTRIAL VISIT TO VEI TECHNOLOGIES, CHENNAI

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
37.	920822106037	Mani N	ECE	Male
38.	920822106038	Maragathalakshmi B	ECE	Male
39.	920822106039	Mohamed Shameer S M	ECE	Male
40.	920822106040	Muraliprasanth A	ECE	Male
41.	920822106041	Preetha S	ECE	Female
42.	920822106042	Priya Dharshini S V	ECE	Female
43.	920822106043	Rishikesh K	ECE	Male
44.	920822106044	Ruthramoorthy M	ECE	Male
45.	920822106045	Sadhaa Sivam S	ECE	Male
46.	920822106046	Sakthivel N K	ECE	Male
47.	920822106047	Sanjay M	ECE	Male
48.	920822106048	Santhiya V	ECE	Female
49.	920822106049	Sarvesh T	ECE	Male
50.	920822106050	Sathan B	ECE	Male
51.	920822106051	Shivaramakrishnan N	ECE	Male
52.	920822106052	Sivanesan S	ECE	Male
53.	920822106053	Sivaranjini A	ECE	Female
54.	920822106054	Sri Mithra M	ECE	Male
55.	920822106055	Srinithiswari O G	ECE	Female
56.	920822106056	Tamilkodi K	ECE	Female
57.	920822106057	Thirumalainathan P	ECE	Male
58.	920822106058	Thrishma Bharathi G	ECE	Female
59.	920822106059	Varsha R	ECE	Female
60.	920822106060	Venkatesh K	ECE	Male
61.	920822106061	Vimalkumar K	ECE	Male
62.	920822106062	Vinoth P	ECE	Male
63.	920822106063	Viswanathan V	ECE	Male
64.	920822243001	Aaron S	AI&DS	Male
65.	920822243002	Abinaya Sree A	AI&DS	Female
66.	920822243003	Aishuwarya Dharshini V	AI&DS	Female
67.	920822243004	Akash S	AI&DS	Male
68.	920822243005	Alen Thomas	AI&DS	Female
69.	920822243006	Anandhapranesh P	AI&DS	Male
70.	920822243007	Aririthissh A M	AI&DS	Male
71.	920822243008	Arunkumar N	AI&DS	Male
72.	920822243009	Aswin Raj H	AI&DS	Male
73.	920822243010	Balaguru B	AI&DS	Male
74.	920822243011	Balavijay M	AI&DS	Male

CamScanner

DEPARTMENT OF SCIENCE AND HUMANITIES
Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
75.	920822243012	Bavatharani K	AI&DS	Female
76.	920822243013	Bharath Bagavathi R	AI&DS	Male
77.	920822243014	Daranee Daran R	AI&DS	Male
78.	920822243015	Deepak Indirajith M C	AI&DS	Male
79.	920822243016	Gokulprasanna V	AI&DS	Male
80.	920822243017	Guru Hariprasath R	AI&DS	Male
81.	920822243018	Guruprasath M	AI&DS	Male
82.	920822243019	Issac Sunil	AI&DS	Male
83.	920822243020	James Allwin S J	AI&DS	Male
84.	920822243021	Janani S	AI&DS	Female
85.	920822243022	Jegatheesh M	AI&DS	Male
86.	920822243023	Jeyasurya S	AI&DS	Male
87.	920822243024	Joseph Boweenraj A	AI&DS	Male
88.	920822243025	Karthick J P	AI&DS	Male
89.	920822243026	Krisha C R	AI&DS	Female
90.	920822243027	Krithick P	AI&DS	Male
91.	920822243028	Lakshmana Perumal S	AI&DS	Male
92.	920822243029	Leena Sri S	AI&DS	Female
93.	920822243030	Loga Hariharan V G	AI&DS	Female
94.	920822243031	Logeshwaran S	AI&DS	Male
95.	920822243032	Mayil Vaganan R	AI&DS	Male
96.	920822243033	Mohamed Bisail M	AI&DS	Male
97.	920822243034	Mono Balaji D	AI&DS	Male
98.	920822243035	Nagarajan M	AI&DS	Male
99.	920822243036	Nanthagobalakrishnan M	AI&DS	Male
100.	920822243037	Niranjana S	AI&DS	Female
101.	920822243038	Padmesh M	AI&DS	Male
102.	920822243039	Prasanth J	AI&DS	Male
103.	920822243040	Prithiviraj R	AI&DS	Male
104.	920822205001	Aadharsh R D	IT	Male
105.	920822205002	Bhuvaneshwari S	IT	Female
106.	920822205003	Deepadharshini D	IT	Female
107.	920822205004	Divya D	IT	Female
108.	920822205005	Gowthamkishore V	IT	Male
109.	920822205006	Hari Haran K	IT	Male
110.	920822205007	Hari Haran T	IT	Male
111.	920822205008	Harini Devi B	IT	Female
112.	920822205009	Harshavarthan B	IT	Male

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

S. No.	REGISTER NUMBER	NAME OF THE STUDENT	DEPARTMENT	GENDER
113.	920822114001	Abdul Ajees A	MECH	Male
114.	920822114002	Alaguraja V	MECH	Male
115.	920822114003	Arvinth Nagarathinam B J	MECH	Male
116.	920822114004	Bala K	MECH	Male
117.	920822114005	Bala N	MECH	Male
118.	920822114015	Muthuvel S	MECH	Male
119.	920822114016	Nandhagopal C	MECH	Male
120.	920822114017	Naveen Kumar M	MECH	Male
121.	920822114018	Riswanth S	MECH	Male
122.	920822114019	Sabariganapathy S	MECH	Male

HOD- I Year
(Dr. P. S. Satheesh Kumar)

PRINCIPAL
Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR COLLEGE OF ENGG. & TECHNOLOGY * NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
NPR Group of Institutions
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: K. TAMILKODI

Register No: 920822106056

Year/Department/Semester: II / ECE / II.

Place of visit: VEL TECHNOLOGIES

No. of days: 1 DAY

From: 21.6.22. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

Signature of Faculty In-charge

HoD

Student's Declaration

I, K. TAMILKODI student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23

Station: Madurai

Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. K. Tamilkodi who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: M. Kannan.

Contact no: 9865365374

Signature of the parent

CS CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 244500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: M. Nagarajan

Register No: 9208 222 43035

Year/Department/Semester: II / AD DS / II

Place of visit: VEI TECHNOLOGIES

No. of days: 1 day.

From: 21.6.23 To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

P. Ramesh.
Signature of Faculty In-charge

HoD

Student's Declaration

I, M. Nagarajan ---------- student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23.

Station: Madurai

M. Nagarajan
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /~~Ms~~.---M. Nagarajan----------who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: K. Mani

Contact no: 7010890951.

K. Mani
Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu, Ph: 04544 – 246500, 501, 502.
Reach the Star

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: P. Sakthivel

Register No: 920822104090

Year/Department/Semester: I year / CSE-B / II

Place of visit: VEI Technologies.

No. of days: 1 day

From: 20.6.2023 To: —

Departure point: NPRCET, NATHAM Time: 9.00 Pm (19.6.23).

Arrival point: NPRCET, NATHAM Time: 5.00 Pm (21.6.23.

Signature of Faculty In-charge HoD

Student's Declaration

I, P. Sakthivel student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 19.6.2023

Station: Vadipatti

Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. P. [illegible] who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: C. பெரியதாயி

Contact no: 9790222576.

Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY NATHAM 17

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: B. HARINIDEVI

Register No: 920822205008

Year/Department/Semester: I / IT / II

Place of visit: NET TECHNOLOGIES

No. of days: 1 DAY

From: 21.6.23. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (20.6.23)

Arrival point: NPRCET, NATHAM Time: 5.00 pm (22.6.23)

Signature of Faculty In-charge

HoD

Student's Declaration

I, B. HARINIDEVI student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 20.6.23.

Station: MADURAI

B. Harinidevi
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. B. Harinidevi who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: V. Balamurugan

Contact no: 9643774680.

V. பாலமுருகன்
Signature of the parent

NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 244500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES - I YEAR

CONSENT FORM

Name: R. Rexton George.

Register No: 920822104085

Year/Department/Semester: I / CSE - 'B' / I

Place of visit: VEI TECHNOLOGIES

No. of days: one day

From: 20.6.23. To: —

Departure point: NPRCET, NATHAM Time: 9.00 pm (19.6.23)

Arrival point: NPRCET, NATHAM Time: 5~~9~~.00 pm (~~20~~ 21.6.23)

P. Kamal.
Signature of Faculty In-charge

HoD

Student's Declaration

I, R. Rexton George student of this college fully know that I am accompanying the Industrial visit along with other students and staff on my own accord and if outward incident happens to me either of my own action or by others, the Staff, the Principal and Management will not be held responsible for the same. I also accept to abide to the instruction given by the organization we are visiting.

Date: 19.6.2023

Station: DINDIGUL

R. Rexton George.
Signature of the student

Parent's Declaration

I agree to send my ward Mr. /Ms. R. Rexton George who is staying in Hostel/outside/with me for the Industrial visit. I also agree to bear all the expenses and consequences which may occur to my ward during Industrial visit on his/her own risk and will not claim any damage or compensation from the college for any unforeseen happenings during the visit.

Name: M. Rajasekaran

Contact no: 9715505079.

M. Rajasekaran
Signature of the parent

COLLEGE OF ENGG. & TECHNOLOGY * NPR * NATHAM

19

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : S. Ajip.
Register Number : 920822106001
Year & Branch : II & ECE
Place of Visit : VEI Technologies
Date of Visit : 21.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.	✓				
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

S. Ajip.
Signature of the Student

20

PRINCIPAL
NPR COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : S. AKASH
Register Number : 920822243004
Year & Branch : II Year & AI&DS
Place of Visit : VEI Technologies.
Date of Visit : 21.6.23

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.		✓			
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials		✓			
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures		✓			
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

S. Akash
Signature of the Student

COLLEGE OF ENGG. & TECHNOLOGY • NPR • NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : K.NISHANTH
Register Number : 920822104065
Year & Branch : II CSE-'B'
Place of Visit : VEI Technologies.
Date of Visit : 20.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty	✓				
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.		✓			
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

K.N.Stanath.
Signature of the Student

22

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : R. Saru Nedini
Register Number : 920822104095
Year & Branch : II year & CSE-B
Place of Visit : VEI Technologies
Date of Visit : 20.6.23.

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.	✓				
2.	Purpose of the visit was explained in prior.	✓				
3.	Travel plan was good and the journey was comfortable	✓				
4.	Safety precautions were instructed before the field visit by the officials/Faculty		✓			
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures	✓				
8.	Scope for doing project is available in the industry/plant	✓				
9.	Opportunity is available for getting internship/industrial training	✓				
10.	The visit was well planned and organized	✓				

R. Saru Nedini
Signature of the Student

NEW COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502.
Reach the Star
NAAC

INDUSTRIAL VISIT – STUDENT'S FEEDBACK FORM

Name of the Student : M. Guruprasath
Register Number : 920821224308
Year & Branch : II & AI AND DS
Place of Visit : VEI Technologies
Date of Visit : 21.6.22

Sl .No.	Particulars	Strongly agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	The place of visit is relevant to the course/courses of the programme.		✓			
2.	Purpose of the visit was explained in prior.		✓			
3.	Travel plan was good and the journey was comfortable		✓			
4.	Safety precautions were instructed before the field visit by the officials/Faculty		✓			
5.	Faculty accompanied the students and explained in addition to the industry officials	✓				
6.	The Faculty / Industry officials clarified the doubts raised by students during the visit.	✓				
7.	The visit was useful to strengthen the technical knowledge gathered in lectures		✓			
8.	Scope for doing project is available in the industry/plant		✓			
9.	Opportunity is available for getting internship/industrial training		✓			
10.	The visit was well planned and organized		✓			

M. Guruprasath.
Signature of the Student

24

CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502.
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Feedback Summary

Sl.no.	Particulars	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Total
1	The place of visit is relevant tothe course/courses of the programme.	210	50	10	-	-	270
2	Purpose of the visit was explained in prior.	220	30	20	-	-	270
3	Travel plan was good and thejourney was comfortable.	230	30	-	10	-	270
4	Safety precautions were instructed before the field visitby the officials/Faculty	260	08	02	-	-	270
5	Faculty accompanied the students and explained in addition to the industry officials	200	50	20	-	-	270
6	The Faculty / Industry officials clarified the doubts raised by students during the visit.	250	15	05	-	-	270
7	The visit was useful to strengthen the technical knowledge gathered in lectures	250	16	04	-	-	270
8	Scope for doing project is available in the industry/plant	200	50	20	-	-	270
9	Opportunity is available for getting internship/ industrial training	190	60	20	-	-	270
10	The visit was well planned and organized	250	10	10	-	-	270

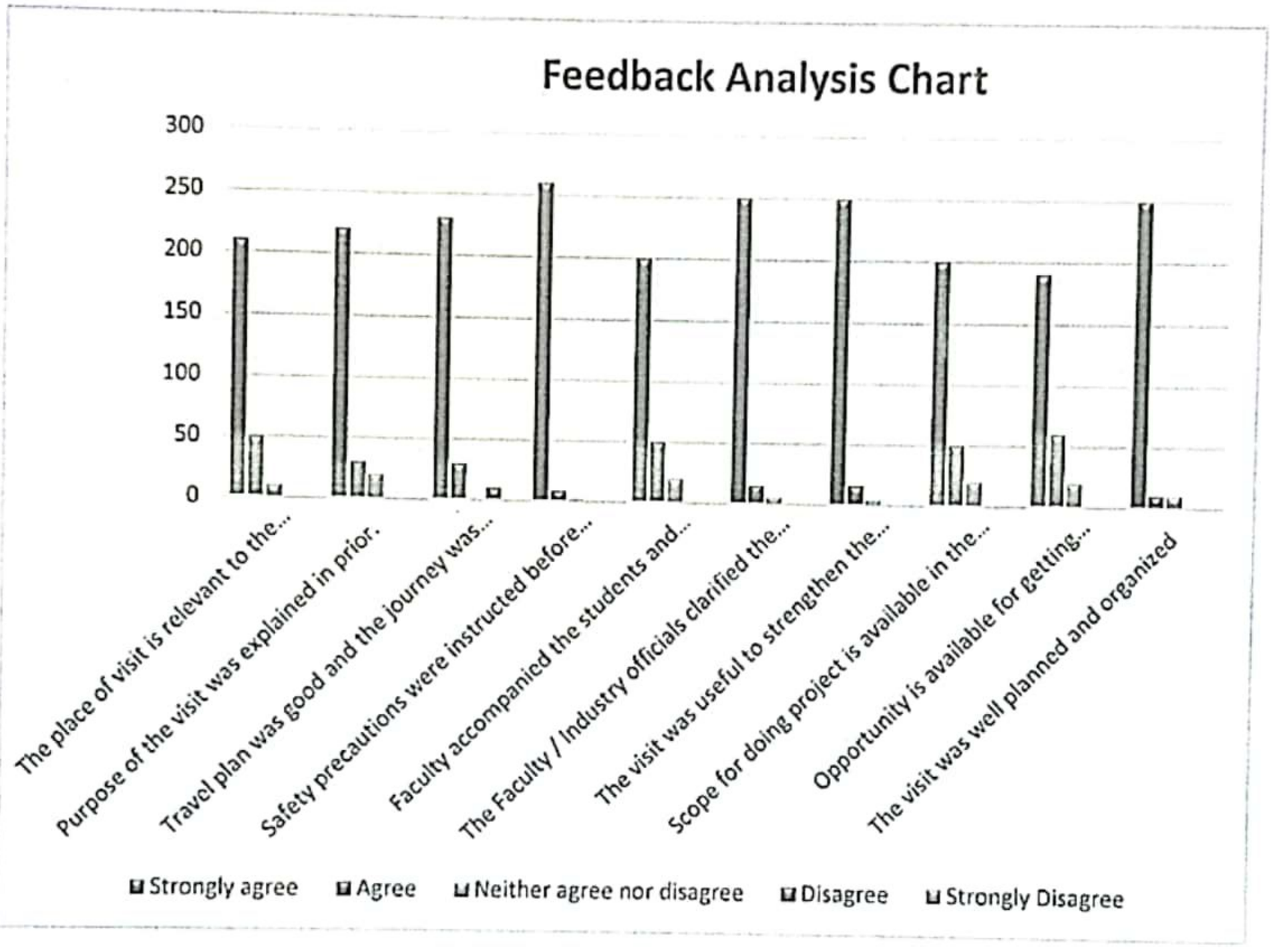
CamScanner

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu Ph: 04544 - 246500, 501, 502.

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Feedback Analysis



HOD-I YEAR

Dr. P. S. Satheesh Kumar

IQAC

PRINCIPAL

Dr. J. SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE,New Delhi & Affiliated to Anna University,Chennai| Accredited by NAAC with 'A' GRADE
Recognised by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham - 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 - 246500, 501, 502
Reach the Star
NAAC

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

PHOTO GALLERY

Date:20/6/23 & Date: 21/6/23



I Year students are standing in front of VEI Technologies

COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

NPR
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai | Accredited by NAAC with 'A' GRADE
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Web: www.nprcolleges.org | E-Mail: nprcetprincipal@nprcolleges.org
NPR Nagar, Natham – 624 401, Dindigul Dist, Tamil Nadu. Ph: 04544 – 246500, 501, 502

DEPARTMENT OF SCIENCE AND HUMANITIES

Industrial Visit to VEI Technologies, Chennai

Summary Report

Date: June 20th, 2023 (I Batch) and June 21st, 2023 (II Batch)
Venue: VEI Technologies, Poonamallee, Chennai

Purpose: The industrial visit to VEI Technologies aimed to offer students from NPRCET a practical insight into industry operations and various departments. It provided an opportunity for 270 first-year students (90 girls and 180 boys) in two batches, accompanied by six staff members, to gain valuable knowledge about the functioning of an R&D company specializing in web development and software solutions.

Schedule:

- **Departure:** Students were picked up from NPRCET on 20.6.23(I Batch) and on 21.6.23(II Batch) at 9:30 pm and traveled by bus to Chennai.
- **Arrival:** The group reached Chennai at 6:00 am the following day.
- **Visit to VEI Technologies:** From 9:00 am to 12:00 pm, students toured the facility, gaining insights into the company's various departments and operations.
- **Meeting with Director:** Students had the opportunity to meet Mr. Babu Ezhilavan, the Director of VEI Technologies, who provided information about the company's services, including web application development, website designing, e-commerce solutions, and more. They also learned about value-added courses offered by the company in areas such as IoT, Java and Python.
- **Leisure Activities:** After lunch at a nearby restaurant from 12:00 p.m to 1:00 p.m, students visited the planetarium from 1:00 p.m to 3:00 p.m, followed by a visit to the zoo from 3:00 p.m to 5:00 p.m, and a trip to the beach from 5:00 p.m to 6:30 p.m.
- **Return:** The students began their return journey at 8:00 p.m and reached NPRCET on 20.6.23(I Batch) and on 21.6.23(II Batch) at 5:00 a.m the next day.

