

2.3.1 Student Centric Methods, such as experimental learning, participative learning and problem solving methodologies are used for enhancing learning experiences



EXPERIENTIAL LEARNING

Experiential learning is the process of learning through experience. Institute is inculcating self-learning and life-long skills through following activities:





ISO 9001:2015

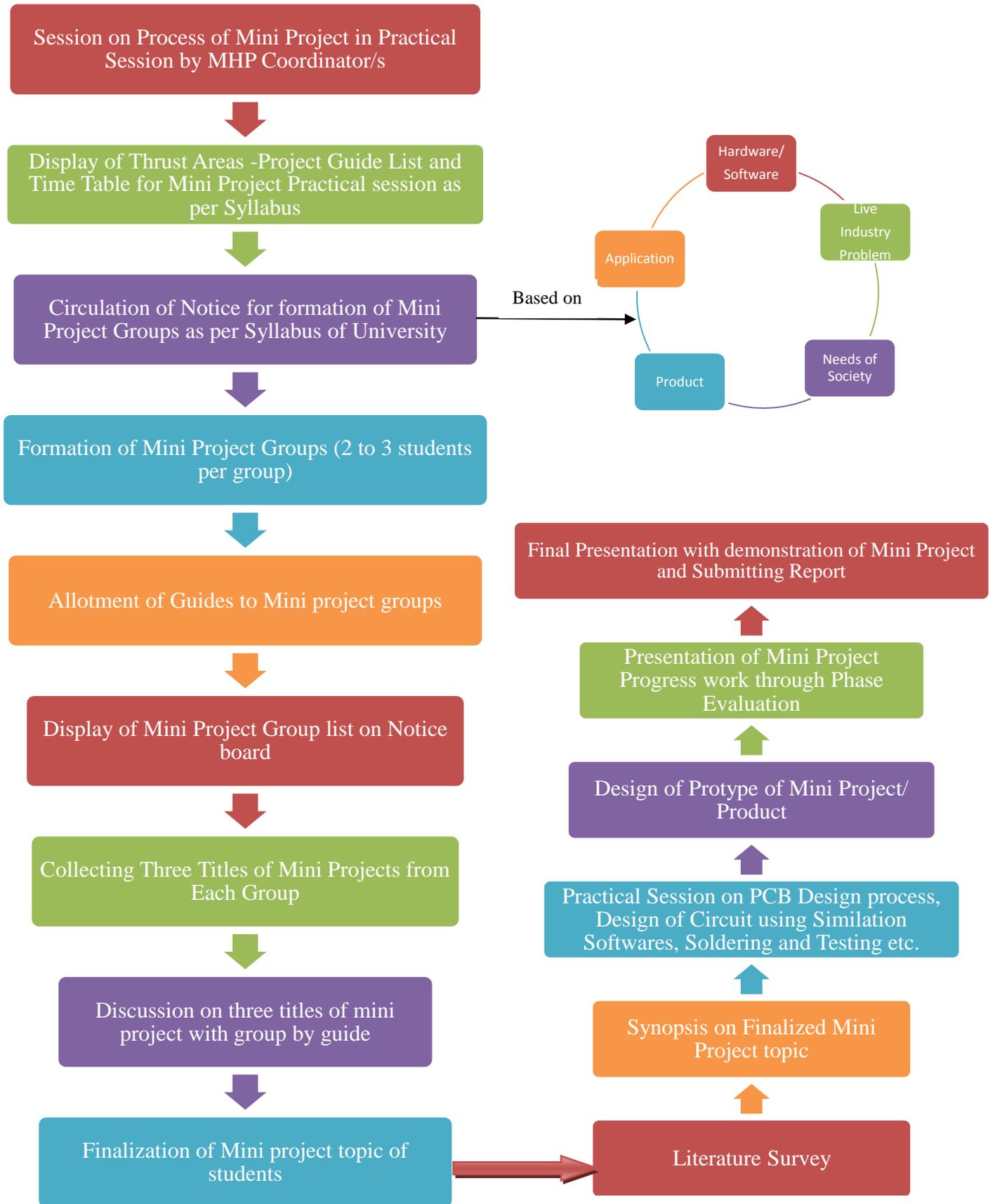


Sr. No.	Name of the Activity	Purpose of Activity
1	Mini Projects	The purpose is to develop the product/ project using modern tools/techniques to solve complex engineering problems of the industry and society.
2	Final Year Projects	The purpose is to develop the product/ project using practical tools/techniques and advanced labs to solve complex engineering problems of the industry and society.
3	Industrial Visits	Industrial visits are arranged for students with an objective of providing students functional opportunity in different sectors. It gives an industrial exposure to grow their knowledge and skills.
4	Internships/ Vocational/Field Training	Vocational training allows students to gain practical experience in industry before they graduate.
5	Virtual Labs	The Virtual Laboratory is an interactive environment for creating and conducting simulated experiments.
6	Hands-on Workshops	A hands-on workshop helps students to expertise in practical domain.
7	Technical Symposium	Technical Symposiums enhance the technical knowledge of students and provide them a platform to exhibit their talents.
8	Mock Interviews	A mock interview process helps candidates gain confidence with the chance to reflect on their non-verbal and verbal communication abilities. It also provides an opportunity for interviewees to make mistakes and work on correcting them in a safe atmosphere.
9	Use of Visualizations	The purpose of using Visualizations like animations, videos and simulator is to convey a complex and concrete information effortlessly.
10	Use of research oriented equipment	Purpose of using research oriented equipment is to enable students to explore new subjects and deepen their understanding of difficult concepts.
11	Teaching in classroom and laboratories	Purpose of teaching in classroom and laboratories is to give students first-hand experience and offer better opportunities for learning. Teaching in a classroom gives students the opportunity to engage in live discussions.
12	Learning Summary Chart	Use a summary chart to help students keep track of what they learn from their lesson activities and then use their learning to help them explain how and why that phenomenon occurs.
13	Industry Expert/ Researchers Lecture	Industrial Experts speakers have become an important part of the educational experience for students. They expose students to real-world life experiences. Students get to see the insight and perspective of the guest speaker's particular field.

Experiential Learning through Mini Projects

- **Solve Complex Engineering Problems**
- **Professional Ethics and Responsibilities**
- **Life Long Learning**
- **Team work**

MINI PROJECT ALLOCATION PROCESS



SYLLABUS



Solapur University, Solapur
T.E. (Electronics and Telecommunication Engineering) Semester-II
ET 326-MINI PROJECT (HARDWARE)

Teaching Scheme

Practical – 2 Hours/week, 1 Credit

Examination Scheme

ICA – 25 Marks

This course is introduced to enable students to apply the knowledge and skills learned out of courses studied to solve/implement predefined practical problem. The Project work may be beyond the scope of curriculum of courses for learning additional skills, developing the ability to define, design, analysis and implementation of the problem and lead to its accomplishment with proper planning.

Course Prerequisite:

Student shall have knowledge of PCB designing, circuit designing, testing, soldering.