Outcome: The industrial visit provided students with a practical understanding of industry operations and exposed them to various aspects of web development and software solutions. The interaction with staff and the Director of VEI Technologies enhanced the students' knowledge about the industry and its potential career paths. Additionally, the inclusion of leisure activities ensured a well-rounded experience for the students.

Conclusion: The visit to VEI Technologies was a valuable learning experience for the students, allowing them to bridge the gap between theoretical knowledge and practical application in the industry. The well-organized itinerary balanced educational insights with recreational activities, making it a memorable and enriching trip for all participants.

On completion of this industrial visit, the following Pos and PSOs were enabled.

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
√				√		√		√	√	√	√			

FACULTY CO-ORDINATORS
(Dr. P. Rani, ASP/Maths)

HOD
Dr. P S Satheesh Kumar

IQAC

Dr. J.SUNDARARAJAN, B.E.,M.Tech., Ph.D.,
PRINCIPAL
Principal
NPR College of Engineering & Technology
Natham

CamScanner

EC3354 **SIGNALS AND SYSTEMS** L T P C
3 1 0 4

COURSE OBJECTIVES :

- To understand the basic properties of signal & systems
- To know the methods of characterization of LTI systems in time domain
- To analyze continuous time signals and system in the Fourier and Laplace domain
- To analyze discrete time signals and system in the Fourier and Z transform domain

UNIT I CLASSIFICATION OF SIGNALS AND SYSTEMS 6+6

Standard signals- Step, Ramp, Pulse, Impulse, Real and complex exponentials and Sinusoids_Classification of signals – Continuous time (CT) and Discrete Time (DT) signals, Periodic & Aperiodic signals, Deterministic & Random signals, Energy & Power signals - Classification of systems- CT systems and DT systems- – Linear & Nonlinear, Time-variant& Time-invariant,Causal & Non-causal,Stable & Unstable.

UNIT II ANALYSIS OF CONTINUOUS TIME SIGNALS 6+6

Fourier series for periodic signals - Fourier Transform – properties- Laplace Transforms and Properties

UNIT III LINEAR TIME INVARIANT CONTINUOUS TIME SYSTEMS 6+6

Impulse response - convolution integrals- Differential Equation- Fourier and Laplace transforms in Analysis of CT systems - Systems connected in series / parallel.

UNIT IV ANALYSIS OF DISCRETE TIME SIGNALS 6+6

Baseband signal Sampling–Fourier Transform of discrete time signals (DTFT)– Properties of DTFT - Z Transform & Properties

UNIT V LINEAR TIME INVARIANT-DISCRETE TIME SYSTEMS 6+6

Impulse response–Difference equations-Convolution sum- Discrete Fourier Transform and Z Transform Analysis of Recursive & Non-Recursive systems-DT systems connected in series and parallel.

TOTAL: 30+30 PERIODS

COURSE OUTCOMES:

At the end of the course, the student will be able to:

CO1:determine if a given system is linear/causal/stable

CO2: determine the frequency components present in a deterministic signal CO3:characterize continuous LTI systems in the time domain and frequency domain CO4:characterize discrete LTI systems in the time domain and frequency domain CO5:compute the output of an LTI system in the time and frequency domains

TEXT BOOKS:

1. Oppenheim, Willsky and Hamid, "Signals and Systems", 2nd Edition, Pearson Education, New Delhi, 2015.(Units I - V)
2. Simon Haykin, Barry Van Veen, "Signals and Systems", 2nd Edition, Wiley, 2002.

REFERENCES :

1. B. P. Lathi, "Principles of Linear Systems and Signals", 2nd Edition, Oxford, 2009.
2. M. J. Roberts, "Signals and Systems Analysis using Transform methods and MATLAB", McGraw- Hill Education, 2018.
3. John Alan Stuller, "An Introduction to Signals and Systems", Thomson, 2007.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 30.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Aashiga Begam N** (920821106002) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone Internship training in our organization for 14 days from 16.07.2022 to 30.07.2022.

During the period, her conduct was found to be good.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

With Regards
For VI Microsystems

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 30.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Abirami S** (920821106004) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone Internship training in our organization for 14 days from 16.07.2022 to 30.07.2022.

During the period, her conduct was found to be good.

With Regards

For VI Microsystems

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No. : AAACV0909J

Date: 30.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Babitha J** (920821106009) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone Internship training in our organization for 14 days from 16.07.2022 to 30.07.2022.

During the period, her conduct was found to be good.

With Regards

For VI Microsystems

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 30.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Dharshini B** (920821106017) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone Internship training in our organization for 14 days from 16.07.2022 to 30.07.2022.

During the period, her conduct was found to be good.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd. Chennai - 96

With Regards

For VI Microsystems

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ | PAN No : AAACV0909J

Date: 30.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Durga S** (920821106019) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone Internship training in our organization for 14 days from 16.07.2022 to 30.07.2022.

During the period, her conduct was found to be good.

Vi Microsystems Pvt. Ltd., Chennai - 96

With Regards

For VI Microsystems

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

EC3353 **ELECTRONIC DEVICES AND CIRCUITS** **L T P C**
3 0 0 3

COURSE OBJECTIVES :

- To give a comprehensive exposure to all types of devices and circuits constructed with discrete components. This helps to develop a strong basis for building linear and digital integrated circuits
- To analyze the frequency response of small signal amplifiers
- To design and analyze single stage and multistage amplifier circuits
- To study about feedback amplifiers and oscillators principles
- To understand the analysis and design of multi vibrators

UNIT I SEMICONDUCTOR DEVICES **9**

PN junction diode, Zener diode, BJT, MOSFET, UJT –structure, operation and V-I characteristics, diffusion and transition capacitance - Rectifiers – Half Wave and Full Wave Rectifier, Zener as regulator

UNIT II AMPLIFIERS **9**

Load line, operating point, biasing methods for BJT and MOSFET, BJT small signal model – Analysis of CE, CB, CC amplifiers- Gain and frequency response –MOSFET small signal model– Analysis of CS, CG and Source follower – Gain and frequency response- High frequency analysis.

UNIT III MULTISTAGE AMPLIFIERS AND DIFFERENTIAL AMPLIFIER **9**

Cascode amplifier, Differential amplifier – Common mode and Difference mode analysis – MOSFET input stages – tuned amplifiers – Gain and frequency response – Neutralization methods.

UNIT IV FEEDBACK AMPLIFIERS AND OSCILLATORS **9**

Advantages of negative feedback – Voltage / Current, Series , Shunt feedback Amplifiers – positive feedback– Condition for oscillations, phase shift – Wien bridge, Hartley, Colpitts and Crystal oscillators.

UNIT V POWER AMPLIFIERS AND DC/DC CONVERTERS **9**

Power amplifiers- class A-Class B-Class AB-Class C-Power MOSFET-Temperature Effect- Class AB Power amplifier using MOSFET –DC/DC convertors – Buck, Boost, Buck-Boost analysis and design.

TOTAL: 45 PERIODS

COURSE OUTCOMES :

At the end of the course the students will be able to

CO1: Explain the structure and working operation of basic electronic devices.

CO2: Design and analyze amplifiers.

CO3: Analyze frequency response of BJT and MOSFET amplifiers **CO4**: Design and analyze feedback amplifiers and oscillator principles. **CO5**: Design and analyze power amplifiers and supply circuits

TEXT BOOKS :

1. David A. Bell, "Electronic Devices and Circuits", Oxford Higher Education press, 5 th Edition, 2010.
2. Robert L. Boylestad and Louis Nasheresky, "Electronic Devices and Circuit Theory", 10th Edition, Pearson Education / PHI, 2008.
3. Adel .S. Sedra, Kenneth C. Smith, "Micro Electronic Circuits", Oxford University Press, 7 th Edition, 2014.

REFERENCES :

1. Donald.A. Neamen, "Electronic Circuit Analysis and Design", Tata McGraw Hill, 3 rd Edition, 2010.
2. D.Schilling and C.Belove, "Electronic Circuits", McGraw Hill, 3 rd Edition, 1989
3. Muhammad H.Rashid, "Power Electronics", Pearson Education / PHI , 2004.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

megatronics

Date: 10.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Nadhiya M** (920821106049) doing Second year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone In-Plant training program offered by our organization during the period of 03.03.2023 - 10.03.2023.

We wish her every success in life

For Megatronics

(C.Kannan)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Megatronics
65, R.K. Mills 'B' Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-65001 Phone : 0422 - 250 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

Megatronics

Date: 10.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Swathi P** (920821106083) doing Second year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone In-Plant training program offered by our organization during the period of 03.03.2023 - 10.03.2023.

We wish her every success in life

For Megatronics

(C.Kalidasan)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Megatronics
65, R.K. Mills 'B' Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-65001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

megatronics

Date: 10.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Varsha V S** (920821106088) doing Second year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone In-Plant training program offered by our organization during the period of 03.03.2023 - 10.03.2023.

We wish her every success in life

For Megatronics

(C.Kalaiyan)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (DT) - 624 401.

Megatronics
65, R.K. Mills "B" Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-85001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

EC3351 **CONTROL SYSTEMS** L T P C
3 0 0 3

COURSE OBJECTIVES :

- To introduce the components and their representation of control systems
- To learn various methods for analyzing the time response, frequency response and stability of the systems.
- To learn the various approach for the state variable analysis.

UNIT I SYSTEMS COMPONENTS AND THEIR REPRESENTATION 9

Control System: Terminology and Basic Structure-Feed forward and Feedback control theory- Electrical and Mechanical Transfer Function Models-Block diagram Models-Signal flow graphs models-DC and AC servo Systems-Synchronous - Multivariable control system

UNIT II TIME RESPONSE ANALYSIS 9

Transient response-steady state response-Measures of performance of the standard first order and second order system-effect on an additional zero and an additional pole-steady error constant and system- type number-PID control-Analytical design for PD, PI,PID control systems

UNIT III FREQUENCY RESPONSE AND SYSTEM ANALYSIS 9

Closed loop frequency response-Performance specification in frequency domain-Frequency response of standard second order system- Bode Plot - Polar Plot- Nyquist plots-Design of compensators using Bode plots-Cascade lead compensation-Cascade lag compensation-Cascade lag-lead compensation

UNIT IV CONCEPTS OF STABILITY ANALYSIS 9

Concept of stability-Bounded - Input Bounded - Output stability-Routh stability criterion-Relative stability-Root locus concept-Guidelines for sketching root locus-Nyquist stability criterion.

UNIT V CONTROL SYSTEM ANALYSIS USING STATE VARIABLE METHODS 9

State variable representation-Conversion of state variable models to transfer functions-Conversion of transfer functions to state variable models-Solution of state equations-Concepts of Controllability and Observability-Stability of linear systems-Equivalence between transfer function and state variable representations-State variable analysis of digital control system-Digital control design using state feedback.

TOTAL:45 PERIODS

COURSE OUTCOMES :

Upon successful completion of the course the student will be able to CO1: Compute the transfer function of different physical systems.

CO2: Analyse the time domain specification and calculate the steady state error.

CO3: Illustrate the frequency response characteristics of open loop and closed loop system response.

CO4: Analyse the stability using Routh and root locus techniques.

CO5: Illustrate the state space model of a physical system and discuss the concepts of sampled data control system.

TEXT BOOK:

1. M.Gopal,"Control System – Principles and Design", Tata McGraw Hill, 4th Edition, 2012.

REFERENCE:

1. J.Nagrath and M.Gopal, "Control System Engineering", New Age International Publishers, 5th Edition, 2007.
2. K.Ogata, "Modern Control Engineering", PHI, 5th Edition, 2012.
3. S.K.Bhattacharya, "Control System Engineering", Pearson, 3rd Edition, 2013.
4. Benjamin.C.Kuo, "Automatic Control Systems", Prentice Hall of India, 7th Edition,1995.

COLLEGE OF ENGG. & TECH. NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Megatronics

Date: 10.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms.Sudhishree J J**(920821106081) doing Second year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone In-Plant training program offered by our organization during the period of 03.03.2023 - 10.03.2023.

We wish her every success in life

For Megatronics

(C.Rathan)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Megatronics
65, B.K. Mills "B" Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-65001 Phone : 0422 - 259 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

megatronics

Date: 10.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Soundharya R** (920821106077) doing Second year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone In-Plant training program offered by our organization during the period of 03.03.2023 - 10.03.2023.

We wish her every success in life

For Megatronics

(C.Kadhiravan)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

NATHAM

Megatronics
65, R.K. Mills "B" Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-85001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

megatronics

Date: 10.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Subamozhi P** (920821106079) doing Second year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone In-Plant training program offered by our organization during the period of 03.03.2023 - 10.03.2023.

We wish her every success in life

For Megatronics

(C.Kathiravan)

Principal
N.P.R. College of Engineering & Technology
Natham, Dist. - 624 401

NATHAM

Megatronics
65, R.K. Mills "B" Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-85001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

EC3352 **DIGITAL SYSTEMS DESIGN** L T P C
3 0 2 4

COURSE OBJECTIVES :

- To present the fundamentals of digital circuits and simplification methods
- To practice the design of various combinational digital circuits using logic gates
- To bring out the analysis and design procedures for synchronous and asynchronous Sequential circuits
- To learn integrated circuit families.
- To introduce semiconductor memories and related technolo

UNIT I BASIC CONCEPTS 9

Review of number systems-representation-conversions, Review of Boolean algebra- theorems, sum of product and product of sum simplification, canonical forms min term and max term, Simplification of Boolean expressions-Karnaugh map, completely and incompletely specified functions, Implementation of Boolean expressions using universal gates ,Tabulation methods.

UNIT II COMBINATIONAL LOGIC CIRCUITS 9

Problem formulation and design of combinational circuits - Code-Converters, Half and Full Adders, Binary Parallel Adder – Carry look ahead Adder, BCD Adder, Magnitude Comparator, Decoder, Encoder, Priority Encoder, Mux/Demux, Case study: Digital trans-receiver / 8 bit Arithmetic and logic unit, Parity Generator/Checker, Seven Segment display decoder

UNIT III SYNCHRONOUS SEQUENTIAL CIRCUITS 9

Latches, Flip flops – SR, JK, T, D, Master/Slave FF, Triggering of FF, Analysis and design of clocked sequential circuits – Design - Moore/Mealy models, state minimization, state assignment,lock - out condition circuit implementation - Counters, Ripple Counters, Ring Counters, Shift registers, Universal Shift Register. Model Development: Designing of rolling display/real time clock

UNIT IV ASYNCHRONOUS SEQUENTIAL CIRCUITS 9

Stable and Unstable states, output specifications, cycles and races, state reduction, race free assignments, Hazards, Essential Hazards, Fundamental and Pulse mode sequential circuits, Design of Hazard free circuits.

UNIT V LOGIC FAMILIES AND PROGRAMMABLE LOGIC DEVICES 9

Logic families- Propagation Delay, Fan - In and Fan - Out - Noise Margin - RTL ,TTL,ECL, CMOS - Comparison of Logic families - Implementation of combinational logic/sequential logic design using standard ICs, PROM, PLA and PAL, basic memory, static ROM,PROM,EPROM,EEPROM EAPROM.

45 PERIODS

PRACTICAL EXERCISES : 30 PERIODS

1. Design of adders and subtractors & code converters.
2. Design of Multiplexers & Demultiplexers.
3. Design of Encoders and Decoders.
4. Design of Magnitude Comparators
5. Design and implementation of counters using flip-flops
6. Design and implementation of shift registers.

COURSE OUTCOMES :

At the end of the course the students will be able to

CO1: Use Boolean algebra and simplification procedures relevant to digital logic.
CO2: Design various combinational digital circuits using logic gates.
CO3:Analyse and design synchronous sequential circuits.
CO4: Analyse and design asynchronous sequential circuits. .
CO5: Build logic gates and use programmable devices

TOTAL:75 PERIODS

TEXTBOOKS :

1. M. Morris Mano and Michael D. Ciletti, 'Digital Design', Pearson, 5th Edition, 2013.(Unit - I - V)

REFERENCES :

1. Charles H. Roth, Jr, 'Fundamentals of Logic Design', Jaico Books, 4th Edition, 2002.
2. William I. Fletcher, "An Engineering Approach to Digital Design", Prentice- Hall of India, 1980.
3. Floyd T.L., "Digital Fundamentals", Charles E. Merril publishing company,1982.
4. John. F. Wakerly, "Digital Design Principles and Practices", Pearson Education, 4 th Edition,2007.

Principal
K.L.N. College of Engineering & Technology
Pottapalayam, Sivagangai (Dt) - 624 401

NATHAM

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No. : AAACV0909J

Date : 21.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Aarthy M** (920820106001) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 11.07.2022 to 21.07.2022.

During the period, her conduct was found to be good.

With Regards

For VI Microsystems

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NATHAM

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date : 21.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Ajitha S** (920820106003) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 11.07.2022 to 21.07.2022.

During the period, her conduct was found to be good.

With Regards

For VI Microsystems

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 21.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Archana P** (920820106006) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 11.07.2022 to 21.07.2022.

During the period, her conduct was found to be good.

Vi Microsystems Pvt. Ltd., Chennai - 96

With Regards

For VI Microsystems

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

EC3452 **ELECTROMAGNETIC FIELDS** L T P C
3 0 0 3

COURSE OBJECTIVES :

- To impart knowledge on the basics of static electric field and the associated laws
- To impart knowledge on the basics of static magnetic field and the associated laws
- To give insight into coupling between electric and magnetic fields through Faraday's law, displacement current and Maxwell's equations
- To gain the behaviour of the propagation of EM waves
- To study the significance of Time varying fields.

UNIT I INTRODUCTION 9

Electromagnetic model, Units and constants, Review of vector algebra, Rectangular, cylindrical and spherical coordinate systems, Line, surface and volume integrals, Gradient of a scalar field, Divergence of a vector field, Divergence theorem, Curl of a vector field, Stoke's theorem, Null identities, Helmholtz's theorem, Verify theorems for different path, surface and volume.

UNIT II ELECTROSTATICS 9

Electric field, Coulomb's law, Gauss's law and applications, Electric potential, Conductors in static electric field, Dielectrics in static electric field, Electric flux density and dielectric constant, Boundary conditions, Electrostatics boundary value problems, Capacitance, Parallel, cylindrical and spherical capacitors, Electrostatic energy, Poisson's and Laplace's equations, Uniqueness of electrostatic solutions, Current density and Ohm's law, Electromotive force and Kirchhoff's voltage law, Equation of continuity and Kirchhoff's current law

UNIT III MAGNETOSTATICS 9

Lorentz force equation, Ampere's law, Vector magnetic potential, Biot-Savart law and applications, Magnetic field intensity and idea of relative permeability, Calculation of magnetic field intensity for various current distributions Magnetic circuits, Behaviour of magnetic materials, Boundary conditions, Inductance and inductors, Magnetic energy, Magnetic forces and torques

UNIT IV TIME-VARYING FIELDS AND MAXWELL's EQUATIONS 9

Faraday's law, Displacement current and Maxwell-Ampere law, Maxwell's equations, Potential functions, Electromagnetic boundary conditions, Wave equations and solutions, Time-harmonic fields, Observing the Phenomenon of wave propagation with the aid of Maxwell's equations

UNIT V PLANE ELECTROMAGNETIC WAVES 9

Plane waves in lossless media, Plane waves in lossy media (low-loss dielectrics and good conductors), Group velocity, Electromagnetic power flow and Poynting vector, Normal incidence at a plane conducting boundary, Normal incidence at a plane dielectric boundary

COURSE OUTCOMES :

At the end of the course the students will be able to

CO1: Relate the fundamentals of vector, coordinate system to electromagnetic concepts
CO2: Analyze the characteristics of Electrostatic field
CO3: Interpret the concepts of Electric field in material space and solve the boundary conditions **CO4**: Explain the concepts and characteristics of Magneto Static field in material space and solve boundary conditions.
CO5: Determine the significance of time varying fields

TOTAL:45 PERIODS

TEXT BOOKS

1. D.K. Cheng, Field and wave electromagnetics, 2nd ed., Pearson (India), 2002
2. M.N.O.Sadiku and S.V. Kulkarni, Principles of electromagnetics, 6th ed., Oxford(Asian Edition), 2015

REFERENCES

1. Edward C. Jordan & Keith G. Balmain,Electromagnetic waves and Radiating Systems, Second Edition, Prentice-Hall Electrical Engineering Series, 2012.
2. W.H. Hayt and J.A. Buck, Engineering electromagnetics, 7th ed., McGraw-Hill (India), 2006
3. B.M. Notaros, Electromagnetics, Pearson: New Jersey, 2011

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 21.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Dharani M J** (920820106010) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 11.07.2022 to 21.07.2022.

During the period, her conduct was found to be good.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

With Regards
For VI Microsystems

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 21.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Mahavarshini S** (920820106019) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 11.07.2022 to 21.07.2022.

During the period, her conduct was found to be good.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd. Chennai - 96

With Regards
For VI Microsystems

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 21.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Maheswari R** (920820106020) studying in third year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 11.07.2022 to 21.07.2022.

During the period, her conduct was found to be good.

With Regards

For VI Microsystems

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

EC3401 **NETWORKS AND SECURITY** **L T P C**
3 0 2 4

COURSE OBJECTIVES:

- To learn the Network Models and datalink layer functions.
- To understand routing in the Network Layer.
- To explore methods of communication and congestion control by the Transport Layer.
- To study the Network Security Mechanisms.
- To learn various hardware security attacks and their countermeasures.

UNIT I NETWORK MODELS AND DATALINK LAYER **9**

Overview of Networks and its Attributes – Network Models – OSI, TCP/IP, Addressing – Introduction to Datalink Layer – Error Detection and Correction – Ethernet(802.3)- Wireless LAN – IEEE 802.11, Bluetooth – Flow and Error Control Protocols – HDLC – PPP.

UNIT II NETWORK LAYER PROTOCOLS **9**

Network Layer – IPv4 Addressing – Network Layer Protocols(IP,ICMP and Mobile IP) Unicast and Multicast Routing – Intradomain and Interdomain Routing Protocols – IPv6 Addresses – IPv6 – Datagram Format - Transition from IPv4 to IPv6.

UNIT III TRANSPORT AND APPLICATION LAYERS **9**

Transport Layer Protocols – UDP and TCP Connection and State Transition Diagram - Congestion Control and Avoidance(DEC bit, RED)- QoS - Application Layer Paradigms – Client – Server Programming – Domain Name System – World Wide Web, HTTP, Electronic Mail.

UNIT IV NETWORK SECURITY **9**

OSI Security Architecture – Attacks – Security Services and Mechanisms – Encryption –Advanced Encryption Standard – Public Key Cryptosystems – RSA Algorithm – Hash Functions – Secure Hash Algorithm – Digital Signature Algorithm.

UNIT V HARDWARE SECURITY **9**

Introduction to hardware security, Hardware Trojans, Side – Channel Attacks – Physical Attacks and Countermeasures – Design for Security. Introduction to Blockchain Technology.

45 PERIODS

PRACTICAL EXERCISES: **30 PERIODS**

Experiments using C

1. Implement the Data Link Layer framing methods,
   i) Bit stuffing, (ii) Character stuffing
2. Implementation of Error Detection / Correction Techniques
   i) LRC, (ii) CRC, (iii) Hamming code
3. Implementation of Stop and Wait, and Sliding Window Protocols
4. Implementation of Go back-N and Selective Repeat Protocols.
5. Implementation of Distance Vector Routing algorithm (Routing Information Protocol) (Bellman-Ford).
6. Implementation of Link State Routing algorithm (Open Shortest Path First) with 5 nodes (Dijkstra's).
7. Data encryption and decryption using Data Encryption Standard algorithm.
8. Data encryption and decryption using RSA (Rivest, Shamir and Adleman) algorithm.
9. Implement Client Server model using FTP protocol.

COLLEGE OF ENGG. & TECHNOLOGY NATHAM
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Megatronics

Date: 12.08.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Hemeshwar S** (920820106014) doing Third year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone Internship training program offered by our organization during the period of 12.07.2022 to 12.08.2022.

We wish him every success in life

For Megatronics

(C.Kathiravan)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Megatronics
65, R.K. Mills "B" Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-65001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

megatronics

Date:12.08.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. JEFFERY ALBERT J**(920820106017) doing Third year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone Internship training program offered by our organization during the period of 12.07.2022 to 12.08.2022.

We wish him every success in life

For Megatronics

(C.Rathinam)

N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Megatronics
65, R.K. Mills 'B' Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-85001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

EC3451 **LINEAR INTEGRATED CIRCUITS** L T P C

3 0 0 3

COURSE OBJECTIVES:

- To introduce the basic building blocks of linear integrated circuits
- To learn the linear and non-linear applications of operational amplifiers
- To introduce the theory and applications of analog multipliers and PLL
- To learn the theory of ADC and DAC
- To introduce the concepts of waveform generation and introduce some special function ICs

UNIT I BASICS OF OPERATIONAL AMPLIFIERS 9

Current mirror and current sources, Current sources as active loads, Voltage sources, Voltage References, BJT Differential amplifier with active loads, Basic information about op-amps – Ideal Operational Amplifier - General operational amplifier stages -and internal circuit diagrams of IC 741, DC and AC performance characteristics, slew rate, Open and closed loop configurations – MOSFET Operational Amplifiers – LF155 and TL082.

UNIT II APPLICATIONS OF OPERATIONAL AMPLIFIERS 9

Sign Changer, Scale Changer, Phase Shift Circuits, Voltage Follower, V-to-I and I-to-V converters, adder, subtractor, Instrumentation amplifier, Integrator, Differentiator, Logarithmic amplifier, Antilogarithmic amplifier, Comparators, Schmitt trigger, Precision rectifier, peak detector, clipper and clamper, Low-pass, high-pass and band-pass Butterworth filters.

UNIT III ANALOG MULTIPLIER AND PLL 9

Analog Multiplier using Emitter Coupled Transistor Pair - Gilbert Multiplier cell – Variable transconductance technique, analog multiplier ICs and their applications, Operation of the basic PLL, Closed loop analysis, Voltage controlled oscillator, Monolithic PLL IC 565, application of PLL for AM detection, FM detection, FSK modulation and demodulation and Frequency synthesizing and clock synchronization

UNIT IV ANALOG TO DIGITAL AND DIGITAL TO ANALOG CONVERTERS 9

Analog and Digital Data Conversions, D/A converter – specifications - weighted resistor type, R-2R Ladder type, Voltage Mode and Current-Mode *R - 2R* Ladder types - switches for D/A converters, high speed sample-and-hold circuits, A/D Converters – specifications - Flash type - Successive Approximation type - Single Slope type – Dual Slope type - A/D Converter using Voltage-to-Time Conversion - Over-sampling A/D Converters, Sigma – Delta converters.

UNIT V WAVEFORM GENERATORS AND SPECIAL FUNCTION ICS 9

Sine-wave generators, Multivibrators and Triangular wave generator, Saw-tooth wave generator, ICL8038 function generator, Timer IC 555, IC Voltage regulators – Three terminal fixed and adjustable voltage regulators - IC 723 general purpose regulator - Monolithic switching regulator, Low Drop – Out(LDO) Regulators - Switched capacitor filter IC MF10, Frequency to Voltage and Voltage to Frequency converters, Audio Power amplifier, Video Amplifier, Isolation Amplifier, Opto- couplers and fibre optic I

COURSE OUTCOMES:

At the end of the course the students will be able to

CO1 : Design linear and nonlinear applications of OP – AMPS

CO2 : Design applications using analog multiplier and PLL

CO3 : Design ADC and DAC using OP – AMP

CO4 : Generate waveforms using OP – AMP Circuits

CO5 : Analyze special function ICs

TEXT BOOK

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

1. D.Roy Choudhry, Shail Jain, "Linear Integrated Circuits", New Age International Pvt. Ltd., 2018, Fifth Edition. (Unit I – V)
2. Sergio Franco, "Design with Operational Amplifiers and Analog Integrated Circuits", 4th Edition, Tata Mc Graw-Hill, 2016 (Unit I – V)

REFERENCES

1. Ramakant A. Gayakwad, "OP-AMP and Linear ICs", 4th Edition, Prentice Hall / Pearson Education, 2015
2. Robert F.Coughlin, Frederick F.Driscoll, "Operational Amplifiers and Linear Integrated Circuits", Sixth Edition, PHI, 2001.
3. S.Salivahanan & V.S. Kanchana Bhaskaran, "Linear Integrated Circuits", TMH,2nd Edition, 4th Reprint, 2016

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

megatronics

Date: 15.07.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Manoj S** (920820106023) doing Third year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone Internship training program offered by our organization during the period of 12.07.2022 to 12.08.2022.

We wish him every success in life

For Megatronics

(C.Kathiravan)

NPR College of Engineering & Technology, Natham, Dindigul (Dt) - 624 401.

Megatronics
65, R.K. Mills 'B' Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-85001 Phone : 0422 - 259 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

megatronics

Date: 15.07.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Praveenkumar P** (920820106029) doing Third year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone Internship training program offered by our organization during the period of 12.07.2022 to 12.08.2022.

We wish him every success in life

For Megatronics

(C.Kalidass)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Megatronics
65, R.K. Mills 'B' Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-85001 Phone : 0422 - 256 5801 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

EC3492 **DIGITAL SIGNAL PROCESSING** L T P C
3 0 2 4

COURSE OBJECTIVES:

- To learn discrete fourier transform, properties of DFT and its application to linear filtering
- To understand the characteristics of digital filters, design digital IIR and FIR filters and apply these filters to filter undesirable signals in various frequency bands
- To understand the effects of finite precision representation on digital filters
- To understand the fundamental concepts of multi rate signal processing and its applications
- To introduce the concepts of adaptive filters and its application to communication engineering

UNIT I DISCRETE FOURIER TRANSFORM 9

Sampling Theorem, concept of frequency in discrete-time signals, summary of analysis & synthesis equations for FT & DTFT, frequency domain sampling, Discrete Fourier transform (DFT) - deriving DFT from DTFT, properties of DFT - periodicity, symmetry, circular convolution. Linear filtering using DFT. Filtering long data sequences - overlap save and overlap add method. Fast computation of DFT - Radix-2 Decimation-in-time (DIT) Fast Fourier transform (FFT), Decimation-in-frequency (DIF) Fast Fourier transform (FFT). Linear filtering using FFT.

UNIT II INFINITE IMPULSE RESPONSE FILTERS 9

Characteristics of practical frequency selective filters. characteristics of commonly used analog filters - Butterworth filters, Chebyshev filters. Design of IIR filters from analog filters (LPF, HPF, BPF, BRF) - Approximation of derivatives, Impulse invariance method, Bilinear transformation. Frequency

transformation in the analog domain. Structure of IIR filter - direct form I, direct form II, Cascade, parallel realizations.

UNIT III FINITE IMPULSE RESPONSE FILTERS 9

Design of FIR filters - symmetric and Anti-symmetric FIR filters - design of linear phase FIR filters using Fourier series method - FIR filter design using windows (Rectangular, Hamming and Hanning window), Frequency sampling method. FIR filter structures - linear phase structure, direct form realizations

UNIT IV FINITE WORD LENGTH EFFECTS 9

Fixed point and floating point number representation - ADC - quantization - truncation and rounding - quantization noise - input / output quantization - coefficient quantization error - product quantization error - overflow error - limit cycle oscillations due to product quantization and summation - scaling to prevent overflow.

UNIT V DSP APPLICATIONS 9

Multirate signal processing: Decimation, Interpolation, Sampling rate conversion by a rational factor – Adaptive Filters: Introduction, Applications of adaptive filtering to equalization-DSP Architecture- Fixed and Floating point architecture principles

45 PERIODS

PRACTICAL EXERCISES: **30 PERIODS**

MATLAB / EQUIVALENT SOFTWARE PACKAGE/ DSP PROCESSOR BASED IMPLEMENTATION

1. Generation of elementary Discrete-Time sequences
2. Linear and Circular convolutions
3. Auto correlation and Cross Correlation
4. Frequency Analysis using DFT
5. Design of FIR filters (LPF/HPF/BPF/BSF) and demonstrates the filtering operation
6. Design of Butterworth and Chebyshev IIR filters (LPF/HPF/BPF/BSF) and demonstrate the filtering operations
7. Study of architecture of Digital Signal Processor
8. Perform MAC operation using various addressing modes
9. Generation of various signals and random noise
10. Design and demonstration of FIR Filter for Low pass, High pass, Band pass and Band stop filtering
11. Design and demonstration of Butter worth and Chebyshev IIR Filters for Low pass, High pass, Band pass and Band stop filtering
12. Implement an Up-sampling and Down-sampling operation in DSP Processor

COURSE OUTCOMES:

At the end of the course students will be able to:



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CO1:Apply DFT for the analysis of digital signals and systems
CO2:Design IIR and FIR filters
CO3: Characterize the effects of finite precision representation on digital filters
CO4:Design multirate filters
CO5:Apply adaptive filters appropriately in communication systems

TOTAL:75 PERIODS

TEXT BOOKS:

1. 1.John G. Proakis and Dimitris G.Manolakis, Digital Signal Processing – Principles, Algorithms and Applications, Fourth Edition, Pearson Education / Prentice Hall, 2007.
2. 2.A. V. Oppenheim, R.W. Schafer and J.R. Buck, —Discrete-Time Signal Processing", 8th Indian Reprint, Pearson, 2004.

REFERENCES

1. Emmanuel C. Ifeachor& Barrie. W. Jervis, "Digital Signal Processing", Second Edition, Pearson Education / Prentice Hall, 2002.
2. 2.Sanjit K. Mitra, "Digital Signal Processing – A Computer Based Approach", Tata Mc Graw Hill, 2007.
3. 3.Andreas Antoniou, "Digital Signal Processing", Tata Mc Graw Hill, 2006.

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt)

megatronics

Date: 15.07.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Sabeer Ahamed T** (920820106032) doing Third year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone Internship training program offered by our organization during the period of 12.07.2022 to 12.08.2022.

We wish him every success in life

For Megatronics

(C.Kalidass)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

NPR COLLEGE OF ENGG. & TECHNOLOGY
NATHAM

Megatronics
65, R.K. Mills 'B' Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-65001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

megatronics

Date: 15.07.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Sanjay Kumar S** (920820106035) doing Third year B.E, Electronics and Communication Engineering in NPR College of Engineering and Technology, Natham has undergone Internship training program offered by our organization during the period of 12.07.2022 to 12.08.2022.

We wish him every success in life

For Megatronics

(C.Kalaivani)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Megatronics
65, R.K. Mills "B" Colony, Peelamedu Pudur, Coimbatore - 641 004.
Cell : 98422-85001 Phone : 0422 - 256 5001 E-mail : megatronicsindia@gmail.com
Web : www.megatronicsindia.in

EC3491 **COMMUNICATION SYSTEMS** L T P C
3 0 0 3

COURSE OBJECTIVES:

- To introduce Analog Modulation Schemes
- To impart knowledge in random process
- To study various Digital techniques
- To introduce the importance of sampling & quantization
- To impart knowledge in demodulation techniques
- To enhance the class room teaching using smart connectivity instruments

UNIT I AMPLITUDE MODULATION 9

Review of signals and systems, Time and Frequency domain representation of signals, Principles of Amplitude Modulation Systems- DSB, SSB and VSB modulations. Angle Modulation, Representation of FM and PM signals, Spectral characteristics of angle modulated signals. SSB Generation – Filter and Phase Shift Methods, VSB Generation – Filter Method, Hilbert Transform, Pre-envelope & complex envelope AM techniques, Superheterodyne Receiver.

UNIT II RANDOM PROCESS & SAMPLING 9

Review of probability and random process. Gaussian and white noise characteristics, Noise in amplitude modulation systems, Noise in Frequency modulation systems. Pre-emphasis and De- emphasis, Threshold effect in angle modulation.

Low pass sampling – Aliasing- Signal Reconstruction-Quantization - Uniform & non-uniform quantization - quantization noise - Nyquist criterion- Logarithmic Companding –PAM, PPM, PWM, PCM – TDM, FDM

UNIT III DIGITAL TECHNIQUES 9

Pulse modulation Differential pulse code modulation. Delta modulation, Noise considerations in PCM,, Digital Multiplexers, Channel coding theorem - Linear Block codes - Hamming codes - Cyclic codes - Convolutional codes - Viterbi Decoder

UNIT IV DIGITAL MODULATION SCHEME 9

Geometric Representation of signals - Generation, detection, IQ representation, PSD & BER of Coherent BPSK, BFSK, & QPSK - QAM - Carrier Synchronization - Structure of Non-coherent Receivers Synchronization and Carrier Recovery for Digital modulation, Spectrum Analysis – Occupied bandwidth – Adjacent channel power, EVM, Principle of DPSK

UNIT V DEMODULATION TECHNIQUES 9

Elements of Detection Theory, Optimum detection of signals in noise, Coherent communication with waveforms- Probability of Error evaluations. Baseband Pulse Transmission- Inter symbol Interference, Optimum demodulation of digital signals over band-limited channels.

TOTAL: 45 PERIODS

COURSE OUTCOMES:

At the end of the course students will be able to

CO1: Gain knowledge in amplitude modulation techniques
CO2: Understand the concepts of Random Process to the design of communication systems
CO3: Gain knowledge in digital techniques
CO4: Gain knowledge in sampling and quantization
CO5: Understand the importance of demodulation techniques

TEXTBOOKS :

1. Simon Haykins," Communication Systems", Wiley, 5th Edition, 2009.(Unit I - V)
2. B.P.Lathi, "Modern Digital and Analog Communication Systems", 4th Edition, Oxford University Press, 2011.