Course Objectives:

- 1) To produce PCB artwork using an appropriate EDA tool.
 - 2) To practice good soldering, testing, fault detection and effective trouble-shooting.
 - 3) To design and implement application based hardware project.
 - 4) To present technical seminar and display the project.
-

Course Outcomes:

Students will be able to

- 1) Produce PCB artwork using an appropriate EDA tool.
 - 2) Practice good soldering, testing, fault detection and effective trouble-shooting.
 - 3) Design and implement application based hardware project.
 - 4) Present technical seminar and display the project.
-

1) Guidelines for project implementation:

- 1) Project group should be not more than 3 students per group.
- 2) Domains for projects may be based on a particular application from the following, but not limited to:
 - i. Instrumentation and Control Systems
 - ii. Electronic Communication Systems
 - iii. Biomedical Electronics

- iv. Power Electronics
- v. Audio, Video Systems
- vi. Embedded Systems
- vii. Mechatronics Systems

- 3) Week 1 & 2: Formation of groups, searching of an application based hardware project
- 4) Week 3 & 4: Finalization of Mini project & Distribution of work.
- 5) Week 5 & 6: PCB artwork design using an appropriate EDA tool & Simulation.
- 6) Week 7 & 8: Procurement of electronic components for the project & PCB manufacturing.
- 7) Week 9, 10 & 11: Hardware assembly, testing, fabrication
- 8) Week 12: Demo, Group presentation & report submission

2) Guidelines for group seminar:

- 1) The seminar shall consist of the Literature Survey, Market survey, Basic project work and Applications of Mini project.
- 2) Seminar Assessment shall be based on Innovative Idea, Presentation skill, depth of understanding, Applications, Future Scope and Individual Contribution.
- 3) A certified copy of seminar/ project report shall be required to be presented to external examiner at the time of final examination.



SVERI's College of Engineering, Pandharpur
Department of Electronics & Telecommunication
T. E. A TIME TABLE for year 2019-2020 SEM-II (w.e.f. 3/3/2020) Classroom No.- MF 419

Day / Time	08.00a.m. to 09.00 a.m.	09.00am to 10.00am	10:00 am to 10:30 am	10:30 am to 10:45 am	10:45am to 11:45am	11:45am to 12:45pm	12:45pm to 01:45pm	01:45pm to 02:45 pm	02:45pm to 03:45 pm	03:50 pm to 4:30 pm	04:35 pm to 5:35 pm	
Thu	A1- RME A2- OC A3- MHP A4- EASD		Pranayam	Short Break	OC	RME	Lunch Break	EASD	EASD	Proctor	Project Guidance session	
Fri	RME	MC			MC-II	MC-II		A1- MC-II A2- MC (T)/EASD (T) A3- RME A4- OC A1- MHP A2- EASD A3- MC-II A4- MC (T)/EASD (T)	Proctor	A1, A2- RME A3, A4- MC-II Practice session		
Sat	A1- OC A2- MHP A3- EASD A4- MC-II				RME	RME					Proctor	A1, A2- MC-II A3, A4- RME Practice session
Sun	A1- GT/LIB (CAED-I) A2- GT/LIB (CAED-III) A3- LIB/GT (CAED-I) A4- LIB/GT (CAED-III)				MC	MC						
Mon	MC-II	MC-II			A1- MC (T) /EASD (T) A2- RME A3- OC A4- M/GD (CAED-II)						A1- GD/M (CAED-I) A2- GD/M (CAED-I) A3- M/GD (CAED-I) A4- MHP	
Tue	EASD	EASD			A1- EASD (SCD) A2- MC-II A3- MC (T)/EASD (T) A4- RME			CIP	Advanced Technical Training	Proctor		

Batch	Proctor	Subject	Subject	Practical	Practical Location
A1	Mr.S.P.Swami	RME	Ms.S.S.Kadam	Ms.S.S.Kadam	MW Lab
A2	Mr. A. D. MaliVasekar	MC-II	Mr.MA.Deshmukh	Ms.N.S.Patil	MP Lab
A3	Mr.J.S.Hallur	EASD	Mr.S. P. Swami	Mr.Ak.A.Jadhav +SPS	EDCP Lab
		MC	Mr.J.S.Hallur	Mr.J.S.Hallur	MF-419
		OC	Ms.N.P.Kulkarni	Mr. S. M. Karve	Communication Lab
		MHP	Mr. A. D. Mali		EDP Lab, CAED-II, CAED-III
		CIP	Prof. B. S. Sawase		MF-419
		Gate	A1-DVA, A2- MMW, A3-SDP, A4-JSH		ADS Lab & (CAED-II)
		GD/ M	A1-MMW, A2-SDP, A3-SCD, A4-DVA		CAED-I & II
		ATT	/P. R. Dolas		

TT Co ordinator
 /Prof. L. A. Palange & /Prof. S. A. Atole

Ms.S.S.Kadam

H.O.D (ENTC)
 Dr. A. S. Vibhute

HEAD
 Dept of Electronics & Telecom. Engg.
 Pandharpur



SVERI's College of Engineering, Pandharpur

Department of Electronics & Telecommunication

T. E. B TIME TABLE for year 2019-2020 SEM-I (w.e.f. 3/3/2020) Classroom No.- MF 426

Day / Time	08.00a.m. to 09.00 a.m.	09.00am to 10.00am	10:00 am to 10:30 am	10:30 am to 10:45 am	10:45am to 11:45am	11:45am to 12:45pm	12:45pm to 01:45pm	01:45pm to 02:45 pm	02:45pm to 03:45 pm	03:50 pm to 4:30 pm	04:35 pm to 5:35 pm			
Thu	MC-II	MC-II	Pranayam	Short Break	B1-MC-II (AAK)	Lunch Break		MC	MC	Proctor	RME & MC-II Practice session			
Fri	B1-MHP				B2-M/GD (CAED-III)			B1-RME	RME	RME	Proctor+	NTA Backlog (4PM to 5PM)		
	B2-EASD				B3-M/GD (CAED-I)			B2-OC						
	B3-MC-II				B3-MHP									
Sat	EASD	EASD			B1-GD/M (ADS lab)			B2-MC(T)/EASD(T)	MC-II	MC-II	OC	Advanced Technical Training	Proctor+ M-III Backlog (4PM to 5PM)	Project Guidance session
Sun	B1-OC				B3-MC(T)/EASD(T)									
	B2-MHP													
	B3-EASD													
Mon	B1-GT/LIB (CAED-III)							RME	RME	EASD	B1-MC(T)/EASD(T)	EMER Backlog session (4PM to 5PM)	MC-I Backlog session (5PM to 6PM)	
	B2-LIB/GT (ADS lab)													
	B3-LIB/GT (CAED-III)													
Tue	MC	RME			OC			OC	B1-EASD	B2-MC-II (AAK)	B3-RME	Proctor	RME & MC-II Practice session	