REFERENCES :

1. Wayner Tomasi, Electronic Communication System, 5th Edition, Pearson Education,2008.
2. D.Roody, J.Coolen, Electronic Communications, 4th edition PHI 2006
3. A.Papoulis, "Probability, Random variables and Stochastic Processes", McGraw Hill, 3rd edition, 1991.
4. B.Sklar, "Digital Communications Fundamentals and Applications", 2nd Edition Pearson Education 2007
5. H P Hsu, Schaum Outline Series - "Analog and Digital Communications" TMH 2006
6. Couch L., "Modern Communication Systems", Pearson, 2001

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM
Principal
N.P.R. College of Engg. & Technology
Natham, Dindigul (Dt) - 624 401.

Elysium Technologies

ELYSIUM TECHNOLOGIES PRIVATE LIMITED
GST No: 33AACCE2334E1ZA
CIN No: U72200TN2006PTC060465
NASSCOM MEMBER

Date: 07.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the students of Third year ECE of NPR College of Engineering & Technology, Natham have successfully done the Internship training in our concern from 21.02.23 - 07.03.2023

During this period they were sincere and hardworking.

S.No.	Name of the student	Register Number	Year& Branch
1.	Sivaranjani S	920820106039	III ECE
2.	Soundarya Lakshmi D	920820106041	III ECE
3.	Supraja Suryawanshi	920820106042	III ECE
4.	Suresh A	920820106043	III ECE
5.	Udaiyappan N	920820106045	III ECE
6.	Parthiban B	920820106304	III ECE

With Regards

(For Elysium Technologies)

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

+91 - 452 - 4390702, 4392702
+91 - 994-479-3398
info@elysiumtechnologies.com
WWW.elysiumtechnologies.com
227-230, Church Road, Annanagar,
Madurai-625 020, Tamilnadu, India.

GE3451 ENVIRONMENTAL SCIENCES AND SUSTAINABILITY **L T P C**
2 0 0 2

COURSE OBJECTIVES:

- To introduce the basic concepts of environment, ecosystems and biodiversity and emphasize on the biodiversity of India and its conservation.
- To impart knowledge on the causes, effects and control or prevention measures of environmental pollution and natural disasters.
- To facilitate the understanding of global and Indian scenario of renewable and nonrenewable resources, causes of their degradation and measures to preserve them.
- To familiarize the concept of sustainable development goals and appreciate the interdependence of economic and social aspects of sustainability, recognize and analyze climate changes, concept of carbon credit and the challenges of environmental management.
- To inculcate and embrace sustainability practices and develop a broader understanding on green materials, energy cycles and analyze the role of sustainable urbanization.

UNIT I ENVIRONMENT AND BIODIVERSITY **6**

Definition, scope and importance of environment – need for public awareness.Eco-system and Energy flow– ecological succession. Types of biodiversity: genetic, species and ecosystem diversity– values of biodiversity, India as a mega-diversity nation – hot-spots of biodiversity – threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – endangered and endemic species of India – conservation of biodiversity: In-situ and ex-situ.

UNIT II ENVIRONMENTAL POLLUTION **6**

Causes, Effects and Preventive measures of Water, Soil, Air and Noise Pollutions. Solid, Hazardous and E-Waste management. Case studies on Occupational Health and Safety Management system (OHASMS). Environmental protection, Environmental protection acts .

UNIT III RENEWABLE SOURCES OF ENERGY **6**

Energy management and conservation, New Energy Sources: Need of new sources. Different types new energy sources. Applications of- Hydrogen energy, Ocean energy resources, Tidal energy conversion. Concept, origin and power plants of geothermal energy.

UNIT IV SUSTAINABILITY AND MANAGEMENT **6**

Development , GDP ,Sustainability- concept, needs and challenges-economic, social and aspects of sustainability-from unsustainability to sustainability-millennium development goals, and protocols- Sustainable Development Goals-targets, indicators and intervention areas Climate change- Global, Regional and local environmental issues and possible solutions-case studies. Concept of Carbon Credit, Carbon Footprint. Environmental management in industry-A case study.

UNIT V SUSTAINABILITY PRACTICES **6**

Zero waste and R concept. Circular economy. ISO 14000 Series. Material Life cycle assessment, Environmental Impact Assessment. Sustainable habitat: Green buildings, Green materials, Energy efficiency, Sustainable transports. Sustainable energy: Non-conventional Sources, Energy Cycles- carbon cycle, emission and sequestration, Green Engineering: Sustainable urbanization- Socio- economical and technological change.

COURSE OUTCOMES:

CO1:To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation.
CO2:To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society.
CO3:To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations.
CO4:To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development.
CO5:To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.





TOTAL:30 PERIODS

TEXT BOOKS :

1. Anubha Kaushik and C. P. Kaushik's "Perspectives in Environmental Studies", 6th Edition, New Age International Publishers ,2018.
2. Benny Joseph, 'Environmental Science and Engineering', Tata McGraw-Hill, New Delhi, 2016.
3. Gilbert M.Masters, 'Introduction to Environmental Engineering and Science', 2nd edition, Pearson Education, 2004.
4. Allen, D. T and Shonnard, D. R., Sustainability Engineering: Concepts, Design and Case Studies, Prentice Hall.
5. Bradley. A.S; Adebayo, A.O., Maria, P. Engineering applications in sustainable design and development, Cengage learning.
6. Environment Impact Assessment Guidelines, Notification of Government of India, 2006.
7. Mackenthun, K.M., Basic Concepts in Environmental Management, Lewis Publication, London, 1998.

REFERENCES :

1. R.K. Trivedi, 'Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards', Vol. I and II, Enviro Media. 38 . edition 2010.
2. Cunningham, W.P. Cooper, T.H. Gorhani, 'Environmental Encyclopedia', Jaico Publ., House, Mumbai, 2001.
3. Dharmendra S. Sengar, 'Environmental law', Prentice hall of India PVT. LTD, New Delhi, 2007.
4. Rajagopalan, R, 'Environmental Studies-From Crisis to Cure', Oxford University Press, Third Edition, 2015.
5. Erach Bharucha "Textbook of Environmental Studies for Undergraduate Courses" Orient Blackswan Pvt. Ltd. 2013.

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

BRIGHT TECHNOLOGY
(Institute for technical traning)
Cell : 9655913231 , 9566913231
Mail : thebrighttechnology@gmail.com

Date: 15.03.2023

To whomsoever it may concern

This is to certify that **Mr.Vibhu Viswa Deep B K**, Second year ECE of NPR College of Engineering & Technology, Natham has undergone In-Plant training in our organization from 08.03.2023 - 15.03.2023

We appreciate his participation with interest towards the training program.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

BRIGHT TECHNOLOGY DINDIGUL

Sri Varadharaja Bavanam,Canara Bank Upstairs,
Nagal Nagar, R.S. Road, Dindigul - 624002

BRIGHT TECHNOLOGY
(Institute for technical traning)

Cell : 9655913231 , 9566913231
Mail : thebrighttechnology@gmail.com

Date: 15.03.2023

To whomsoever it may concern

This is to certify that **Mr.Thirumalai Karthick N**, Second year ECE of NPR College of Engineering & Technology, Natham has undergone In-Plant training in our organization from 08.03.2023 - 15.03.2023

We appreciate his participation with interest towards the training program.

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

BRIGHT TECHNOLOGY DINDIGUL

Sri Varadharaja Bavanam,Canara Bank Upstairs,
Nagal Nagar, R.S. Road, Dindigul - 624003

EC8501	DIGITALCOMMUNICATION	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To studythe limitssetbyInformation Theory
- Tostudythevariouswaveformcodingschemes
- Tolearn thevariousbaseband transmissionschemes
- To understandthevariousbandpasssignalingschemes
- Toknowthefundamentalsof channelcoding

UNITI INFORMATIONTHEORY 9

Discrete Memoryless source, Information, Entropy, Mutual Information - Discrete Memorylesschannels – Binary Symmetric Channel, Channel Capacity - Hartley - Shannon law - Source codingtheorem-Shannon-Fano&Huffmancodes.

UNITII WAVEFORMCODING&REPRESENTATION 9

Prediction filtering and DPCM - Delta Modulation - ADPCM & ADM principles-Linear PredictiveCoding- Properties of Line codes- Power Spectral Density of Unipolar / Polar RZ & NRZ – BipolarNRZ-Manchester

UNITIII BASEBANDTRANSMISSION&RECEPTION 9

ISI – Nyquist criterion for distortion less transmission – Pulse shaping – Correlative coding - Eyepattern–ReceivingFilters-MatchedFilter, Correlationreceiver,AdaptiveEqualization

UNITIV DIGITALMODULATIONSCHEME 9

Geometric Representation of signals - Generation, detection, PSD & BER of Coherent BPSK,BFSK & QPSK - QAM - Carrier Synchronization - Structure of Non-coherent Receivers - PrincipleofDPSK.

UNITV ERRORCONTROL CODING 9

Channel coding theorem - Linear Block codes - Hamming codes - Cyclic codes - Convolutionalcodes -Viterbi Decoder.

TOTAL:45PERIODS

OUTCOMES:

Uponcompletionofthecourse,thestudentshouldbeable to

- DesignPCMsystems
- Designandimplementbasebandtransmissionschemes
- Designandimplementbandpasssignalingschemes
- Analyzethespectralcharacteristicsofbandpasssignalingschemesandtheirnoiseperformance
- Designerrorcontrolcodingschemes

TEXTBOOK:

1.S. Haykin,"DigitalCommunications",JohnWiley,2005(UnitI–V)

REFERENCES

1. B.Sklar,"DigitalCommunicationFundamentalsandApplications",2ndEdition,PearsonEducation,2009
2. B.P.Lathi,"ModernDigitalandAnalogCommunicationSystems" 3rdEdition,OxfordUniversityPress2007.
3. HP Hsu, SchaumOutlineSeries-"AnalogandDigitalCommunications", TMH2006
4. J.GProakis,"DigitalCommunication",4thEdition,TataMcGrawHillCompany,2001.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

BRIGHT TECHNOLOGY
(Institute for technical traning)

Call : 9655913231 , 9566913231
Mail : thebrighttechnology@gmail.com

Date: 15.03.2023

To whomsoever it may concern

This is to certify that **Mr.Vignesh K**, Second year ECE of NPR College of Engineering & Technology, Natham has undergone In-Plant training in our organization from 08.03.2023 - 15.03.2023

We appreciate his participation with interest towards the training program.

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

BRIGHT TECHNOLOGY DINDIGUL

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Sri Varadharaja Bavanam,Canara Bank Upstairs,
Nagal Nagar, R.S. Road, Dindigul - 624003

BRIGHT TECHNOLOGY
(Institute for technical traning)
Cell : 9655913231 , 9566913231
Mail : thebrighttechnology@gmail.com

Date: 15.03.2023

To whomsoever it may concern

This is to certify that **Mr.Vignesh R**, Second year ECE of NPR College of Engineering & Technology, Natham has undergone In-Plant training in our organization from 08.03.2023 - 15.03.2023

We appreciate his participation with interest towards the training program.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

BRIGHT TECHNOLOGY DINDIGUL

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

Sri Varadharaja Bavanam,Canara Bank Upstairs,
Nagal Nagar, R.S. Road, Dindigul - 624003

BRIGHT
TECHNOLOGY
(Institute for technical traning)
Cell : 9655913231 , 9566913231
Mail : thebrighttechnology@gmail.com

Date: 15.03.2023

To whomsoever it may concern

This is to certify that **Mr.Vigneswaran T**, Second year ECE of NPR College of Engineering & Technology, Natham has undergone In-Plant training in our organization from 08.03.2023 - 15.03.2023

We appreciate his participation with interest towards the training program.

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

BRIGHT TECHNOLOGY DINDIGUL

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Sri Varadharaja Bavanam,Canara Bank Upstairs,
Nagal Nagar,R.S. Road, Dindigul - 624003

EC8553 **DISCRETE-TIMESIGNALPROCESSING** **L T P C**

4 0 0 4

OBJECTIVES:

- To learndiscretefouriertransform,propertiesof DFTanditsapplicationtolinearfiltering
- Tounderstandthecharacteristicsofdigitalfilters,designdigitalIIRandFIRfiltersandapply thesefilters tofilterundesirablesignals invariousfrequencybands
- Tounderstandtheeffectsoffiniteprecisionrepresentationondigitalfilters
- Tounderstandthefundamentalconceptsofmultiratesignalprocessinganditsapplications
- Tointroducetheconceptsofadaptivefiltersanditsapplicationtocommunicationengineering

UNITI **DISCRETEFOURIER TRANSFORM** **12**

Review ofsignals andsystems, concept of frequency in discrete-timesignals, summary ofanalysis & synthesis equations for FT & DTFT, frequency domain sampling, Discrete Fouriertransform (DFT) - deriving DFT from DTFT, properties of DFT - periodicity, symmetry, circularconvolution. Linear filtering using DFT. Filtering long data sequences - overlap save and overlapadd method. Fast computation of DFT - Radix-2 Decimation-in-time (DIT) Fast Fourier transform(FFT), Decimation-in-frequency(DIF)FastFouriertransform(FFT).LinearfilteringusingFFT.

UNITII **INFINITEIMPULSERESPONSEFILTERS** **12**

Characteristics of practical frequency selective filters.characteristics of commonly used analogfilters - Butterworth filters, Chebyshev filters. Design of IIR filters from analog filters (LPF, HPF,BPF, BRF) - Approximation of derivatives, Impulse invariance method, Bilinear transformation.Frequency transformation in the analog domain.Structure of IIR filter - direct form I, direct form II,Cascade,parallel realizations.

UNITIII **FINITEIMPULSERESPONSEFILTERS** **12**

Design of FIR filters - symmetric and Anti-symmetric FIR filters - design of linear phase FIR filtersusing Fourier series method - FIR filter design usingwindows (Rectangular, Hamming andHanning window), Frequency sampling method.FIR filter structures - linear phase structure,directformrealizations

UNITIV **FINITEWORD LENGTHEFFECTS** **12**

Fixed point and floating point number representation- ADC - quantization - truncation androunding - quantization noise - input / output quantization - coefficient quantization error - productquantizationerror - overflow error - limit cycle oscillations duetoproduct quantizationandsummation-scalingtopreventoverflow.

UNITV **INTRODUCTIONTODIGITAL SIGNAL PROCESSORS** **12**

DSP functionalities -circular buffering – DSP architecture – Fixed and Floating point architectureprinciples–Programming–Applicationexamples.

TOTAL:60PERIODS

OUTCOMES:

Attheendofthecourse, thestudentshouldbeable to

- ApplyDFTfortheanalysis ofdigitalsignalsandsystems
- DesignIIR andFIRfilters
- Characterizetheeffectsoffiniteprecisionrepresentationondigitalfilters
- Designmultiratefilters
- Applyadaptivefiltersappropriatelyincommunicationsystems

TEXTBOOK:

1. JohnG.Proakis&DimitrisG.Manolakis,"DigitalSignalProcessing– Principles,Algorithms&Applications",Fourth Edition,PearsonEducation/ PrenticeHall,2007.(UNITI–V)

Dr. J.SOHDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date : 28.01.2023

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Nithishkumar K** (920821106051) studying in Second year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 18.01.2023 - 28.01.2023

During the period, his conduct was found to be good.

With Regards

For VI Microsystems

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date : 28.01.2023

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Parthasarathi K** (920821106053) studying in Second year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 18.01.2023 - 28.01.2023.

During the period, his conduct was found to be good.

With Regards

For VI Microsystems

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

EC8552 **COMPUTERARCHITECTUREANDORGANIZATION** **LTPC**
3 0 03

OBJECTIVES:

- Tomake studentsunderstand thebasicstructureandoperation ofdigitalcomputer
- Tofamiliarize withimplementationoffixedpointandfloating-pointarithmeticoperations
- Tostudythedesignofdatapathunitandcontrolunitforprocessor
- Tounderstandtheconceptofvariousmemoriesand interfacing
- Tointroducetheparallelprocessingtechnique

UNITI COMPUTERORGANIZATION&INSTRUCTIONS **9**

Basicsofacomputersystem:Evolution,Ideas,Technology,Performance,Powerwall,UniprocessorstoMultiprocessors. Addressingand addressingmodes.Instructions: OperationsandOperands,Representinginstructions,Logicaloperations,controloperations.

UNITII ARITHMETIC **9**

FixedpointAddition,Subtraction,MultiplicationandDivision.FloatingPointarithmetic,Highperformance arithmetic,Subwordparallelism

UNITIII THEPROCESSOR **9**

Introduction, Logic Design Conventions, Building a Datapath - A Simple Implementation scheme - An Overview of Pipelining - Pipelined Datapath and Control. Data Hazards: Forwarding versusStalling,Control Hazards,Exceptions,Parallelismvia Instructions.

UNITIV MEMORYAND I/OORGANIZATION **9**

Memoryhierarchy,MemoryChipOrganization,Cachememory,Virtualmemory.
Parallel Bus Architectures, Internal Communication Methodologies, Serial Bus Architectures, Massstorage,InputandOutputDevices.

UNITV ADVANCED COMPUTERARCHITECTURE **9**

Parallel processing architectures and challenges, Hardware multithreading, Multicore and sharedmemory multiprocessors, Introduction to Graphics Processing Units, Clusters and Warehousescalecomputers -IntroductiontoMultiprocessornetworktopologies.

TOTAL:45PERIODS

OUTCOMES:

Attheendofthecourse, thestudentshouldbeable to

- Describedatarepresentation, instructionformatsandtheoperationof adigitalcomputer
- Illustratethefixedpointandfloating-pointarithmetic forALUoperation
- Discussaboutimplementation schemesofcontrolunitandpipelineperformance
- Explaintheconceptofvariousmemories,interfacingandorganizationofmultipleprocessors
- Discussparallelprocessingtechniqueandunconventionalarchitectures

TEXT BOOKS:

1. DavidA.PattersonandJohnL.Hennessey,"ComputerOrganizationandDesign",Fifthedition,MorganKauffman/Elsevier,2014.(UNIT I-V)
2. MilesJ.MurdoccaandVincentP.Heuring,"ComputerArchitectureandOrganization:AnIntegratedapproach",Secondedition,WileyIndiaPvtLtd,2015(UNITIV,V)

Dr. J.SUNDARARAJAN, B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Nathom, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 28.01.2023

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Pavithra K** (920821106054) studying in Second year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 18.01.2023 - 28.01.2023.

During the period, her conduct was found to be good.

With Regards

For VI Microsystems

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

NATHAM

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date :28.01.2023

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Pommendran R** (920821106055) studying in Second year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 18.01.2023 - 28.01.2023.

During the period, his conduct was found to be good.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

With Regards
For VI Microsystems

NPR COLLEGE OF ENGG & TECHNOLOGY * NATHAM

EC8551OBJE	COMMUNICATIONNETWORKS	L	T	P	C
		3	0	0	3

CTIVES:

Thestudentshouldbemadeto:

- Understandthe divisionofnetworkfunctionalitiesintolayers.
- Befamiliarwiththecomponentsrequiredtobuilddifferenttypesof networks
- Beexposedtothe requiredfunctionalityateachlayer
- Learn theflowcontrolandcongestioncontrolalgorithms

UNITI FUNDAMENTALS& LINKLAYER 9

Overview of Data Communications- Networks – Building Network and its types– Overview ofInternet - Protocol Layering -OSI Mode – Physical Layer – Overview of Data and Signals-introductiontoDataLinkLayer-LinklayerAddressing-ErrorDetectionandCorrection

UNITII MEDIAACCESS& INTERNETWORKING 9

Overview of Data link Control and Media access control - Ethernet (802.3) - Wireless LANs – Available Protocols – Bluetooth – Bluetooth Low Energy – WiFi – 6LowPAN–Zigbee - Networklayerservices–PacketSwitching–IPV4 Address–Networklayerprotocols(IP,ICMP, MobileIP)

UNITIII ROUTING 9

Routing- Unicast Routing – Algorithms – Protocols –Multicast Routing and its basics – Overviewof Intradomain and interdomain protocols –Overview of IPv6 Addressing - Transition from IPv4 toIPv6

UNITIV TRANSPORTLAYER 9

Introduction to Transport layer –Protocols- User Datagram Protocols (UDP) and TransmissionControl Protocols (TCP) –Services – Features – TCP Connection – State Transition Diagram –Flow, Error and Congestion Control - Congestion avoidance (DECbit, RED) – QoS – Applicationrequirements

UNITV APPLICATIONLAYER 9

Application Layer Paradigms – Client Server Programming – World Wide Web and HTTP - DNS– Electronic Mail (SMTP, POP3, IMAP, MIME) – Introduction to Peer to Peer Networks – Need forCryptographyandNetworkSecurity –Firewalls.

TOTAL:45PERIODS

OUTCOMES:

Atthe endofthecourse,thestudentshouldbe able to:

- Identifythe componentsrequired to builddifferenttypesofnetworks
- Chooseetherequiredfunctionalityateachlayerforgivenapplication
- Identifysolutionforeachfunctionalityat eachlayer
- Tracetheflowof informationfromonenodetoanothernodeinthenetwork

TEXTBOOK:

1. BehrouzA.Forouzan,"DatacommunicationandNetworking",FifthEdition,TataMcGraw–Hill,2013(UNIT I–V)

REFERENCES

1. JamesF.Kurose,KeithW.Ross,"ComputerNetworking-ATop-DownApproachFeaturingtheInternet",SeventhEdition,PearsonEducation,2016.
2. Nader.F.Mir,"ComputerandCommunicationNetworks",PearsonPrenticeHallPublishers,2nd Edition,2014.
3. Ying-DarLin,Ren-HungHwang,FredBaker,"ComputerNetworks:AnOpenSourceApproach",McGraw Hill Publisher,2011.
4. LarryL.Peterson,BruceS.Davie,"ComputerNetworks:ASystemsApproach",FifthEdition,Morg anKaufmannPublishers,2011.

Dr. J. SUNDARGANESAN, B.E., M.Tech., Ph.D., Principal, N.P.R. College of Engineering & Technology, Nathaam, Dindigul (Dt) - 624 401.

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 28.01.2023

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Premkumar G** (920821106060) studying in Second year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 18.01.2023 - 28.01.2023.

During the period, his conduct was found to be good.

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

With Regards
For VI Microsystems

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096
Tel : 044-2496 1842, 2496 1852
E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com
GSTIN : 33AAACV0909J1ZJ PAN No : AAACV0909J

Date: 21.07.2022

TO WHOM IT MAY CONCERN

This is to certify that **Mr. Ramaprabhakaran R** (920821106064) studying in Second year Electronics and Communication Engineering of NPR College of Engineering and Technology, Natham has undergone In-Plant training in our organization for 10 days from 18.01.2023 - 28.01.2023.

During the period, his conduct was found to be good.

Principal
NPR College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

Vi Microsystems Pvt. Ltd., Chennai-96

With Regards
For VI Microsystems

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

OMD551 **BASICSOFBIOMEDICALINSTRUMENTATION** **LTPC 3003**

OBJECTIVES:

- Tostudyaboutthedifferent biopotentialanditspropagation
- Tounderstandthedifferenttypesofelectrodesanditsplacementforvariousrecording
- Tostudythedesignof bioamplifierforvariousphysiologicalrecording
- Tolearnthedifferentmeasurementtechniquesfornon-physiologicalparameters.
- Tofamiliarizethedifferentbiochemicalmeasurements.

CO-POMAPPING:

CourseOutcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1				✓		✓					
CO2				✓		✓					
CO3	✓	✓	✓	✓	✓	✓					
CO4			✓	✓	✓	✓					
CO5			✓	✓	✓	✓					

UNITI BIO POTENTIAL GENERATIONAND ELECTRODESTYPES **9**

Origin of bio potential and its propagation.Types of electrodes - surface, needle and micro electrodesandtheirequivalentcircuits.Recordingproblems-measurementwith twoelectrodes

UNITII BIOSIGNALCHARACTERISTICSANDELECTRODECONFIGURATIONS **9**

Biosignals characteristics – frequency and amplitude ranges. ECG – Einthoven's triangle, standard 12lead system. EEG – 10-20 electrode system, unipolar, bipolar and average mode.EMG– unipolar andbipolarmode.

UNITIII SIGNALCONDITIONINGCIRCUITS **9**

Need for bio-amplifier - differential bio-amplifier, Impedance matching circuit, isolation amplifiers,Powerline interference,Right leg driven ECGamplifier, Band passfiltering

UNITIV MEASUREMENTOFNON-ELECTRICALPARAMETERS **10**

Temperature, respiration rate and pulse rate measurements. Blood Pressure: indirect methods - Auscultatory method, direct methods: electronic manometer, Systolic, diastolic pressure. Blood flowand cardiac output measurement: Indicator dilution, and dye dilution method, ultrasound blood flowmeasurement.

UNITV BIO-CHEMICALMEASUREMENT **8**

BloodgasanalyzersandNon-Invasivemonitoring,colorimeter,SodiumPotassiumAnalyser,spectrophotometer,blood cellcounter,autoanalyzer(simplifiedschematic description).

TOTAL:45PERIODS

OUTCOMES:

Attheendofthecourse,thestudentshouldbeableto:

CO1:ToLearnthedifferent bio potentialanditspropagation.
CO2:TogetFamiliarizethedifferentelectrodeplacementforvariousphysiologicalrecording
CO3:Studentswillbeabledesignbioamplifierfor variousphysiologicalrecording
CO4:Studentswillunderstandvarioustechniquenonelectricalphysiologicalmeasurements



Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

KNOWLEDGE GRAPH BASED ON MACHINE LEARNING

A PROJECT REPORT

Submitted by

BALAJI.M	**(920819106009)**
MANOJ KUMAR.S	**(920819106030)**
MUTHU MOORTHY.M	**(920819106036)**
THARUNKUMAR.M	**(920819106065)**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

NATHAM, DINDIGUL

ANNA UNIVERSITY::CHENNAI 600 025

MAY 2023

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ANNA UNIVERSITY::CHENNAI 600025

BONAFIDE CERTIFICATE

ertified that this project report "**KNOWLEDGE GRAPH BASED ON MACHINE EARNING**" is the bonafide work of "**BALAJI.M (920819106009), MANOJ KUMAR.S 20819106030), MUTHU MOORTHY.M (920818106036)** and **THARUNKUMAR.M 20819106065).** " who carried out the project work under my supervision.

18/5/23

SIGNATURE

Dr.M.AMEENA BANU, M.E., Ph.D.,

HEAD OF THE DEPARTMENT

Professor,

Department of Electronics and

Communication Engineering,

NPR College of Engineering

& Technology,

Natham,

Dindigul–624401.

SIGNATURE

Mrs.P.SANGEETHA, M.E.,

SUPERVISOR

Assistant Professor,

Department of Electronics and

Communication Engineering,

NPR College of Engineering

& Technology,

Natham,

Dindigul–624401.

Submitted for the ANNA UNIVERSITY Viva-Voce Examination held on 18.05.2023 at NPR College of Engineering & Technology, Natham.

18/5/23

INTERNAL EXAMINER

18/5/23

EXTERNAL EXAMINER

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ABSTRACT

In all aspects, Knowledge graphs have become effective methods for representing and organizing structured knowledge. There is a growing need for automated methods to create and use Knowledge graphs due to the global exponential rise in data and the requirement for effective information retrieval and knowledge discovery. In order to overcome these difficulties, Machine Learning techniques have been involved. They make it possible to automatically extract, combine, and link data from many sources in order to build extensive knowledge graphs. The knowledge graph development process starts with data collection, entity recognition, relation extraction, and knowledge fusion. Machine Learning algorithms like natural language processing, information extraction, and graph embedding are used to extract and integrate information from unstructured and semi-structured data sources. These methodologies enable the discovery of semantic relationships between pieces as well as the construction of a coherent and interconnected knowledge graph. An ML/DL based Knowledge graph is a natural way to represent the relationships found in long texts. An ML/DL based Knowledge Graph trained on long texts can extract information and store it in Structured form. For multiple customers, specifications in long texts contain detailed information. These data present in unstructured form needs to be manually entered into data bases. This is a tedious process due the quality and variations in the long texts. An ML/DL based knowledge graph can unlock significant value for organizations, helping manufactures optimize, search, etc. The proposed model of Knowledge Graph will work based on Machine Learning. It has various applications such as, community/cluster detection, Node Classification, Link Prediction, Unstructured text, NLP, Question and Answering systems.

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CHAPTER-8

CONCLUSION

In this project, we successfully employed the Rebel model, a state-of-the-art machine learning algorithm, for knowledge graph extraction from text. The results obtained demonstrated the effectiveness of the Rebel model in transforming unstructured text into structured representations, constructing coherent and interconnected knowledge graphs. The model showcased robust capabilities in entity recognition, semantic relationship extraction, and data integration, enhancing the usability and utility of the knowledge graphs for various applications.

The knowledge graph extraction process using the Rebel model holds significant potential for improving information retrieval, knowledge discovery, and decision-making processes. By leveraging the Rebel model, organizations and researchers can gain valuable insights from vast amounts of unstructured text data, enabling more efficient and effective utilization of information resources.

In conclusion, the application of the Rebel model for knowledge graph extraction from text holds significant promise. Further research and development in fine-tuning, handling complex text structures, scalability, evaluation, integration with domain-specific knowledge, and explainability will advance the field and unlock the full potential of knowledge graphs for various domains and applications.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

EC8095	VLSIDESIGN	L	T	P	C
		3	0	0	3

OBJECTIVES:

- StudythefundamentalsofCMOS circuitsanditscharacteristics.
- Learn thedesignandrealizationofcombinational&sequentialdigitalcircuits.
- Architectural choices and performance tradeoffs involved in designing and realizing thecircuits inCMOStechnologyarediscussed
- LearnthedifferentFPGAarchitecturesandtestabilityofVLSIcircuits.

UNITI INTRODUCTIONTOMOSTRANSISTOR 9

MOS Transistor, CMOS logic, Inverter, Pass Transistor, Transmission gate, Layout Design Rules,Gate Layouts, Stick Diagrams, Long-Channel I-V Charters tics, C-V Charters tics, Non ideall-VEffects,DCTransfercharacteristics, RCDelayModel,ElmoreDelay,Linear DelayModel,Logicaleffort,ParasiticDelay,DelayinLogicGate,Scaling.

UNITII COMBINATIONALMOSLOGIC CIRCUITS 9

CircuitFamilies: StaticCMOS,RatioedCircuits,CascodeVoltageSwitchLogic,DynamicCircuits, Pass Transistor Logic, Transmission Gates, Domino, Dual Rail Domino, CPL, DCVSPG,DPL,CircuitPitfalls.

Power: DynamicPower,StaticPower,LowPowerArchitecture.

UNITIII SEQUENTIAL CIRCUITDESIGN 9

Static latches and Registers, Dynamic latches and Registers, Pulse Registers, Sense AmplifierBased Register, Pipelining, Schmitt Trigger, Monostable Sequential Circuits, Astable SequentialCircuits.

TimingIssues: TimingClassificationOfDigitalSystem,SynchronousDesign.

UNITIV DESIGNOFARITHMETICBUILDINGBLOCKSANDSUBSYSTEM 9

Arithmetic Building Blocks: Data Paths, Adders, Multipliers, Shifters, ALUs, power and speedtradeoffs,CaseStudy:Designasatradeoff.

Designing Memory and Array structures: Memory Architectures and Building Blocks, MemoryCore,MemoryPeripheral Circuitry.

UNITV IMPLEMENTATIONSTRATEGIESAND TESTING 9

FPGABuildingBlockArchitectures,FPGAInterconnectRoutingProcedures.DesignforTestability: *Ad Hoc* Testing, Scan Design, BIST, IDDQ Testing, Design for Manufacturability,BoundaryScan.

TOTAL:45PERIODS

OUTCOMES:

UPONCOMPLETIONOFTHE COURSE,STUDENTS SHOULDbeABLE TO

- Realizethe conceptsofdigitalbuildingblocksusingMOStransistor.
- DesigncombinationalMOS circuitsandpowerstrategies.
- DesignandconstructSequentialCircuitsand Timingsystems.
- Designarithmeticbuildingblocksandmemorysubsystems.
- Applyandimplement FPGAdesignflowandtesting.

TEXT BOOKS:

1. Neil H.E. Weste, David Money Harris "CMOS VLSI Design: A Circuits and SystemsPerspective",4th Edition,Pearson,2017(UNIT I,II,V)
2. Jan M. Rabaey ,AnanthaChandrakasan, Borivoje. Nikolic, "Digital Integrated Circuits:ADesignperspective",SecondEdition,Pearson,2016.(UNIT III,IV)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

FUSION OF REVERSIBLE CIRCUITS USING QUANTUM DOT CELLULAR AUTOMATA(QCA)

S.DHATH VETHA (920819106014)

J.SHINY RESHMA (920819106058)

S.SOUNDHARYA (920819106061)

S.YASHICA (920819106070)

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY, NATHAM,DINDIGUL.

ANNAUNIVERSITY::CHENNAI600025,

MAY 2023

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ANNAUNIVERSITY:CHENNAI 600025

BONAFIDE CERTIFICATE

Certified this project report " **FUSION OF REVERSIBLE CIRCUITS USING QUANTUM DOT CELLULAR AUTOMATA (QCA)**" is the bonafide work of **S.DHATH VETHA (920819106014), J.SHINY RESHMA (920819106058), S.SOUNDHARYA (920819106061) & S.YASHICA (920819106070)** who carried out the project work under my supervision.

18/5/23

SIGNATURE
Dr.M.AMEENA BANU, M.E., Ph.D.,
HEAD OF THE DEPARTMENT
Professor
Department of Electronics and Communication Engineering
NPR College of Engineering
& Technology,
Natham,
Dindigul–624401.

SIGNATURE
Mr.S.AYYAPPAN, M.E.,
SUPERVISOR
Assistant Professor
Department of Electronics and Communication Engineering
NPR College of Engineering
& Technology,
Natham,
Dindigul–624401.

Submitted for the ANNA UNIVERSITY Viva-Voce Examination held on 18.05.2023 at NPR College of Engineering & Technology, Natham.

18/5/23
INTERNAL EXAMINER

18/5/23
EXTERNAL EXAMINER

Principal
N.P.R. College of Engineering & Techn
Natham, Dindigul (Dt) - 624 401

CONCLUSIONS

This project presented Dynamic Sign Language Recognition with three RNN models. GRU.LSTM. BILSTM on DSL10-Dataset. MediaPipe framework was used for the features extraction phase. Two experiments were conducted to show the DSL recognition from twoaspects, and the results show an outperformance in both of them. The proposed method could be put into action in three steps. Prepare a dataset of videos with equal frame counts first. Then, pass the input data to the MediaPipe framework, which will extract the hand, face, and pose keypoints from each frame of the videos. Finally, for the training phase, insert the extracted keypoints into one of the prepared RNN models, GRU, LSTM, or BILSTM.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER 8
CONCLUSION

Conclusion

A comprehensive study on rigid- flexible antenna made from a new substrate has been presented. The prototype has been well made and its performances have also been investigated. The primary approach for the proposed antenna is to use FR4 fabric as the rigid- flexible substrate. The results show that fr4 fabric can act as a reasonable substrate material for flexible applications. Due to its light weight, long durability, low cost and low environmental concerns, it is possible to substitute rigid substrate materials.

This antenna performs well with regard to water absorption and moist conditions (return loss =28.2dB) and is resistant to wear and tear, different types of special antenna can be designed for even search and rescue applications. The results for various parameters (return loss=20.67dB and 23.41dB, respectively) are found to be adequate for wearable applications. Thus, the antenna can be used for various applications such as biomedical, military radio location and especially in ground radar (0 to3 GHz). However, air gaps in the substrate material, long-term behavior, reduced bandwidth and repeated wash ability need to be addressed in future investigations.

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

REFERENCES

1. M.J.Smith,"Application SpecificIntegratedCircuits",AddissonWesley,1997
2. Sung-Mo kang, Yusuf leblebici, Chulwoo Kim "CMOS Digital Integrated Circuits:Analysis&Design",4th editionMcGraw Hill Education,2013
3. WayneWolf,"ModernVLSIDesign:SystemOnChip",PearsonEducation,2007
4. R.JacobBaker,HarryW.LI.,David E.Boyee,"CMOSCircuitDesign,LayoutandSimulation",PrenticeHall ofIndia2005.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

EC8652 **WIRELESSCOMMUNICATION** **L T P C**
3 0 0 3

OBJECTIVES:

- Tostudythe characteristicofwirelesschannel
- Tounderstandthedesignofacellularsystem
- To studythe variousdigitalsignalingtechniquesand multipathmitigationtechniques
- Tounderstandtheconceptsofmultipleantennatechniques

UNITI WIRELESSCHANNELS **9**

Large scale path loss – Path loss models: Free Space and Two-Ray models -Link Budgetdesign – Small scale fading- Parameters of mobile multipath channels – Time dispersionparameters-Coherencebandwidth– Dopplerspread&Coherencetime,fadingduetoMultipath time delay spread – flat fading – frequency selective fading – Fading due toDopplerspread-fastfading–slowfading.

UNITII CELLULARARCHITECTURE **9**

MultipleAccesstechniques-FDMA,TDMA,CDMA–Capacitycalculations–Cellularconcept-Frequency reuse - channel assignment- hand off- interference & system capacity-trunking&gradeofservice–Coverageandcapacity improvement.