Batch	Proctor Teacher	Subject	Subject Teacher	Practical Teacher	Practical Location
B1	/Prof. S. V. Jagzap	RME	Ms.L.A.Palange	Ms.L.A.Palange	MW Lab
B2	Mr. M.A.Deshmukh	MC-II	Mr.M.A.Deshmukh	M.A.D+AAK	MP Lab
B3	Mr. S. M. Karve	EASD	Mr.H.K.Bhaldar	Ms.S.A.Atole+HKB	EDCP Lab
		OC	Ms.N.P.Kulkarni	Ms.N.P.Kulkarni	MF-426
		MC	Mr.J.S.Hallur	Mr.J.S.Hallur	Communication Lab
		MHP	Mr. A. A. Kadam		EDP Lab,CAED-II,CAED-III
		CIP	Prof. B. S. Sawase		MF-426
		Gate Tutor	B1- SCD, B2- /LAP, B3- SDP		ADS Lab & (CAED-II)
		GD/M	B1- PBK, B2- MMW, B3- SDP		CAED-I & II
		ATT	/P. R. Dolas		

TT Co ordinator
/Prof. L. A. Palange & /Prof. S. A. Atole

Ms.L.A.Palange

H.O.D. (ENTC)
Dr. A. S. Vibhute

Dept. of Electronics & Telecom. Engg.
P. O. E. Pandharpur



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S
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Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.
(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)

Date: 18-09-2019

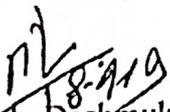
Notice

All TE (Div-A & B) students of Electronics and telecommunication department are hereby informed to prepare three synopses for your Hardware Mini Project (using Microcontroller) and submit the selected synopsis copy duly signed by your project guide and HOD on or before 30-09-2019.

The students need to prepare 2 hard copies of selected project synopsis as per the format attached with this notice, format is also displayed on notice board and submit one copy to Mr. M. A. Deshmukh.

The students also need to prepare a seminar presentation on the project topic with the help of power point presentation. Presentation will be delivered to your project guide on or before 05-10-2019.

Follow the deadlines to avoid disciplinary action.


(Prof. M.A. Deshmukh)

TE Project Coordinator


(Dr. A. S. Vibhute)

H.O.D. ENTC

HEAD

Dept of Electronics & Telecom. Engg.
Pandharpur

SVERI's College of Engineering, Pandharpur

Department of Electronics & Telecommunication Engg.

Monthly Activity Report

Name of Committee: **Project & Seminar (TE ENTC)**

Academic Year :2019-20 Sem: **I**

Sr. NO.	Date	Activity/Event	Resource Person with Email.ID	No. of Students /Faculty Benefited	mapping		Remark
					PO	PSO	
1	24-06-19 to 09-07-19	Formation of Project Groups & Selection of Area of Interest	Mr. M. A. Deshmukh	120			
2	13-07-19 to 16-07-19	Project Guide Allocation	Mr. M. A. Deshmukh	120			
3	19-07-19 to 30-07-19	Selection of project titles by searching IEEE papers/ ideas / topics from - i) Instrumentation and Control Systems ii) Electronic Communication Systems iii) Biomedical Electronics iv) Power Electronics v) Audio, Video Systems vi) Embedded Systems vii) Mechatronics Systems	Student along with respective guides	120			
4	03-08-19 to 31-08-19	Preparation of 3 synopsis based on searched IEEE Papers / New ideas / Societal need	Student along under the guidance of respective guides	120			
5	05-09-19 to 24-09-19	Finalization of Circuit Diagram for Finalized Project Topic.		120			
6	26-09-19 to 05-10-19	Presentation of selected topic in front of Guide		120			

Name & Sign of Coordinator

(Mr. M. A. Deshmukh)


HOD

(Dr. A. S. Vibhute)

Dept of Electronics & Telecom. Engg.
C. O. E. Pandharpur

SVERI's College of Engineering, Pandharpur

Department of Electronics & Telecommunication Engg.

Monthly Activity Report

Name of Committee: **Project & Seminar (TE ENTG)**

Academic Year: 2019-20 SEM: **I/II**

Sr. NO.	Date	Activity/Event	Resource Person with Email.ID	No. of Students /Faculty Benefited	Mapping		Remark
					PO	PSO	
1	01-01-20 to 16-01-20	Based on submitted Synopsis Finalization of Circuit Diagram for Selected Project Topic.	Student along with respective guides	110			
2	17-01-20 to 28-01-20	Individual Components testing and simulation of each (If applicable)		110			
3	30-01-20 to 11-02-20	Integrated circuit(Combined Circuit) testing with appropriate Test Points		110			
4	13-02-20 to 17-02-20	Designing/ Writing Flow chart /Algorithm & Embedded Code.		110			
5	19-02-20 to 29-02-20	PCB Layout Preparation , Etching & Drilling		110			
6	01-03-20 to 12-03-20	Components Soldering & Testing of assembled PCB		110			
7	14-03-20 to 24-03-20	Programming Microcontroller & testing of Integrated Hardware Circuit.		110			
8	26-03-20 to 29-03-20	Preparation of Report and Demonstration to Guide		110			


 Name & Sign of Coordinator
 (Mr. M. A. Deshmukh)


 HOD
HEAU
 Dept. of Electronics & Telecom. Engg.
 C. Q. E. Pandharpur

TE A Div Project Groups A. Y. 2019-20
Status of TE ENTC Project Sem-I& II

Sr.No.	Project Group	Name of Student	Roll No.	Area of Interest	Name of Guide	Signature of Guide
1	TE A 01	Namdas Dipika Dnyaneshwar	20	Power Electronics IOT	Dr. A.S. Vibhute	
2		Patil Ashvini Maruti	22			
3		Duchal Snehal Balasaheb	3			
4	TE A 02	Mendhegiri Shweta Shantinath	13	IoT, Embedded System	Dr. S. R. Patil	
5		Amit Danure	38			
6		Santosh Ubale	59			
7	TE A 03	Imran Shaikh	57	Embedded, Image, A. I.	Mr. V. S. Bhong	
8		Pathan Sameer K.	52			
9	TE A 04	Bachute Bhushan S.	36	sensor based Agricultural Automation	Mr. S. A. Inandar	
10		Walekar Smita Mahadev	33			
11	TE A 05	Wagaj Sonali Shivaji	31	Sensor based Medical Automation	Dr. M. M. Pawar	
12		Wagaj Pratiksha Hanumant	30			
13		Namade Mayuri Rajkumar	19			
14	TE A 06	Nikte Geeta Prashant	21	Sensor based Robotic Automation	Ms. N. S. Patil	
15		Nagane Prajakta Dayanand	65			
16		Mule Saujanya Subhash	18			
17	TE A 07	Pawar Rupali Rajaram	23	IoT and Robotics	Mr. A. M. Kasture	
18		Waghmode Ashwini Ramchandra	32			
19	TE A 08	Mulani Salman Shahajahan	49	Image Processing	Mrs. J. S. Shinde	
20		Kulkarni Prathmesh Prakash	46			
21		Koli Sudarshan Somaraya	45			
22	TE A 09	Sarwadar Manjunath Sidram	56	Robotics	Mr. A. M. Kasture	
23		Mhamane Aishwarya Sanjay	14			
24	TE A 10	Mahajan Ishita Pradip	12	Medical Electronics	Dr. M. M. Pawar	
25		Harane Sanjivani Raju	6			
26	TE A 11	chavare Bhushan Mahavir	37	Antenna Design	Mr. Ashish A. Jadhav	
27		Pachave Nitin Subhash	51			
28	TE A 12	Shembade Janhavi Dilip	27	Robotics	Mr. H. K. Bhaladar	
29		Phulare Nikita Sham	24			
30	TE A 13	Guruji Gaurav Dattatraya	41	Medical Electronics	Ms. N. P. Kulkarni	
31		Darshanale Swapnil Prakash	39			
32		Hodade Rushikesh Somnath	42			
33	TE A 14	Chavan Rutuja Shivaji	2	Bio- Medical Electronics	Mr. V. S. Bhong	
34		More Komal Nanasahab	17			
35	TE A 15	Repal Shiraddha Anil	26	IoT, Embedded System & Robotics	Mr. Akshay A. Jadhav	
36		Aldar Sushant Tanaji	35			
37	TE A 16	Patil Vishal Vijaykumar	53	IoT, Power Electronic & Robotics	Mr. D. P. Nandak	
38		More Rushikesh Machindra	47			
39	TE A 17	Salunkhe Omkar Arun	55	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
40		Pawar Sanjay Shankar	54			
41	TE A 18	More Vikram Aankush	48	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
42		Vhargar Monali Vilas	29			
43	TE A 19	Kale Abhilasha Avinash	7	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
44		Yalmar Akash Bhimrao	61			
45	TE A 20	Chakote Digvijay Girish	60	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
46		Hegade Nikita Maruti	62			
47	TE A 21	Lokhande Mayuri Sanjay	63	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
48		Mankuskar Pallavi Shamkant	64			
49	TE A 22	Ghughe Ashwini Dattatrya	4	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
50		Gunjal Surekha Vilas	5			
51	TE A 23	Khandekar Nisha Soudagar	9	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
52		Avadhut Renuka Audumbar	1			
53	TE A 24	Paimane Manali Sunil	25	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
54		Shirame Amruta Dhanaji	28			
55	TE A 25	Kale Komal Kiran	8	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
56		Mirgane Shradha Bharat	16			
57	TE A 26	Ware Saroja Shyamrao	34	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	
58		Kadam Omkar Sunil	44			
59	TE A 27	Dandawate Upendra N.	40	IoT, Power Electronic & Robotics	Mr. M. A. Deshmukh	

TE Project Coordinator

HOD HEAD

TE B Div Project Groups A. Y. 2019-20
Status of TE ENTIC Project Sem-I & II

Sr.No.	Project Group no.	Name of Student	Roll No.	Area of Interest	Guide Name	Signature of Guide
1	TEB 01	More Vaishnavi Jaysing	25	IoT & Image Processing	Dr. A. S. Vibhute	
2		Devkate Gayatri Chichalappa	6			
3		Bhaganagare Aishwarya Rajesh	3			
4	TEB 02	Nirmale Rutuja Narayan	26	Embedded Systems	Ms. L. A. Palange	
5		Maske Akshay Rajendra	47			
6		katkamwar shrinivas D	46			
7	TEB 03	suryawanshi chandrashikhar	53	DSP based system	Prof.M.S Mathpati	
8		Shinde Jyoti Sanjay	33			
9		Korape Vaishnavi Sanjay	18			
10	TEB 04	Shelake Puja Ramchandra	32	Embedded Systems	Mr.D.P. Narsale	
11		Kumbhar Seema Ramdas	19			
12		Dhekale Pratiksha Rajaram	28			
13	TEB 05	Randive Ashwini Bramhdev	30	Embedded Systems	Mr.D.P. Narsale	
14		Godase Shruti Nagesh	12			
15		Dudhal Rutuja Suresh	8			
16	TEB 06	Jagtap Suranjali Bandu	15	Embedded Systems	Mr. Akshay A. Jadhav	
17		Mane Priyanka Satish	20			
18		Thengal Pallavi Vishwas	36			
19	TEB 07	Patil Ashvini Bhausaheb	27	Embedded Systems	Mr. D. A. Kumbhar	
20		Jadhav Vrushali Arun	14			
21		Molak Komal Tanaji	22			
22	TEB 08	Ghongade Prajakta Dilip	11	IoT & Embedded Systems	Mr. J. S. Hallur	
23		Shaikh Saniya Abdulla	31			
24		Wadtile Vaishnavi Janardan	39			
25	TEB 09	Indi Shivganga Subhash	13	Embedded Systems	Mrs. J. S. Shinde	
26		Ghodake Shubham Tukaram	44			
27		Vhasale Sagar Appaso	55			
28	TEB 10	Shaikh Shoyeb Ayub	52	Embedded Systems	Ms G. G. Unahale	
29		Pathan Jameer Salim	50			
30		Mogal Imran Iqbal	48			
31	TEB 11	More Suhashini Balaji	24	Embedded Systems & VLSI	Mr. N. S. Admile	
32		Deokar Namrata Dattatray	7			
33		Bagal Madhuri Navnath	1			
34	TEB 12	Manapatil Aarti Shahaji	21	Embedded Systems	Mr. S. P. Swami	
35		Khandare Darshana Rajesh	60			
36		Walugade Pratiksha Ankush	40			
37	TEB 13	Pujari Sapna Siddharam	29	Embedded & VLSI Systems	Ms. L. A. Palange	
38		Vanave Suchitra Bibhishan	37			
39		Vidhate Dnyaneshwari Gorakh	38			
40	TEB 14	Yadav Prajakta Dharmaraj	41	Embedded & VLSI Systems	Ms. N. P. Kulkarni	
41		More Mayuri Arvind	23			
42		Kahatake Arpita Vijaykumar	17			
43	TEB 15	Tapise Puja Digambar	35	Embedded Systems	Mr. S. P. Swami	
44		Bennesur Laxmi Iranna	2			
45		Jamagi Yogini Siddhapa	16			
46	TEB 16	Mukare Vaibhav S.	49	DSP based system	Mr. N. S. Admile	
47		Salunkhe Tushar T.	51			
48		Pandhare Nitin Vasudeo	57			
49	TEB 17	Gaikwad Amruta Balasaheb	9	Antenna Design	Mr. Ashish A. Jadhav	
50		Bharama swati Shivalingappa	4			
51		Bhosale Utkarsha Bharat	5			
52	TEB 18	Gawali Renuka Sahadev	10	Embedded Systems	Ms. S. A. Atole	
53		Ghdage Shivani Ganesh	58			
54		Deshmukh Abhishek Vilas	42			
55	TEB 19	More Swipnil Pandharinath	61		Mr. V. V. Dhage	
56		Parakhe Vallabh Sanjay	62			