UNITIII DIGITALSIGNALINGFORFADINGCHANNELS **9**

Structureofawirelesscommunicationlink,PrinciplesofOffset-QPSK,p/4-DQPSK,MinimumShiftKeying,GaussianMinimumShiftKeying,Errorperformanceinfadingchannels,OFDMprinciple–Cyclicprefix,Windowing,PAPR.

UNITIV MULTIPATH MITIGATIONTECHNIQUES **9**

Equalisation – Adaptive equalization, Linear and Non-Linear equalization, Zero forcing andLMSAlgorithms.Diversity– MicroandMacro diversity, Diversitycombining techniques,Errorprobability infadingchannelswithdiversityreception,Rakereceiver.

UNITV MULTIPLEANTENNATECHNIQUES **9**

MIMOsystems–spatialmultiplexing-Systemmodel-Pre-coding-Beamforming-transmitter diversity, receiver diversity- Channel state information-capacity in fading andnon-fadingchannels.

TOTAL: 45 PERIODS

OUTCOMES:

Thestudentshouldbeable to:

- Characterizeawirelesschannelandevolvethe systemdesign specifications
- Designacellularsystembasedonresourceavailabilityandtrafficdemands
- Identifysuitablesignalingandmultipathmitigationtechniquesforthewirelesschannelandsystemunderconsideration.

TEXT BOOKS:

1. Rappaport,T.S.,—Wirelesscommunicationsll,PearsonEducation,SecondEdition, 2010.(UNITI,II,IV)
2. Andreas.F.Molisch,—WirelessCommunicationsll,JohnWiley–India,2006.(UNITIII,V)

REFERENCES:

1. WirelessCommunication–AndreaGoldsmith,CambridgeUniversityPress,2011
2. VanNee,R.andRamjiPrasad,—OFDMforwirelessmultimediacommunications, ArtechHouse,2000
3. DavidTseandPramodViswanath,—FundamentalsofWirelessCommunication, CambridgeUniversityPress,2005.
4. UpenaDalal,—WirelessCommunicationll,OxfordUniversityPress,2009.

Dr. J.SUNDARAKAJAN, B.E., M.Tech., Ph.D., Principal Adhiyamaan College of Engineering & Technology Hosur, Dhedigul (Dt) - 624 401.

SMART FLUIDS AND SEIZURE MONITORING SYSTEM

A PROJECT REPORT

Submitted by

AJITH KUMAR.K	(920819106003)
MURUGANATHAN.M	(920819106035)
ARAVINTH RAJ.K	(920819106006)

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

NATHAM, DINDIGUL

ANNA UNIVERSITY::CHENNAI 600 025

MAY 2023

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ANNA UNIVERSITY::CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"SMART FLUIDS AND SEIZURE MONITORING SYSTEM"** is the bonafide work of **"AJITH KUMAR.K (920819106003), MURUGANATHAN.M(920819106035)** and **ARAVINTH RAJ.K(920819106006)"** who carried out the project work under my supervision.

M. Ameena 18/5/23

SIGNATURE

Dr.M.AMEENA BANU, M.E., Ph.D.,

HEAD OF THE DEPARTMENT

Professor.

Department of Electronics &

Communication Engineering,

NPR College of Engineering & Technology,

Natham.

Dindigul – 624 401.

S. Priya 18/05/23

SIGNATURE

Ms.S.PRIYADHARSINI, M.E.,

SUPERVISOR

Assistant Professor,

Department of Electronics &

Communication Engineering,

NPR College of Engineering & Technology,

Natham,

Dindigul – 624 401.

Submitted for the ANNA UNIVERSITY Viva-Voce examination heldon 18.05.23. at NPR College of Engineering & Technology, Natham

M. Ameena 18/5/23

INTERNAL EXAMINER

18/5/23

EXTERNAL EXAMINER

ii

COLLEGE OF ENGG. & TECHNOLOGY NPR NATHAM

Principal

N.P.R. College of Engineering & Technology

Natham, Dindigul (Dt) - 624 401.

ABSTRACT

An recent years, we have seen much technological advancement that help us take better care of patients' health and assure them of a fast and safe recovery. The most basic item necessary is competent patient care in hospitals, as well as proper management of fluids and electrolytes. In a hospital, almost all patients, primarily ICU patients, must regulate the volume of fluids and electrolytes in their bloodstream 24 hours a day, seven days a week, using drip. These drips must be monitored or changed on a regular basis in order to maintain a constant flow of fluids or to prevent infection in patients. Though this system is simple, overcrowded hospitals and the risk of nurse deficiency can put patients at health risk, which can deteriorate patients' health more aggressively or, in worse cases, lead to death.

In almost all hospitals, nurses or hospital staff is responsible for monitoring the drip level. But unfortunately, because of their hectic schedule, the observer may forget to change the bottle at the appropriate time. During the pandemic, hospitals were overrun with patients, and nurses were unable to do manual regular checks on the drip conditions and drip level of every patient, even after working extra shifts. Many patients even died due to not being able to get proper care from nurses. The next step in providing more effective and easy healthcare is to automate such vital procedures. To overcome this critical situation, we are using Drip Monitor System using Arduino UNO, which eases the process of measuring and solves the issue of bubble formation in drips.

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER-6

CONCLUSION AND FUTURE WORK

An smart fluids and seizure monitoring system will be very much accurate using level sensor. It will help us monitor patients at regular intervals of time through different alerts. It will also keep the nurses free from haste and panics. It is very beneficial and cost effective. More over this will never go unnoticed since alert is given to multiple mobile phones via messages.

In our Future drip monitoring systems may focus on interoperability and standardization to ensure seamless communication and integration with other hospital systems. Standardized protocols and data formats would enable interoperability between drip monitoring systems, EHRs, medication management systems, and other healthcare technologies, reducing errors and improving efficiency.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt)

ENHANCING THE PERFORMANCE OF CLUSTER HEAD SELECTION IN WSN USING HYBRID OPTIMIZATION ALGORITHM

A PROJECT REPORT

Submitted by

AMIZHTHAA.B	**920819106004**
ASMA ROSHAN.T	**920819106007**
DIVYA DHARSHINI.S	**920819106017**
PORKODI.S	**920819106043**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING AND TECHNOLOGY

NATHAM, DINDIGUL.

ANNA UNIVERSITY :: CHENNAI 600 025

MAY 2023

N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ANNA UNIVERSITY :: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"ENHANCING THE PERFORMANCE OF CLUSTER HEAD SELECTION IN WSN USING HYBRID OPTIMIZATION ALGORITHM"** is the Bonafide work of **"B.AMIZHTHAA (920819106004), T.ASMA ROSHAN (920819106007), S.DIVYA DHARSHINI(920810106017) and S.PORKODI (920819106043)"** who carried out the project work under my supervision.

18/5/23

SIGNATURE

Dr. M.AMEENA BANU, M.E., Ph.D.,
HEAD OF THE DEPARTMENT,
Professor,
Department of Electronics and
Communication Engineering,
NPR College of Engineering
& Technology, Natham,
Dindigul – 624401.

18/5/23

SIGNATURE

Mr. S.SUDHAKAR, M.E.,
SUPERVISOR
Assistant Professor,
Department of Electronics and
Communication Engineering,
NPR College of Engineering
& Technology, Natham,
Dindigul – 624401.

Submitted for the ANNA UNIVERSITY Viva-Voice Examination held on 18.05.23 at NPR College of Engineering & Technology, Natham.

18/5/23

INTERNAL EXAMINER

18/5/23

EXTERNAL EXAMINER

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ABSTRACT

The Internet of Things has gained attention from researchers and is still in constant development due to the widespread of smart devices and services. Many challenges face the IoT networks and need to be solved. Reducing energy consumption to increase the network lifetime is the main issue among these challenges. The clustering approach is one of the best solutions to solve this issue. Choosing the best Cluster Heads (CHs) can consume less energy in the WSN. Swarm Intelligence (SI) algorithms can help to solve complicated problems. In this work, we propose a novel algorithm to select the best CHs in the WSN. The novel algorithm is called a Hybrid Optimization Algorithm. We combine the sunflower optimization algorithm (SFO) with the Particle Swarm Optimization to maximize the WSNs lifetime. Such a combination can help the SFO algorithm to avoid trapping in local minima due to the random selection of the PSO. The proposed method aims to improve the network lifetime and reduce energy consumption.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER-7
CONCLUSION

This project has proposed a hybrid optimization-based energy efficient cluster head selection protocol for IoT based WSNs. The selection of CH is done using adaptive learning mechanism. Simulations results show that it performs better than existing routing protocols in terms of residual energy and number of alive nodes. So the proposed scheme can be used in wide areas of sensor networks where energy efficiency is a critical issue. In conclusion, our proposed hybrid sunflower optimization algorithm for cluster head selection in IoT networks shows promising results in terms of network performance and adaptability to dynamic environment.

N.P.R. COLLEGE OF ENGG. & TECH. NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

EC8651	TRANSMISSIONLINESAND RFSYSTEMS	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To introducethe varioustypesoftransmission linesand itscharacteristics
- Togivethoroughunderstandingabouthighfrequencyline,powerandimpedancemeasurements
- Toimparttechnicalknowledgeinimpedancematchingusingsmithchart
- Tointroducepassivefiltersandbasic knowledgeof activeRFcomponents
- To getacquaintancewithRFsystemtransceiverdesign

UNITI TRANSMISSIONLINETHEORY 9

General theory of Transmission lines - the transmission line - general solution - The infinite line - Wavelength, velocity of propagation - Waveform distortion - the distortion-less line - Loading anddifferent methods of loading - Line not terminated in Z0 - Reflection coefficient - calculation ofcurrent, voltage, power delivered and efficiency of transmission - Input and transfer impedance -Openandshortcircuitedlines-reflectionfactorandreflectionloss.

UNITII HIGHFREQUENCYTRANSMISSIONLINES 9

Transmission line equations at radio frequencies - Line of Zero dissipation - Voltage and currenton the dissipation-less line, Standing Waves, Nodes, Standing Wave Ratio - Input impedance ofthe dissipation-less line - Open and short circuited lines - Power and impedance measurementonlines-Reflectionlosses -MeasurementofVSWRandwavelength.

UNITIII IMPEDANCEMATCHINGINHIGHFREQUENCYLINES 9

Impedance matching: Quarter wave transformer - Impedance matching by stubs - Single stuband double stub matching - Smith chart - Solutions of problems using Smith chart - Single anddoublestubmatchingusingSmithchart.

UNITIV WAVEGUIDES 9

General Wave behavior along uniform guiding structures – Transverse Electromagnetic Waves,Transverse Magnetic Waves, Transverse Electric Waves – TM and TE Waves between parallelplates.FieldEquationsinrectangularwaveguides,TMandTEwavesinrectangularwaveguides ,Bessel Functions,TMandTEwavesinCircularwaveguides.

UNITV RF SYSTEMDESIGNCONCEPTS 9

Active RF components: Semiconductor basics in RF, bipolar junction transistors, RF field effecttransistors, High electron mobility transistors Basic concepts of RF design, Mixers, Low noiseamplifiers, voltagecontrol oscillators, Power amplifiers, transducer power gain andstabilityconsiderations.

TOTAL:45PERIODS

OUTCOMES:

Uponcompletionofthe course,the studentshouldbe ableto:

- Explain thecharacteristicsof transmission linesand itslosses
- Writeaboutthestandingwaveratioandinputimpedanceinhighfrequencytransmissionlines
- Analyze impedance matchingbystubsusing smith charts
- AnalyzethecharacteristicsofTE and TMwaves
- DesignaRFtransceiversystemforwireless communication

TEXTBOOKS:

1. JohnDRyder,"Networks,linesandfields",2ndEdition,PrenticeHallIndia,2015.(UNITI-IV)
2. MathewM.Radmanesh,"RadioFrequency&MicrowaveElectronics",PearsonEducationAsia,SecondEdition,2002.(UNIT V)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

REFERENCES:

1. ReinholdLudwigandPowelBretchko," RFCircuitDesign–TheoryandApplications",PearsonEducationAsia,FirstEdition,2001.
2. D.K.Misra,"RadioFrequencyandMicrowaveCommunicationCircuits-AnalysisandDesign",JohnWiley&Sons,2004.
3. E.C.JordanandK.G.Balmain,—ElectromagneticWavesandRadiatingSystemsPrentice HallofIndia,2006.
4. G.S.NRaju,"ElectromagneticFieldTheoryandTransmissionLinesPearsonEducation,

Dr. J. SUNDARARAJAN, B.E., M.Tech., Ph.D.,
Principal
K.S.R. College of Engineering & Technology
Kurnool, Dist. (A.P.) - 518 501.

ANNA UNIVERSITY::CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"LORA ENABLED FAULT DETECTION IN OWER DISTRIBUTION SYSTEM USING IOT DEVICES"** is the bonafide work - **"N.NALINASHREE (920219106040), N.RENUGA DEVI (92081906049), .SINGARA BRINDHA (92019106059) and S.THARSHITHA (920819106064)"** ho carried out the project work under my supervision.

18/5/23
IGNATURE
)r.M.AMEENA BANU, M.E., Ph.D.,
IEAD OF THE DEPARTMENT
rofessor,
)epartment of Electronics & Communication
ngineering,
IPR College of Engineering & Technology,
latham,
)indigul – 624 401.

18/05/23
SIGNATURE
Mrs. P. JEYALAKSHMI, M.E.,
SUPERVISOR
Assistant Professor,
Department of Electronics & Communication
Engineering,
NPR College of Engineering & Technology,
Natham,
Dindigul–624 401.

ubmitted for the ANNA UNIVERSITY Viva-Voce Examination held on
3-5-2023 at NPR College of Engineering & Technology, Natham.

18/5/23
TERNAL EXAMINER

18/5/23
EXTERNAL EXAMINER

Principal
N.P.R. College of Engineering & Technc
Natham, Dindigul (Dt) - 624 401.

ABSTRACT

One of the biggest problems facing electronic device designers is heat dissipation. Reversible Computing is one of the evolving technology that helps us to overcome this heat dissipation. An growing nanoscale technology which is used to get over many complexities of CMOS is quantum-dot cellular automata (QCA) and also it offers a new method of computation and information transformation. Interest in reversible computation arises from the desire to reduce heat dissipation. In this paper the benefits of reverse computing using QCA is proposed. We are designing three reversible gates: CNOT, Feynman and BVF gate. This paper presents a new, simple representation of reversible gates for quantum computing. The proposed QCA designs show better cell count, area used in the construction, number of majority gate and/or clock cycle delay than comparable designs already published.

N.P.R. COLLEGE OF ENGG & TECH. NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624

CHAPTER 6

CONCLUSION

Quantum dot-cellular automata (QCA) emerge as a research area to design nanometer scale logic circuit. In digital logic design, a comparator is the fundamental building block that performs the comparison of two numbers. This project deals with the design of reversible building block for 1-bit,2-bit comparator and its implementation in QCA. An improved QCA layout of C- NOT gate is also achieved. The QCA C-NOT gate is denser and has low delay. The proposed FEYNMAN Gate has reduced cell size than the existing system. The quantum cost based comparison of the proposed QCA reversible comparator with conventional reversible comparator shows the cost effective circuit design in QCA. The simulation result matched the truth table of comparator which approves the functional capability of the proposed QCA layout of comparator. All the proposed layouts dissipate very low power.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

EC8701 ANTENNAS AND MICROWAVE ENGINEERING

L	T	P	C
3	0	0	3

OBJECTIVES:

- To enable the student to understand the basic principles in antenna and microwavesystem design
- To enhance the student knowledge in the area of various antenna designs.
- To enhance the student knowledge in the area of microwave components andantenna for practical applications.

UNIT I INTRODUCTION TO MICROWAVE SYSTEMS AND ANTENNAS 9

Microwave frequency bands, Physical concept of radiation, Near- and far-field regions, Fields and Power Radiated by an Antenna, Antenna Pattern Characteristics, Antenna Gain and Efficiency, Aperture Efficiency and Effective Area, Antenna Noise Temperature and G/T, Impedance matching, Friis transmission equation, Link budget and link margin, Noise Characterization of a microwave receiver.

UNIT II RADIATION MECHANISMS AND DESIGN ASPECTS 9

Radiation Mechanisms of Linear Wire and Loop antennas, Aperture antennas, Reflector antennas, Microstrip antennas and Frequency independent antennas, Design considerationsand applications.

UNIT III ANTENNA ARRAYS AND APPLICATIONS 9

Two-element array, Array factor, Pattern multiplication, Uniformly spaced arrays with uniformand non-uniform excitation amplitudes, Smart antennas.

UNIT IV PASSIVE AND ACTIVE MICROWAVE DEVICES 9

Microwave Passive components: Directional Coupler, Power Divider, Magic Tee, attenuator, resonator, Principles of Microwave Semiconductor Devices: Gunn Diodes, IMPATT diodes, Schottky Barrier diodes, PIN diodes, Microwave tubes: Klystron, TWT, Magnetron.

UNIT V MICROWAVE DESIGN PRINCIPLES 9

Impedance transformation, Impedance Matching, Microwave Filter Design, RF and Microwave Amplifier Design, Microwave Power amplifier Design, Low Noise Amplifier Design, Microwave Mixer Design, Microwave Oscillator Design

TOTAL: 45 PERIODS

OUTCOMES:

The student should be able to:

- Apply the basic principles and evaluate antenna parameters and link power budgets
- Design and assess the performance of various antennas
- Design a microwave system given the application specifications

TEXTBOOKS:

1. John D Krauss, Ronald J Marhefka and Ahmad S. Khan, "Antennas and WavePropagation: Fourth Edition, Tata McGraw-Hill,



Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt.) - 624 401

2006. (UNIT I, II, III)

2. David M. Pozar, "Microwave Engineering", Fourth Edition, Wiley India, 2012.(UNITI,IV,V)

REFERENCES:

1. Constantine A.Balanis, "Antenna Theory Analysis and Design", Third edition, JohnWiley India Pvt Ltd., 2005.
2. R.E.Collin, "Foundations for Microwave Engineering", Second edition,IEEE Press, 2001

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

DESIGN AND IMPLEMENTATION OF MICROSTRIP PATCH ANTENNA FOR WEARABLE APPLICATIONS

A PROJECT REPORT

Submitted by

CHRISTIYA.I	**(920819106011)**
PAVITHRA.N	**(920819106042)**
RIFAYA.S	**(920819106050)**
VISHALI.K	**(920819106069)**

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING AND TECHNOLOGY

NATHAM, DINDIGUL

ANNA UNIVERSITY::CHENNAI 600 025

MAY 2023

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ANNA UNIVERSITY::CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"DESIGN AND IMPLEMENTATION OF MICROSTRIP PATCH ANTENNA FOR WEARABLE APPLICATION"** is the bonafide work of **"CHRISTIYA I (920819106069), PAVITHRA N (920819106042), RIFAYA S (920819106050)** and **VISHALI K (920819106069)"** who carried out the project work under my supervision.

18/5/23

SIGNATURE

Dr. M.AMEENA BANU, M.E, Ph.D.,

HEAD OF THE DEPARTMENT

Professor,

Department of Electronics and Communication Engineering,

NPR College of Engineering & Technology, Natham,

Dindigul – 624 401.

18/05/23

SIGNATURE

Ms. A.MONISHA DAYANA MARY, M.E.,

SUPERVISOR

Assistant Professor,

Department of Electronics and Communication Engineering,

Communication Engineering,

Technology, Natham,

Dindigul – 624 401.

Submitted for the ANNA UNIVERSITY Viva-Voce Examination held on ..18.05.2023.. at NPR College of Engineering & Technology, Natham.

18/5/23

INTERNAL EXAMINER

18/5/23.

EXTERNAL EXAMINER

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ABSTRACT

Wearable antenna is helpful for the protection of workers in coal shaft for providing communication. The proposed wearable antenna is designed by using CST (Computer Simulation Technology). Impedance bandwidth of the proposed wearable antenna is suitable for radar application (to track mass movement of falling slopes in surface mines and possible to warn the harmful collapse).The antenna has the wearable and flexible properties despite the performance of ISM (Industrial Scientific Medicine) band and also suitable for industrial application. In the proposed antenna, FR4 is used as a substrate with dielectric constant ε_r= 4.3 and loss tangent δ= 0.033.The performance of the antenna is compared with antenna of different design in terms of bandwidth, gain, return loss, VSWR and directivity. The radiation performance of the antenna is also analyzed. The main aim of the design of wearable antenna is improvement of return loss and gain.

N.P.R. COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ABSTRACT

The hearing impaired (deaf) community employs a visual gesture language called sign language. In sign language, meaning and extracting information can be expressed by hand gestures, body movements, facial expressions, and emotions. Furthermore, sign languages reduce the communication gap between deaf and regular people, facilitating normal contact.Communication for speech impaired people is an exceeding challenging task, that's why dynamic sign language was developed. Hand gestures and body movements are used to represent vocabulary in dynamic sign language. In this project we use Media pipe in conjunction with RNN models to address dynamic sign language recognition issues. Mediapipe was used to determine the location, shape and orientation by extracting key points of the hands, body and face. We are implementing the dynamic sign language translator whichtranslates dynamic sign language gestures into text and voice. So the communication between aurally impaired people and normal people will become easy

N.P.R. COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

EC8751 **OPTICAL COMMUNICATION** L T P C 3 0 0 3

OBJECTIVES:

- To study about the various optical fiber modes, configuration and transmission characteristics of optical fibers
- To learn about the various optical sources, detectors and transmission techniques
- To explore various idea about optical fiber measurements and various coupling techniques
- To enrich the knowledge about optical communication systems and networks

UNIT I INTRODUCTION TO OPTICAL FIBERS 9

Introduction-general optical fiber communication system- basic optical laws and definitions-optical modes and configurations -mode analysis for optical propagation through fibers-modes in planar wave guide-modes in cylindrical optical fiber-transverse electric and transverse magnetic modes- fiber materials-fiber fabrication techniques-fiber optic cables-classification of optical fiber-single mode fiber-graded index fiber.

UNIT II TRANSMISSION CHARACTERISTIC OF OPTICAL FIBER 9

Attenuation-absorption –scattering losses-bending losses-core and cladding losses-signal dispersion –inter symbol interference and bandwidth-intra model dispersion-material dispersion- waveguide dispersion-polarization mode dispersion-intermodal dispersion-dispersion optimization of single mode fiber-characteristics of single mode fiber-R-I Profile-cutoff wave length-dispersion calculation-mode field diameter.

UNIT III OPTICAL SOURCES AND DETECTORS 9

Sources: Intrinsic and extrinsic material-direct and indirect band gaps-LED-LED structures-surface emitting LED-Edge emitting LED-quantum efficiency and LED power-light source materials-modulation of LED-LASER diodes-modes and threshold conditions-Rate equations-external quantum efficiency-resonant frequencies-structures and radiation patterns-single mode laser-external modulation-temperature effort.

Detectors: PIN photo detector-Avalanche photo diodes-Photo detector noise-noisesources-SNR-detector response time-Avalanche multiplication noise-temperature effects-comparisons of photo detectors.

UNIT IV OPTICAL RECEIVER, MEASUREMENTS AND COUPLING 9

Fundamental receiver operation-preamplifiers-digital signal transmission-error sources-Front end amplifiers-digital receiver performance-probability of error-receiver sensitivity-quantum limit.

Optical power measurement-attenuation measurement-dispersion measurement- Fiber Numerical Aperture Measurements- Fiber cut- off Wave length Measurements- Fiber diameter measurements-Source to Fiber Power Launching-Lensing Schemes for Coupling Management-Fiber to Fiber Joints-LED Coupling to Single Mode Fibers-Fiber Splicing-Optical Fiber connectors.

UNIT V OPTICAL COMMUNICATION SYSTEMS AND NETWORKS 9

System design consideration Point – to –Point link design –Link power budget –rise time budget, WDM –Passive DWDM Components-Elements of optical networks-SONET/SDH-Optical Interfaces-SONET/SDH Rings and Networks-High speed light wave Links-OADM configuration-Optical ETHERNET-Soliton.

TOTAL:45 PERIODS



Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt.) - 624 401.

OUTCOMES:

At the end of the course, the student should be able to:

- Realize basic elements in optical fibers, different modes and configurations.
- Analyze the transmission characteristics associated with dispersion and polarization techniques.
- Design optical sources and detectors with their use in optical communication system.
- Construct fiber optic receiver systems, measurements and coupling techniques.
- Design optical communication systems and its networks.

TEXT BOOKS:

1. P Chakrabarti, "Optical Fiber Communication", McGraw Hill Education (India)Private Limited, 2016 (UNIT I, II, III)
2. Gred Keiser,"Optical Fiber Communication", McGraw Hill Education (India) Private Limited. Fifth Edition, Reprint 2013. (UNIT I, IV, V)

REFERENCES:

1. John M.Senior, "Optical fiber communication", Pearson Education, second edition.2007.
2. Rajiv Ramaswami, "Optical Networks " , Second Edition, Elsevier , 2004.
3. J.Gower, "Optical Communication System", Prentice Hall of India, 2001.
4. Govind P. Agrawal, "Fiber-optic communication systems", third edition, John Wiley & sons, 2004.



Dr. J.SUNDARARAJAN, M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

DYNAMIC SIGN LANGUAGE TRANSLATOR

A PROJECT REPORT

Submitted by

JYOTHIKA B	**(920819106021)**
KARUNIAA J S	**(920819106023)**
MADHUMITHA P	**(920819106028)**
POWSIKA DEVI K	**(920819106044)**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

NATHAM, DINDIGUL.

ANNA UNIVERSITY::CHENNAI 600 025

MAY 2023

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"DYNAMIC SIGN LANGUAGE TRANSLATOR"** is the bonafide work of **"B.JYOTHIKA (920819106021), J.S.KARUNIAA (920819106023), P.MADHUMITHA (920819106028) and K.POWSIKA DEVI(920819106044)"** who carried out the project work under my supervision.

18/5/23

SIGNATURE

Dr.M.AMEENA BANU M.E.,Ph.D.,

HEAD OF THE DEPARTMENT

Associate Professor

Department of Electronics and Communication Engineering

NPR College Of Engineering and Technology,Natham,

Dindigul-624 401

SIGNATURE

Dr.A.GOPISAMINATHAN M.E.,Ph.D.,

SUPERVISOR

Professor

Department of Electronics and Communication Engineering

NPR College Of Engineering and Technology,Natham,

Dindigul-624 401

Submitted for the project work and viva-voce examination held on 18.05.2023 at NPR College of Engineering & Technology, Natham.

18/5/23

INTERNAL EXAMINER

18/5/23

EXTERNAL EXAMINER

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ABSTRACT

The power distribution grid currently in use not designed for two-way communication or real time monitoring by service provides. Lack of feedback and automated monitoring makes it difficult for service providers to efficiently manage the power distribution grid and cause delays in reparative actions. A smart system using self-powered IoT devices and LoRa technology can be used to detect and monitor faults in power distribution system. IoT devices are small, low powered devices that can communicate wirelessly with each other and the internet and can be equipped with sensos to detect changes in temperature, vibration and other parameters that can indicate faults in power distribution system. Self-powered IoT devices can harvest energy from their surroundings, eliminating the need for batteries. The smart system can transmit fault data to a central monitoring system, here the data can be analyzed in real time to detect and locate the faults in the power distribution system. It can enable utilities to improve the reliability and efficiency of their operations while reducing maintenance costs and downtime.

N.P.R. COLLEGE OF ENGG & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technol
Natham, Dindigul (Dt) - 624 401.

CHAPTER 9

CONCLUSION

In a system equipped with an ESP32 microcontroller and various sensors, including a vibration sensor and a radiation sensor, data is collected and processed using Node-RED. The ESP32 serves as the transmitter, while LoRa technology is employed for wireless communication between the transmitter and the receiver. The collected values from the vibration sensor and radiation sensor are transmitted to the receiver, where they are received and analyzed. By examining the variations in the vibration and radiation levels, the system can detect faults or anomalies. This integrated setup allows for real-time monitoring and early detection of any potential issues, enabling prompt intervention and maintenance to ensure the system's optimal performance and safety.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

EC8791 **EMBEDDED AND REAL TIME SYSTEMS** L T P C 3 0 0 3

OBJECTIVES:

The student should be made to:

- Understand the concepts of embedded system design and analysis
- Learn the architecture and programming of ARM processor
- Be exposed to the basic concepts of embedded programming
- Learn the real time operating systems

UNIT I INTRODUCTION TO EMBEDDEDSYSTEM DESIGN 9

Complex systems and micro processors– Embedded system design process –Design example: Model train controller- Design methodologies- Design flows - Requirement Analysis – Specifications-System analysis and architecture design – Quality Assurance techniques - Designing with computing platforms – consumer electronics architecture – platform-level performance analysis.

UNIT II ARM PROCESSOR AND PERIPHERALS 9

ARM Architecture Versions – ARM Architecture – Instruction Set – Stacks and Subroutines – Features of the LPC 214X Family – Peripherals – The Timer Unit – Pulse Width Modulation Unit – UART – Block Diagram of ARM9 and ARM Cortex M3 MCU.

UNIT III EMBEDDED PROGRAMMING 9

Components for embedded programs- Models of programs- Assembly, linking and loading – compilation techniques- Program level performance analysis – Software performance optimization – Program level energy and power analysis and optimization – Analysis and optimization of program size- Program validation and testing.

UNIT IV REAL TIME SYSTEMS 9

Structure of a Real Time System — Estimating program run times – Task Assignment and Scheduling – Fault Tolerance Techniques – Reliability, Evaluation – Clock Synchronisation.

UNIT V PROCESSES AND OPERATING SYSTEMS 9

Introduction – Multiple tasks and multiple processes – Multirate systems- Preemptive real-time operating systems- Priority based scheduling- Interprocess communication mechanisms – Evaluating operating system performance- power optimization strategies for processes – Example Real time operating systems-POSIX-Windows CE. - Distributed embedded systems – MPSoCs and shared memory multiprocessors. – Design Example - Audio player, Engine control unit – Video accelerator.

TOTAL: 45 PERIODS

OUTCOMES:

At the end of the course, the student should be able to:

- Describe the architecture and programming of ARM processor
- Outline the concepts of embedded systems
- Explain the basic concepts of real time operating system design
- Model real-time applications using embedded-system concepts

TEXT BOOKS:

1. Marilyn Wolf, "Computers as Components - Principles of Embedded Computing System Design", Third Edition "Morgan Kaufmann Publisher (An imprint from Elsevier), 2012. (UNIT I, II, III, V)
2. Jane W.S.Liu," Real Time Systems", Pearson Education, Third Indian Reprint, 2003.(UNIT IV)

REFERENCES:

1. Lyla B.Das, "Embedded Systems : An Integrated Approach" Pearson Education, 2013.

Dr. J.SUNDARARAJAN, B.E., M.Tech., Ph.D., Principal, N.P.R. College of Engineering & Technology

STAMPEDE AVOIDANCE USING MICROCONTROLLER BASED SYSTEM

A PROJECT REPORT

Submitted by

BLESSY JEBAMANI.G	**(920819106010)**
DEVI SRI.S	**(920819106012)**
MUTHU RANJANI.V	**(920819106037)**
UMA NANTHINI.N	**(920819106066)**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

NATHAM, DINDIGUL

ANNA UNIVERSITY:: CHENNAI 600 025

MAY 2023

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ABSTRACT

Stampede mainly occurs in industries, complex buildings and religious festivals. Evacuees were pushing against each other trying to get to the front door as fast as possible, but they were trampled underfoot and the door was simply blocked. A fundamental cause of such disorder and blocking is the psychological stress of emergencies on crowd motion. Under intense stress, people may move faster than normal. Stampede occurs under these conditions. Once it occurs, it is very difficult to handle. Due to this, many people losses their lives, many got injuries and it leads to breathing problem also. This project proposes a micro controller-based solution for this problem. Here gas leakage, fire occurrence and smoke problems are identified by the sensors and the output will be fed to the micro controller. The micro controller processes and check the threshold level, if it exceeds the certain level, it will indicate through selective alarm. It firstly indicates the people who are in more dangerous place. This project also enables stampede avoidance by using set of Arrows that indicates the specific direction for the people to avoid getting trapped in to the hazard zone. The people can follow the direction indicated by the arrows for a safe exit. This project also enables a secondary light control system that helps people to find the way, when all lights go off. This secondary system will come in to power when main power is shut down to avoid electrocutions. This project has found its application in most of the industrial and commercial security applications.

COLLEGE OF ENGG. & TECHNOLOGY • NPR • NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER 7
CONCLUSION AND FUTURE SCOPE

The project "stampede avoidance" has been completed successfully and the ıtput results are verified. The results are in line with the expected output. The oject has been checked with both software and hardware testing tools. In this work /O devices" are chosen are proved to be more appropriate for the intended plication. The project is having enough avenues for future enhancement. The oject is a prototype model that fulfills all the logical requirements. The project ith minimal improvements can be directly applicable for real time applications. ıus, the project contributes a significant step forward in the field of "Project omain", and further paves a road path towards faster development s in the same ld. The project is further adaptive towards continuous performance and peripheral gradations. This work can be applied to variety of industrial and mmercial applications.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

EC8702 **AD HOC AND WIRELESS SENSOR NETWORKS** **L T P C 3 0 0 3**

OBJECTIVES:
The student should be made to:

- Learn Ad hoc network and Sensor Network fundamentals
- Understand the different routing protocols
- Have an in-depth knowledge on sensor network architecture and design issues
- Understand the transport layer and security issues possible in Ad hoc and Sensor networks
- Have an exposure to mote programming platforms and tools

UNIT I **AD HOC NETWORKS – INTRODUCTION AND ROUTING PROTOCOLS** **9**

Elements of Ad hoc Wireless Networks, Issues in Ad hoc wireless networks, Example commercial applications of Ad hoc networking, Ad hoc wireless Internet, Issues in Designing a Routing Protocol for Ad Hoc Wireless Networks, Classifications of Routing Protocols, Table Driven Routing Protocols - Destination Sequenced Distance Vector (DSDV), On–Demand Routing protocols –Ad hoc On–Demand Distance Vector Routing (AODV).

UNIT II **SENSOR NETWORKS – INTRODUCTION & ARCHITECTURES** **9**

Challenges for Wireless Sensor Networks, Enabling Technologies for Wireless Sensor Networks, WSN application examples, Single-Node Architecture - Hardware Components, Energy Consumption of Sensor Nodes, Network Architecture - Sensor Network Scenarios, Transceiver Design Considerations, Optimization Goals and Figures of Merit.

UNIT III **WSN NETWORKING CONCEPTS AND PROTOCOLS** **9**

MAC Protocols for Wireless Sensor Networks, Low Duty Cycle Protocols And Wakeup Concepts - S-MAC, The Mediation Device Protocol, Contention based protocols - PAMAS, Schedule based protocols – LEACH, IEEE 802.15.4 MAC protocol, Routing Protocols-Energy Efficient Routing, Challenges and Issues in Transport layer protocol.

UNIT IV **SENSOR NETWORK SECURITY** **9**

Network Security Requirements, Issues and Challenges in Security Provisioning, Network Security Attacks, Layer wise attacks in wireless sensor networks, possible solutions for jamming, tampering, black hole attack, flooding attack. Key Distribution and Management, Secure Routing – SPINS, reliability requirements in sensor networks.

UNIT V **SENSOR NETWORK PLATFORMS AND TOOLS** **9**

Sensor Node Hardware – Berkeley Motes, Programming Challenges, Node-level software platforms – TinyOS, nesC, CONTIKIOS, Node-level Simulators – NS2 and its extension to sensor networks, COOJA, TOSSIM, Programming beyond individual nodes – State centric programming.

TOTAL:45 PERIODS

OUTCOMES:
At the end of the course, the student would be able to:

- Know the basics of Ad hoc networks and Wireless Sensor Networks
- Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement
- Apply the knowledge to identify appropriate physical and MAC layer protocols
- Understand the transport layer and security issues possible in Ad hoc and sensor networks.
- Be familiar with the OS used in Wireless Sensor Networks and build basic modules

Dr. J.SUNDARA[illegible]
Princ[illegible]
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

DESIGN, CONTROL AND IMPLEMENTATION OF VENTILATOR FOR RESPIRATORY SUPPORT

A PROJECT REPORT

Submitted by

MYTHILI.M	**(920819106038)**
SANO NISHA.N	**(920819106052)**
SUMUGA PRIYA.M	**(920819106062)**

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

NATHAM, DINDIGUL

ANNA UNIVERSITY::CHENNAI 600025

MAY 2023

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ANNA UNIVERSITY::CHENNAI 600025

BONAFIDE CERTIFICATE

Certified that this project report **"DESIGN, CONTROL AND IMPLEMENTATION OF VENTILATOR FOR RESPIRATORY SUPPORT"** is the Bonafide work of **"M.MYTHILI (920819106038), N.SANO NISHA (920819106052) and M.SUMUGA PRIYA (920819106062)"** who carried out the project work under my supervision.

SIGNATURE 18/5/23

Dr.M. AMEENA BANU, M.E., Ph.D.,
HEAD OF THE DEPARTMENT
Professor,
Department of Electronics &
Communication Engineering,
NPR College of Engineering
& Technology, Natham,
Dindigul – 624 401.

SIGNATURE 18/5/23

Mrs.S. NARKEES BEGAM, M.E.,
SUPERVISOR
Assistant Professor,
Department of Electronics &
Communication Engineering,
NPR College of Engineering
& Technology, Natham,
Dindigul – 624 401.

Submitted for the ANNA UNIVERSITY Viva -Voce Examination held on ....18.05.2023. at NPR college of Enginnering and Technology, Natham.