TE Project Coordinator

HOD

HEAD
Dept. of Electronics & Telecom. Engg
Q. L. Pandharpur

MINI PROJECT EVALUATION WITH RUBRICS

Date: 20-01-2022

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
STUDENT MARK EVALUATION REPORT
 ACADEMIC YEAR: 2019-20
 DEPARTMENT: ELECTRONICS AND TELECOMMUNICATION ENGINEERING
 PROGRAM: UNDER GRADUATE IN ELECTRONICS AND TELECOMMUNICATION ENGINEERING
 CLASS: THIRD YEAR
 SEMESTER: SEMESTER 2
 DIVISION: A
 COURSE: MINI HARDWARE PROJECT (ET327-18)
 TOOL NAME: MINI PROJECT
 Minimum Passing Marks: 10
 TOOL MAXIMUM MARKS: 25

Target Level (% Target Marks for CO Attainment): 40

Sr. No.	PRN NO.	Roll No.	Name of Student	Linked CO	ET327-18.1	ET327-18.2	ET327-18.3	ET327-18.4	ET327-18.4
				Max. Marks for Rubrics	2	3	10	5	5
				Rubrics No. / Total Obtained Marks	Problem Analysis & Formulation using Simulation tools	Components Testing & trouble-	Diagram Finalization, Hardware	Hardware Demonstration & Applications	Project Report & Project
1	2.01603E+15	161ET11033	HEGADE NIKITA MARUTI	24	2	3	9	5	5
2	2.01603E+15	161ET11042	YALMAR AKASH BHIMRAO	20	2	3	9	4	2
3	2.01603E+15	161ET11046	LOKHANDE MAYURI SANJAY	23	2	3	9	4	5
4	2.01603E+15	161ET11049	GHUGE ASHWINI DATTATRYA	21	2	3	9	4	3
5	2.01703E+15	171ET11001	DUCHAL SNEHAL BALASAHEB	24	2	3	9	5	5
6	2.01703E+15	171ET11002	KADAM OMKAR SUNIL	22	2	3	8	5	4
7	2.01703E+15	171ET11003	KULKARNI PRATHMESH PRAKASH	20	2	3	9	4	2
8	2.01703E+15	171ET11004	HARANE SANJIVANI RAJU	22	2	3	8	4	5
9	2.01703E+15	171ET11006	KALE KOMAL KIRAN	22	2	3	10	5	2
10	2.01703E+15	171ET11007	WAGAJ SONALI SHIVAJI	22	2	3	8	5	4
11	2.01703E+15	171ET11008	PATHAN SAMEER KHAJODDIN	22	2	3	8	5	4
12	2.01703E+15	171ET11009	SHAIKH IMRAN HAJISAB	21	2	3	9	5	2
13	2.01703E+15	171ET11010	SHIRAME AMRUTA DHANAJI	21	2	3	10	5	1
14	2.01703E+15	171ET11011	MIRGANE SHRADDHA BHARAT	24	2	3	9	5	5
15	2.01703E+15	171ET11013	WALEKAR SMITA MAHADEV	19	2	3	9	4	1
16	2.01703E+15	171ET11014	WAGAJ PRATIKSHA HANUMANT	21	2	3	9	4	3
17	2.01703E+15	171ET11015	MENDHEGIRI SHWETA SHANTINATH	23	2	3	9	4	5
18	2.01703E+15	171ET11016	SHEMBADE JANHAVI DILIP	22	2	3	9	3	5
19	2.01703E+15	171ET11017	WARE SAROJA SHAMRAO	18	2	3	8	3	2
20	2.01703E+15	171ET11018	KOLI SUDARSHAN SOMARAYA	20	2	3	7	5	3
21	2.01703E+15	171ET11019	PATIL VISHAL VIJAYKUMAR	19	2	1	8	4	4
22	2.01703E+15	171ET11024	CHAVARE BHUSHAN MAHAVIR	21	2	3	8	5	3
23	2.01703E+15	171ET11027	NIKTE GEETA PRASHANT	21	1	2	8	5	5
24	2.01703E+15	171ET11029	MAHAJAN ISHITA PRADEEP	22	2	3	8	4	5
25	2.01703E+15	171ET11030	VHARGAR MONALI VILAS	23	2	3	9	4	5
26	2.01703E+15	171ET11031	SALUNKHE OMKAR ARUN	19	2	3	7	5	2
27	2.01703E+15	171ET11033	PHULARE NIKITA SHAM	22	2	3	8	4	5


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28	2.01703E+15	171ET11034	MANJUNATH SIDRAM SARWADKAR							
29	2.01703E+15	171ET11039	MORE RISHIKESH MACCHINDRA	21						
30	2.01703E+15	171ET11040	PAWAR SANJAY SHANKAR	25			3	8	5	3
31	2.01703E+15	171ET11043	KHANDEKAR NISHA SOUDAGAR	21	2		3	10	5	5
32	2.01703E+15	171ET11044	NAMDAS DIPIKA DNYANESHWAR	22	2		3	8	5	3
33	2.01703E+15	171ET11048	MULANI SALMAN SHAHAJAHAN	24	2		3	8	4	5
34	2.01703E+15	171ET11049	GUNJAL SUREKHA VILAS	24	2		3	9	5	5
35	2.01703E+15	171ET11050	KALE ABHILASHA AVINASH	22	2		3	9	5	5
36	2.01703E+15	171ET11051	RAJMANE MANALI SUNIL	22	2		3	8	4	5
37	2.01703E+15	171ET11052	REPAL SHRADDHA ANIL	22	2		3	8	4	5
38	2.01703E+15	171ET11053	RUSHIKESH SOMNATH HODADE	24	2		2	8	5	5
39	-	171ET11054	ALDAR SUSHANT TANAJI	24	2		3	9	5	5
40	2.01703E+15	171ET11066	PACHAVE NITIN SUBHASH	23	2		3	9	5	5
41	2.01703E+15	171ET11067	MORE VIKRAM ANKUSH	21	2		3	9	5	4
42	2.01703E+15	171ET11071	SANTOSH DATTATRAYA UBALE	25	2		3	8	3	5
43	2.01703E+15	171ET11074	MHAMANE AISHWARYA SANJAY	23	2		3	10	5	5
44	2.01703E+15	171ET11075	MULE SOUJANYA SUBHASH	21	2		3	8	5	5
45	2.01703E+15	171ET11076	DARSHANALE SWAPNIL PRAKASH	23	2		3	7	5	4
46	2.01703E+15	171ET11076	DARSHANALE SWAPNIL PRAKASH	22	2		3	8	5	5
47	2.01703E+15	171ET11080	GAURAV GURUJI	22	2		3	7	5	5
48	2.01703E+15	171ET11081	PATIL ASHVINI MARUTI	24	2		3	9	5	5
49	2.01703E+15	171ET11082	MORE KOMAL NANASAHEB	23	2		3	8	5	5
50	2.01703E+15	171ET11083	RUTUJA SHIVAJI CHAVAN	24	2		3	9	5	5
51	2.01703E+15	171ET11084	AVADHUT RENUKA AUDUMBAR	17	2		3	7	2	3
52	2.01703E+15	171ET11085	BACHUTE BHUSHAN SIDDESHWAR	17	2		3	8	3	1
53	2.01703E+15	171ET11086	DANURE AMIT GANPATRAO	23	2		3	8	5	5
54	2.01703E+15	171ET12044	CHAKOTE DIGVIJAY GIRISH	23	2		3	10	5	3
55	2.01703E+15	171ET12072	NAGANE PRAJAKTA DAYANAND	21	2		3	8	3	5
56	2.01803E+15	181ET12043	THORAT ASHUTOSH RAMESH	19	2		3	9	2	3
56	2.01703E+15	T171ET11087	DANDAWATE UPENDRA NARSINHA							


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MINI PROJECT EVALUATION WITH RUBRICS

Date: 20-01-2022

SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
STUDENT MARK EVALUATION REPORT
 ACADEMIC YEAR: 2019-20
 DEPARTMENT: ELECTRONICS AND TELECOMMUNICATION ENGINEERING
 PROGRAM: UNDER GRADUATE IN ELECTRONICS AND TELECOMMUNICATION ENGINEERING
 CLASS: THIRD YEAR
 SEMESTER: SEMESTER 2
 DIVISION: B
 COURSE: MINI HARDWARE PROJECT (ET327-18)
 TOOL NAME: MINI PROJECT
 Minimum Passing Marks: 10
 TOOL MAXIMUM MARKS: 25

Target Level (% Target Marks for CO Attainment): 40

Sr. No.	PRN NO.	Roll No.	Name of Student	Linked CO	ET327-18.1	ET327-18.2	ET327-18.3	ET327-18.4	ET327-18.4
				Max. Marks for Rubrics	2	3	10	5	5
				Rubrics No. / Total Obtained Marks	Problem Analysis & Formulation using Simulation tools	Individual Components Testing & troubleshooting	Circuit Diagram Finalization, Hardware Design & Integrated Testing	Hardware Demonstration & Applications	Synopsis, Project Report & Project Diary
1	2.01703E+15	171ET12033	KHANDARE DARSHANA RAJESH	22	2	2	8	5	5
2	2.01803E+15	181ET12001	DEVAKATE GAYATRI CHICALAPPA	24	2	3	9	5	5
3	2.01803E+15	181ET12002	KUMBHAR SEEMA RAMDAS	24	2	3	9	5	5
4	2.01803E+15	181ET12003	KORAPE VAISHNAVI SANJAY	23	2	3	9	4	5
5	2.01803E+15	181ET12004	RANDIVE ASHWINI BRAMHADEV	22	2	3	8	5	4
6	2.01803E+15	181ET12005	JAGTAP SURANJALI BANDU	21	2	3	8	4	4
7	2.01803E+15	181ET12006	GODASE SHRUTI NAGESH	22	2	2	8	5	5
8	2.01803E+15	181ET12007	SHINDE JYOTI SANJAY	23	2	2	9	5	5
9	2.01803E+15	181ET12008	NIRMALE RUTUJA NARAYAN	23	2	3	9	4	5
10	2.01803E+15	181ET12009	MORE VAISHNAVI JAYSING	23	2	3	9	4	5
11	2.01803E+15	181ET12010	MANE PATIL AARTI SHAHAJI	21	2	2	9	4	4
12	2.01803E+15	181ET12011	MORE SUHASHINI BALAJI	21	2	2	9	4	4
13	2.01803E+15	181ET12012	SHELAKHE PUJA RAMCHANDRA	22	2	2	9	4	5
14	2.01803E+15	181ET12013	PATIL ASHVINI BHAUSAHEB	17	2	2	7	3	3
15	2.01803E+15	181ET12014	MORE MAYURI ARVIND	20	2	2	8	4	4
16	2.01803E+15	181ET12015	YADAV PRAJAKTA DHARMARAJ	20	2	2	8	4	4
17	2.01803E+15	181ET12016	MOLAK KOMAL TANAJI	19	2	2	8	3	4
18	2.01803E+15	181ET12017	BHOSALE UTKARSHA BHARAT	23	2	3	9	4	5
19	2.01803E+15	181ET12018	BHARAMA SWATI SHIVALINGAPPA	23	2	3	9	4	5
20	2.01803E+15	181ET12019	MANE PRIYANKA SATISH	17	2	2	7	3	3
21	2.01803E+15	181ET12020	INDI SHIVGANGA SUBHASH	23	2	3	9	4	5
22	2.01803E+15	181ET12021	JAMAGI YOGINI SIDDHAPPA	23	2	3	9	5	4
23	2.01803E+15	181ET12022	KATAKAMAWAR SHREENIVAS DATTATRAY	23	2	3	9	4	5
24	2.01803E+15	181ET12023	WALUGADE PRATIKSHA ANKUSH	23	2	3	9	4	5
25	2.01803E+15	181ET12024	BAGAL MADHURI NAVANATH	23	2	3	9	4	5
26	2.01803E+15	181ET12025	PRATIKSHA RAJARAM DHEKALE	23	2	3	9	4	5
27	-	181ET12026	VANAVE SUCHITA BIBHISHAN	21	2	3	8	4	4
28	2.01803E+15	181ET12027	BHAGANAGARE AISHWARYA RAJESH	21	2	2	8	4	5
29	2.01803E+15	181ET12028	WADTILE VAISHNAVI JANARDAN	23	2	3	9	4	5
30	2.01803E+15	181ET12029	GAWALI RENUKA SAHADEV	21	2	3	8	4	4
31	2.01803E+15	181ET12030	JADHAV VRUSHALI ARUN	19	2	2	7	4	4


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32	2.01803E+15	181ET12031	SURYAWANSHI CHANDRASHEKHAR NANASAHEB	23	2	3	9	5	4
33	2.01803E+15	181ET12033	TAPISE POOJA DIGAMBAR	23	2	3	9	4	5
34	2.01803E+15	181ET12034	PUJARI SAPANA SIDDHARAM	20	2	2	8	4	4
35	2.01803E+15	181ET12035	GHONGADE PRAJAKTA DILIP	19	2	2	7	4	4
36	2.01803E+15	181ET12036	DEOKAR NAMRATA DATTATRAY	23	2	3	9	5	4
37	2.01803E+15	181ET12037	VIDHATE DNYANESHWARI GORAKH	21	2	3	8	4	4
38	2.01803E+15	181ET12038	BENNESUR LAXMI IRANNA	23	2	3	9	4	5
39	2.01803E+15	181ET12039	THENGAL PALLAVI VISHWAS	16	2	2	6	3	3
40	2.01803E+15	181ET12041	SHAIKH SHOYEB AYUB	21	2	3	8	4	4
41	2.01803E+15	181ET12042	DUDHAL RUTUJA SURESH	23	2	3	9	4	5
42	2.01803E+15	181ET12045	MUKARE VAIBHAV SURYAKANT	20	2	2	8	4	4
43	2.01803E+15	181ET12046	MASKE AKSHAY RAJENDRA	23	2	3	9	4	5
44	2.01803E+15	181ET12047	JADHAV MAHESH SHIVAJI	19	2	2	7	4	4
45	2.01803E+15	181ET12048	GHODAKE SHUBHAM TUKARAM	22	2	2	9	4	5
46	2.01803E+15	181ET12049	DESHMUKH ABHISHEK VILAS	23	2	3	9	5	4
47	2.01803E+15	181ET12050	GAIKWAD AMRUTA BALASAHEB	23	2	3	9	5	4
48	2.01803E+15	181ET12051	PATHAN JAMEER SALIM	19	2	2	8	4	4
49	2.01803E+15	181ET12052	SHAIKH SANIYA ABDULLA	20	2	2	8	5	5
50	2.01803E+15	181ET12053	VHASALE SAGAR APPASO	22	2	2	8	4	4
51	2.01803E+15	181ET12054	SALUNKHE TUSHAR TUKARAM	20	2	2	9	4	5
52	-	181ET12057	PANDHARE NITIN VASUDEO	22	2	2	9	4	5
53	2.01803E+15	181ET12058	GHADAGE SHIVANI GANESH	19	2	2	8	4	3