INTERNAL EXAMINER 18/5/23

EXTERNAL EXAMINER 18/5/23

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ABSTRACT

With the ongoing COVID-19 pandemic, the demand for ventilators has increased significantly. Traditional ventilators can be expensive and require specialized training for operation, making them less accessible in resource-limited settings. In this context, there is a need for low-cost and easy-to-use ventilator designs that can be tailored to individual patient needs. In this paper, we propose an IoT-enabled ventilator design that utilizes Arduino and Ambu Bag to regulate airflow based on the patient's oxygen (O2) level, providing personalized ventilation support. The proposed ventilator design incorporates an Arduino microcontroller, which acts as the brain of the system, processing sensor data and controlling the operation of the AmbuBag. The AmbuBag, a manual resuscitator commonly used in emergency situations, serves as the air source for the ventilator. The O2 level of the patient is monitored using an O2 sensor, which is connected to the Arduino. The Arduino processes the O2 level data in real-time and adjusts the airflow of the AmbuBag accordingly to maintain the desired O2 level. Furthermore, the proposed ventilator design is integrated with Internet of Things (IoT) technology, allowing for remote monitoring and control. The ventilator data, including O2 level, airflow rate, and alarm status, can be transmitted to a cloud server via Wi-Fi or other communication protocols. Authorized healthcare professionals can remotely monitor the patient's ventilation status and adjust the ventilator settings as needed through a user-friendly web-based interface. The proposed IoT-enabled ventilator design offers several advantages, including low-cost, simplicity, and patient-specific ventilation control. It has the potential to be deployed in resource-limited settings where traditional ventilators may not be readily available, and it can provide personalized ventilation support based on the patient's specific oxygenation needs. However, there are challenges to be addressed, such as regulatory compliance, safety, and data security.

NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER-8

CONCLUSION

In conclusion, the proposed ventilator system design utilizing Arduino and MBU bag, regulated by patient oxygen levels and controlled by IoT, offers a romising solution to address the challenges in ventilator design. The integration f Arduino and AMBU bag with IoT connectivity allows for efficient and precise ontrol of airflow based on patient oxygen levels, enabling real-time monitoring nd adjustment. The system's features, such as remote monitoring, safety mechanisms, and compliance with regulatory standards, enhance its performance and ensure patient safety.

With its cost-effective and scalable design, the proposed system has the potential to be utilized in various healthcare settings, including resource-limited environments or during emergencies. By leveraging the power of IoT, the system enables healthcare providers to remotely monitor and control the ventilator parameters, improving patient care and accessibility to medical services.

Further research and development can be conducted to optimize the system's performance, validate its efficacy in clinical settings, and explore additional functionalities, such as data analytics for predictive maintenance and personalized ventilation settings. The proposed system has the potential to contribute to the advancement of ventilator technology, addressing the pressing need for reliable and affordable ventilators in healthcare settings.

N.P.R. COLLEGE OF ENGG. & TECHNOLOGY * NPR
NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

AN EFFICIENT ENCRYPT METHOD FOR DIGITAL IMAGES USING LOGISTIC MAP & RANDOM SUBSTITUTIONS

A PROJECT REPORT

Submitted by

SHARMILA DEVI G. (9)08191060[illegible]

SHABIRA TAJ J (9)08191060[illegible]

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING,

In

ELECTRONICS AND COMMUNICATION ENGINEERING,

NPR COLLEGE OF ENGINEERING AND TECHNOLOGY

NATHAM, DINDIGUL

ANNA UNIVERSITY : CHENNAI 600 025

MAY 2023

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal

N.P.R. College of Engineering & Technology

Natham, Dindigul (Dt) - 624 401.

ANNA UNIVERSITY :: CHENNAI- 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"AN EFFICIENT ENCRYPT METHOD FOR DIGITAL IMAGES USING LOGISTIC MAP & RANDOM SUBSTITUTIONS"** is the bonafide work of, **"SHARMILA DEVI. G (920819106057), SHABIRA TAJ. J (920819106302),"** who carried out the project work under my supervision.

M. Stan 18/5/23

SIGNATURE

Dr.M.AMEENABANU M.E.,Ph.D.,
HEAD OF THE DEPARTMENT
Professor, Department of Electronics and Communication Engineering,
NPR College of Engineering and Technology, Natham.

SIGNATURE

Mr.K.JAYAPRAKASAM M.E.,
SUPERVISOR
Associate Professor, Department of Electronics and Communication Engineering ,
NPR College of Engineering and Technology, Natham.

Submitted for the project viva-voice examination held at NPR College of Engineering and Technology in Natham on 18.05.2023

M. Stan 18/5/23

INTERNAL EXAMINER

18/5/23.

EXTERNAL EXAMINER

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Techn
Natham, Dindigul (Dt) - 624 401.

ABSTRACT

Image encryption has been an attractive research field in recent years. The chaos-based cryptographic algorithms have suggested some new and efficient ways to develop secure image encryption techniques. This paper proposes a novel image encryption scheme, which is based on the chaotic tent map. Image encryption systems based on such map show some better performances. The performance and security analysis of the proposed image encryption scheme is performed using well-known ways. The results of the fail-safe analysis are inspiring, and it can be concluded that the proposed scheme is efficient and secure.Firstly, the chaotic tent map is modified to generate chaotic key stream that is more suitable for image encryption. Data hiding are a group of techniques used to put a secure data ina host media (like images) with small deterioration in host and the means to extract the secure data afterwards. For example, steganography can be named. Steganography is one such pro-security innovation in which secret data is embedded in a cover. The rapidly proliferated information and evolution of digital technologies by Information hiding in multimedia data has improved the ease of access to digital information enabling reliable, faster and efficient storage, transfer and processing of digital data and leads to the consequence of making the illegal production and redistribution of digital media easy and undetectable.

COLLEGE OF ENGG. & TECHNOLOGY * NPR * NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CHAPTER IX

CONCLUSION & FUTURE ENHANCEMENT

In this proposed work, an image encryption scheme based on RT-enhanced CTM has been proposed. Its security analysis has also be given in detail. Experimental simulation and performance comparison with other systems show that this new scheme has greatly improved the security while still possessing all the merits of the pure CTM-based schemes, which obviously leads some practical value in implementation. However, the possibility of recovering the exact original image is a desirable property in many fields, like legal, medical and military imaging. Let us consider that sensitive documents (like bank checks) are scanned, protected with an authentication scheme based on a reversible data hiding, and sent through the Internet. Steganography is one such pro-security innovation in which secret data is embedded in a cover. Reversible data-hidings insert information bits by modifying the host signal, but enable the exact (lossless) restoration of the original host signal after extracting the embedded information. Experimental result shows that the proposed method avoids severe distortion. And also it provides good visual quality.

NPR COLLEGE OF ENGG & TECHNOLOGY
NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

MULTI-SENSOR REAL-TIME MONITORING OF RUNNING MACHINERY ON-BOARD SUBMARINE

M.MOHAMED ASIF	(920819106031)
J.MOHAMED IBRAHIM	(920819106032)
G.NAGA VISHWA	(920819106039)
R.P.RAM VIGNHESH	(920819106048)

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

NATHAM, DINDIGUL

ANNA UNIVERSITY::CHENNAI 600 025

MAY 2023

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ANNA UNIVERSITY::CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"MULTI-SENSOR REAL-TIME MONITORING OF RUNNING MACHINERY ON-BOARD SUBMARINE"** is the bonafide work of **M.MOHAMED ASIF (920819106031), J.MOHAMED IBRAHIM (920819106032), G.NAGA VISHWA(920819106039), R.P.RAM VIGNHESH (920819106048)** who carried out the project work under my supervision, during the academic year 2022-2023.

18/5/23

SIGNATURE
Dr.M.AMEENA BANU, M.E., Ph.D.,
HEAD OF THE DEPARTMENT
Professor,
Department of Electronics &
Communication Engineering,
NPR College of Engineering & Technology,
Natham,
Dindigul – 624 401.

SIGNATURE
Mr.J.G.SABARISH, M.E.,
SUPERVISOR
Assistant Professor,
Department of Electronics &
Communication Engineering,
NPR College of Engineering & Technology,
Natham,
Dindigul – 624 401.

Submitted for the ANNA UNIVERSITY Viva-Voice Examination held on ..18.05.23.... at NPR College of Engineering and Technology.

18/5/23
INTERNAL EXAMINER

18/5/23
EXTERNAL EXAMINER

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ABSTRACT

The Monitoring of running machinery in a Warhead Submarine (Typhoon Class) is a complicated process for the crew since it consists of smaller space. Physical access to those running equipment is hazardous and quite difficult such as components like hydraulic motors, Alternators, ACs, Blowers, etc. That kind of Inspection is not much effective in all cases i.e., There is a need for the Submarine to be in Off-Board for the Machinery Inspection, and also special technicians are included for that purpose thus it takes lot of cost and time. Hence Multi-Sensor monitoring of those machinery will be an effective mannerism. It has many advantages compared with previous technology.

Real-Time monitoring can be done with multi-sensor powered by the integration of Artificial Intelligence. This helps them to take proper monitoring of equipment in an efficient way and also reduces cost and maintenance time in an huge way. The older tech was consulted in a wired mannerism or SPM meters methodology is used to analyze the condition. So here we include our solution which helps the crew membersin an effective way by including Multi-Sensor monitoring of those real-time parameters with a software application which was an efficient way for the crew members to monitor that working condition from anywhere. Artificial Intelligence predictive failure recognition is also included for the future purpose of monitoring. Hence the failure can be predicted early and the major disaster can be avoided in such conditions.

NPR COLLEGE OF ENGG. & TECH. NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER-8

CONCLUSION

Overall, a multi-sensor real-time monitoring system would greatly ıance the safety and efficiency of a submarine's machinery, allowing for ıactive maintenance and reducing the risk of equipment failures while at sea. egration with artificial intelligence. Machine learning algorithms and artificial elligence can be integrated into multi-sensor monitoring systems to enable dictive maintenance. This can help identify potential issues before they cur, allowing for timely maintenance and reducing downtime. Multi-sensor nitoring systems can be integrated with IoT technology, enabling real-time nitoring and control of equipment from remote locations. This can be rticularly useful for large-scale industrial operations where equipment is read across multiple sites.

N.P.R. COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

EC8092	ADVANCED WIRELESS COMMUNICATION	L	T	P	C
		3	0	0	3

OBJECTIVES:

- To expose the students to the importance of improving capacity of wireless channel using MIMO
- To enable understanding of channel impairment mitigation using space-time block and Trellis codes
- To teach advanced MIMO system like layered space time codes, MU-MIMO System and MIMO-OFDM systems

UNIT I CAPACITY OF WIRELESS CHANNELS 9

The crowded spectrum, need for high data rate, MIMO systems – Array Gain, Diversity Gain, Data Pipes, Spatial MUX, MIMO System Model. MIMO System Capacity – channel known at the TX, Channel unknown to the TX – capacity of deterministic channels, Random channels and frequency selective channels.

UNIT II RADIO WAVE PROPAGATION 9

Radio wave propagation – Macroscopic fading- free space and out door, small scale fading Fading measurements – Direct pulse measurements, spread spectrum correlation channel sounding frequency domain channel sounding, Antenna Diversity – Diversity combining methods. 9

UNIT III SPACE TIME BLOCK CODES

Delay Diversity scheme, Alamoti space time code – Maximum likelihood decoding maximum ratio combining. Transmit diversity space time block codes for real signal constellation and complex signal constellation - decoding of STBC.

Dr. J.SUNDARARAJAN, B.E., M.Tech., Ph.D.
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

UNIT IV SPACE TIME TRELLIS CODES 9

Space time coded systems, space time code word design criteria, design of space time T C on slow fading channels, design of STTC on Fast Fading channels, performance analysis in slow and fast fading channels, effect of imperfect channel estimation and Antenna correlation on performance, comparison of STBC & STTC.

UNIT V LAYERED SPACE TIME CODES 9

LST transmitter – Horizontal and Vertical LST receiver – ML Rx, Zero forcing Rx; MMSE Rx, SIC Rx, ZF V-blast Rx- MMSE V-blast Rx, Iterative Rx - capacity of MIMO – OFDM systems
– capacity of MIMO multi user systems.

TOTAL : 45 PERIODS

OUTCOMES:

The student should be able to:

- Comprehend and appreciate the significance and role of this course in the presentcontemporary world
- Apply the knowledge about the importance of MIMO in today's communication
- Appreciate the various methods for improving the data rate of wireless communicationsystem

REFERENCES:

1. Mohinder Jankiraman, Space-time codes and MIMO systems, Artech House,Boston, London . www.artech house.com, ISBN 1-58053-865-7-2004
2. Paulraj Rohit Nabar, Dhananjay Gore, Introduction of space time wirelesscommunication systems, Cambridge University Press, 2003.
3. David Tse and Pramod Viswanath, —Fundamentals of Wireless Communicationll, Cambridge University Press, 2005.
4. Sergio Verdu " Multi User Detection" Cambridge University Press, 1998



Dr. J.SUNDARA[illegible]AN
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ACCIDENT DETECTION AND ALERT SYSTEM

A PROJECT REPORT

Submitted by

MANOJ KUMAR.A	**(920819106029)**
MOHAN BABU.B	**(920819106034)**
VENKATESH.P	**(920819106067)**

In partial fulfillment for the award of degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

NATHAM, DINDIGUL.

ANNAUNIVERSITY::CHENNAI600025

MAY2023

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ANNAUNIVERSITY::CHENNAI600025

BONAFIDECERTIFICATE

Certified that this project report**"ACCIDENT DETECTION AND ALERT SYSTEM"**is the bonafide work of **"MANOJ KUMAR.A (920819106029), MOHAN BABU.B (920819106034) And VENKATESH.P (920819106067)"** who carried out the project work under my supervision.

18/5/23

SIGNATURE
Dr.M.AMEENA BANU,M.E.,Ph.D.,
HEADOFTHEDEPARTMENT
Professor,
Electronics and Communication Engineering,
NPRCollegeofEngineering &Technology,
Natham,
Dindigul–624401.

18/5/23

SIGNATURE
Mrs.**G.RENGANAYAHI , M.E.,**
SUPERVISOR
AssistantProfessor,
Electronics and Communication Engineering,
NPRCollegeofEngineering &Technology,
Natham,
Dindigul–624401.

Submitted for the ANNA UNIVERSITY Viva-VoceExamination held on 18.05.2023.at NPR College of Engineering & Technology ,Natham.

18/5/23

INTERNAL EXAMINER

18/5/23

EXTERNAL EXAMINER

NPR COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

ABSTRACT

Vehicle tracking today is getting tougher with the passage of time, and it is getting difficult to keep track of these vehicles for security and safety purposes. People are today more concerned to keep them safe using the latest technology. We need to ensure the vehicle condition a location of the vehicle.

In this project, we can monitor the location of the vehicle and accident notification. If the vehicle met with an accident, the vibration sensor detects the vibration above the threshold range and mems sensor detects the rolling of the vehicle and then message will be sent to respective person along with GPS location. In the security section, it uses the camera to allow the person in the car. And the number of people's in the car will be detected using the IR sensor.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER-7

CONCLUSION AND FUTURE USE

In our country, many people have lost their life by accidents, because of causalities or improper communication. So, an automatic vehicle accident and theft detection system are implemented. By, using this system we can reduce death due to accidents and we can take immediate action after the accident. Also, it is used in the theft detection. A face recognition system, eye blink sensing system is used in this project. GSM module is used for conveying information about the vehicle accident detection to the owner. The system can be used for track and monitor the vehicle by the owner at anytime from anywhere. Thus, techniques presented in this project provide high security and dependability to the vehicle. The scope of the proposed methodology lies in achieving a faster and efficient vehicle security system. The demand for auto-guard systems for protecting the vehicle from theft and loss is increasing day by day. The proposed system will be an intellectual system to meet this demand.



Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

EC8811	PROJECT WORK	L T P C
		0 0 20 10

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 300 PERIODS

OUTCOME:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.



Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt.) - 624 401

NON-INVASIVE GLUCOSE MONITORING USING IoT

A PROJECT REPORT

Submitted by

KEERTHI M **(920819106024)**

SNEHA P **(920819106060)**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

ELECTRONICS AND COMMUNICATION ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY

ANNA UNIVERSITY: CHENNAI 600 025

MAY 2023

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindi... 624401

ANNA UNIVERSITY:CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report "**NON-INVASIVE GLUCOSE MONITORING USING IoT**" is the bonafide work of "**KEERTHI.M (920819106024) and SNEHA.P (920819106060)**" who carried out the project work under mysupervision.

SIGNATURE 18/5/23

Dr.M.AMEENA BANU, M.E., Ph.D.,
HEAD OF THE DEPARTMENT
Professor,
Department of Electronics
and Communication
Engineering,
NPR College of Engineering
& Technology, Natham,
Dindigul – 624 401.

SIGNATURE 18/5/23

Dr.M.AMEENA BANU M.E., Ph.D.,
SUPERVISOR
Professor,
Department of Electronics
and Communication
Engineering,
NPR College of Engineering
& Technology, Natham,
Dindigul – 624 401.

Submitted for the ANNA UNIVERSITY Viva-Voice Examination held on 18.5.23 at NPR College of Engineering & Technology, Natham.

18/5/23
INTERNAL EXAMINER

18/5/23
EXTERNAL EXAMINER

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ABSTRACT

Diabetes mellitus (DM) is becoming one of the critical challenges to medical field. Serious illness can be identified by continuous monitoring from a remote. Research has shown conclusively that improved glucose control reduces the long-term complication of diabetes. The traditional and conventional method such as finger pricking's demerits cause infection. Such type of infections can be overcome by non-invasive technique. The main objective of our project is to monitor glucose level using non-invasive technique by optical and IoT technology. The proposed sensor circuit consists of IR LEDs of wavelength 940nm for optical blood glucose measurement and NIR photodiodes to receive the reflected light from body parts to determine the glucose level. The project is implemented using Arduino IDE for finding the performance matrix of the system as well as various analytical studies. Additionally, we use IoT for storing the data of the patients for reference and we will provide link to monitor the measurement remotely.

N.P.R. COLLEGE OF ENGG. & TECHNOLOGY * NPR * NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CHAPTER-7

CONCLUSION

With the wide use of internet, this work is concentrated to execute the internet technology to establish a system which would communicate through internet for better health. Internet of Things rules the whole world in various fields, mainly in health care sectors. Hence the present work is done to design an Internet of Things based smart patient health tracking system using an Arduino microcontroller. In this, optical sensor is used to detect the glucose level and sends the data to the cloud using internet. This information is also sent tothe LCD display, so patient can easily know their health status. During critical situation to alert the doctor, the warning message is sent. The doctor can view the sent data by logging the specific website or IP address. Hence continuous patient monitoring system is designed. Some of the designs are,



Fig.7.1 Sensing Meter



Fig.7.2 Arduino -less

COLLEGE OF ENGG. & TECHNOLOGY NATHAM

Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401