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PUNYASHLOK AHILYADEVI HOLKAR

SOLAPUR UNIVERSITY, SOLAPUR

A

PROJECT REPORT

ON

“Fire Detection and alarm System using 8051”

Submitted by

Sr. No.	Roll No	Name Of The Student
1.	49	Sucheta Bharat Yelmar.
2.	51	Prajakta Pramod Pathak
3.	45	Prajakta Kashinath Wakade.

(Project Group No. : TE-A18)

T.E. Electronics and Telecommunication

Engineering

Under the guidance of

Ms.S.S.Kadam

Department of Electronics and Telecommunication Engineering



SVRI's College of Engineering, Pandharpur

Academic Year: 2018-19

SVRI's COLLEGE OF ENGINEERING, PANDHARPUR

Certificate

This is to certify that the Seminar report entitled

"Fire Detection and alarm System using 8051"

is submitted by

Sr.No	Roll No	Name Of The Student.
1	49	Sucheta Bharat Yelmar.
2	51	Prajakta PramodPathak
3	45	Prajakta Kashinath Wakade

(Project Group No. : TE-A18)

For partial fulfilment of TE in Electronics and Telecommunication as
per requirement of

Punyashlok Ahilyadevi Holkar

Solapur University, Solapur for the academic year 2018-19.


(Ms. S. Madam)

GUIDE


(Prof. Dr. A. S. Vibhute)

H.O.D.


(Prof. Dr. B. P. Ronge)

PRINCIPAL

Date - 24/4/19

Place - Pandharpur



Sign of External

DECLARATION

We are undersigned have submitted the report for the proposed project work entitled "**Fire Detection and alarm System using 8051**" declare that we have submitted the report after thorough study & is not copied from some source.

Name

Sign

1. Ms. Sucheta Bharat Yelmar.
2. Ms. Prajakta Pramod Pathak.
3. Ms. Prajakta Kashinath Wakade.

Sucheta
Pathak
Wakade

ACKNOWLEDGEMENT

We feel happy in forwarding report as image sincere efforts. The successful project reflects project reflects our work, efforts of our guide gives us good information. We give special thanks to our guide **Ms.S.S.Kadam** for her constant interest and constant encouragement throughout the completion of our project. We are also equally indebted to our Principal **Prof.Dr.B.P.Ronge** and our HOD (Electronics and Telecommunication department) **Prof. Dr.A.S.Vibhute** for his valuable help whenever needed. We expressed deep gratitude of all staff members who lend us their valuable support and co-operation to enables us to complete our project successfully. At last we would like to thanks our parents who constantly supported us for this work in all aspect.

1. Sucheta Bharat Yelmar.
2. Prajakta Pramod Pathak.
3. PrajaktaKashinathWakade.

FIRE DETECTION AND ALARM SYSTEM USING 8051

ABSTRACT

A "Fire Detection and alarm System using 8051" has a number of devices working together to detect and warn people through visual and audio appliances when smoke, flame, carbon monoxide or other emergencies are present. A alarm alerts you when they you are busy, working or sleeping. You can therefore take action before major damage takes place, thus saving you the cost of property loss- also saving insurance companies a lot of damage cost. More than half of house fires take place in homes that do not have flame alarms, and mostly at night, resulting in a high number of deaths. It is easy to get trapped in the start of a fire. An early detection can get you out of a situation that would potentially turn into a tragedy. Make sure to also alert your family and friends on the importance of installing fire alarm systems.

FIRE DETECTION AND ALARM SYSTEM USING 8051

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Chapter No 1

INTRODUCTION

INTRODUCTION

We all are well aware about The “**Kamala Mills fire**” was a major fire accident at the Kamala Mills Compound in one Above Pub and Mojo's Bistro pub situated in Lower Parel area of Mumbai which resulted in the deaths of 14 people and several injured including an officer of Indian Armed Forces on 29 December 2017 at 22 hrs. Our project “**Fire Detection and alarm System using 8051**” is very useful in such critical condition, that the fire sensor will sense the fire and alarm will ringing. We understood the information about fire. “Fire detection and alarm system” is very important to avoid major accidents which are caused due to fire. Fire may cause a big loss or damage to any property, home, companies, warehouses, malls or bazaar. It also causes severe injuries to human lives. And that is the reason fire detection systems are very important in the day today's life.

HISTORY

With over three decades in the industry, we've clearly seen a lot of changes and been proud to be at the forefront of introducing many of these new products to market, most notably addressable detectors and intelligent detector heads. It was the 1980s and 1990s which brought probably the biggest changes to fire detectors, with the industry moving in tandem with technical advances towards addressable products, opening up a new world of opportunities to networked fire detection solutions. In 1986, Apollo Fire Detectors introduced a range of analogue addressable detectors called Series 90 with the principles employed used to subsequently develop the XP95 range, which remains one of our most popular products today. Although Series 90 and XP95 are both analogue addressable devices, they use digital protocol for panel/device communication and mark the beginning of a fire detection design age which maximized the use of advances in technology to allow detectors to communicate effectively with control panels and identify the exact location of activation. In the late 1990s, these moves into the world of new technology took another significant step with the introduction of intelligent fire detectors, such as our Discovery range, which essentially employed the use of intelligent sensors in detector heads to make decisions and allowed systems to be fully tailored towards their application. For example, different levels of sensitivity for a building can be provided at different times of day such as a fire detection

system switching combined smoke/heat multisensory in an entertainment venue to heat detection only when smoke machines are being used. Intelligent detectors can also analyse the signals from their smoke or heat sensors and decide whether the source is likely to be smoke from a real fire or a false reason, such as cooking fumes. The 1990s also saw the introduction of other key features, such as drift compensation – a feature that adjusts for environmental conditions such as dust to ensure a detector is not adversely affected. These industry moves signalled a huge milestone in the reliability of detectors and set the scene for the future of the industry, with this technology still built upon today.

Chapter No 2

LITERATURE SURVEY

LITERATURE SURVEY

[1] Fires continue to occur in modern architecture, the people's lives and property has brought huge losses. In order to reduce the fire in the building automatic fire alarm equipment placed into a necessity. This paper discusses the automatic fire alarm system, the composition and working principle. The system will be collected through the fire alarm detector to the fire, fault and other signals sent to the sub-machine, Submachine re-transmission of such information will be sent to the fire alarm control, and then start from the controller, sound and light alarm display, alarm and other devices, and automatically print a fire information. This paper describes the overall structure of the fire alarm system, fire alarm control software in the design. Fire detectors using two-wire method to reduce the wall alignment, improve reliability, ease of construction and installation.

[2] The paper introduced an automatic warehouse fire alarm system based on MCU. The system was mainly made up of ATmega16, temperature sensors, smoke sensors, and EX-1 auto dialled alarm module. In the system, temperature signals were transformed to serial data, and smoke signals were transformed to voltage signals. All the data were processed by MCU. When the surveillance system checked fire in warehouse, alarm signal was turn on.

[3] Security and automation is prime concern in our day to day life. The approach to home and industrial automation and security system design is almost standardized nowadays. In this paper, we have tried to increase this standard by combining new techniques and developed a low cost home and industrial automated security systems. Everyone wants to be as much as secure as possible. The design of simple hardware circuit enables every user to use this fire sensor, temperature sensor, gas sensor, smoke sensor at home and industries.

[4]In this project, we are going to make a **Fire AlertSystem using** ATMEGA8 microcontroller and **fire sensor**. **Fire** sensor can be of any type, however we are **using** IR (Infrared) based **Fire** Sensor. Although IR based **Fire** Sensors have some disadvantages mostly of inaccuracy, it is the cheapest and easiest way to detect **fire**.

[5] **We interface Flame Sensor with Arduino** and learn all the steps to build **Fire Alarm System** by using Arduino and flame sensor. Flame sensor module has photodiode to detect the light and op-amp to control the sensitivity. It is used to detect fire and provide HIGH

FIRE DETECTION AND ALARM SYSTEM USING 8051

signal upon the detection. Arduino reads the signal and provides alert by turning on buzzer and LED. Flame sensor used here is an IR based flame sensor.

Chapter No 3

PROBLEM STATEMENT AND OBJECTIVE

PROBLEM STATEMENT

Now days, in case of domestic as well as industrial applications, major problem is regarding to fire losses. These losses are not related to goods there may be a chance of death of human beings so we have decided to design a system which will be helpful for detection of fire. So that we can call to fire brigade for take some necessary actions

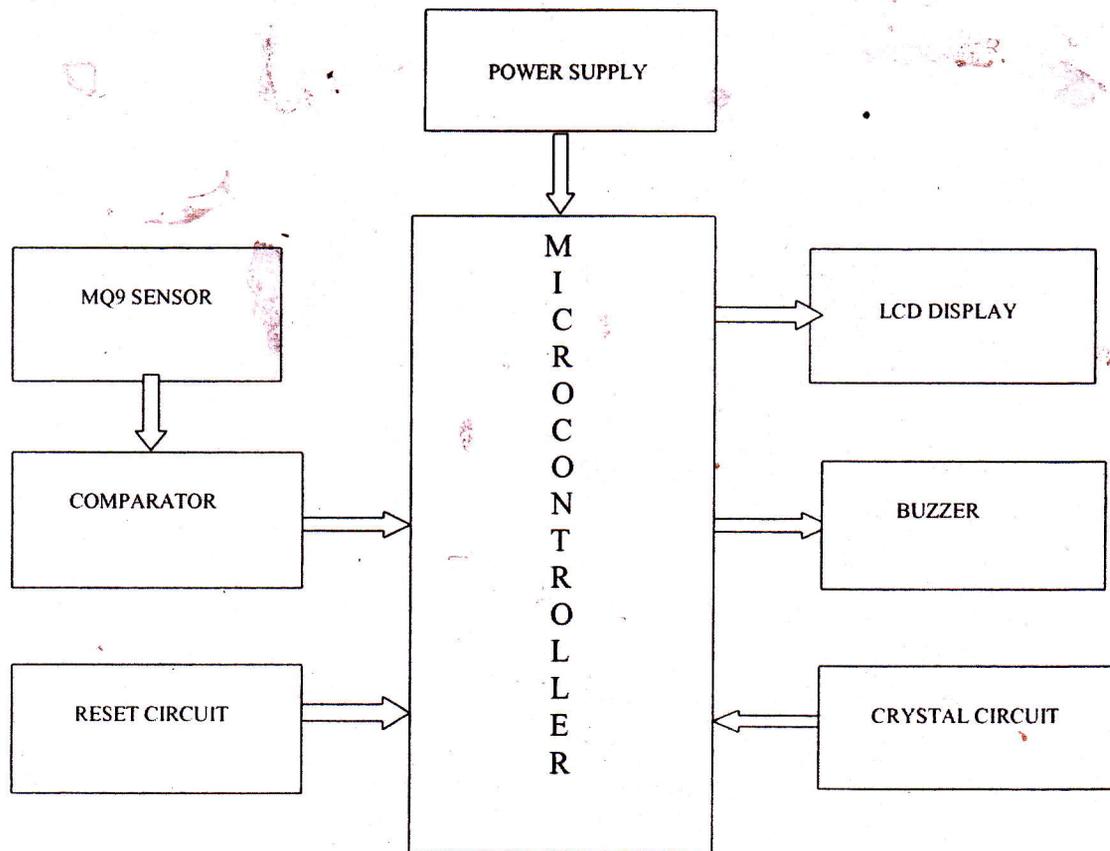
OBJECTIVE

- To design fire sensor system with the help of Microcontroller.
- To achieve minimum damage with the help of flame sensor system

Chapter No 4

METHODOLOGY

METHODOLOGY



Block diagram

SYSTEM DESCRIPTION

➤ **Microcontroller-**

Microcontroller is a heart of this system which is used to control and process multiple functions based on provided inputs. Microcontroller fetches the instruction from transmitter. We are interfacing all devices to I/O ports of microcontroller. The TXD and RXD separate pins are available for transmission and reception purpose.

➤ **MQ9 Sensor-**

Sensitive material of MQ-9 gas sensor is SnO₂, which with lower conductivity in clean air. It makes detection by method of cycle high and low temperature, and detect CO when low temperature (heated by 1.5V). The sensor's conductivity is more higher along with the gas concentration rising. When high temperature (heated by 5.0V), it detects Methane, Propane etc. Combustible gas and cleans the other gases adsorbed under low temperature. Please use simple electro circuit, Convert change of conductivity to correspond output signal of gas concentration.

➤ **Comparator-**

A comparator is used to compare a measurable quantity with a reference or standard such as two voltages or currents. It outputs a digital signal showing the results. Analog devices offer an extensive portfolio of high speed and low power comparators and this allows us to provide our customers with more complete signal chain solutions. Our comparator offerings range from the fastest Si-based comparator on the market today to very low power CMOS comparators that consume only microamperes of power. Find the right comparators for your application with our selection tool and design tool.

➤ **Reset circuit-**

Reset is an active High input when reset is set to High, 8051 goes back to the power on state. The 8051 is reset by holding the RST high for at least two machine cycles and then returning it low.

➤ **LCD Display-**

LCD (liquid crystal display) is the technology used for displays in notebook and other smaller computers. An LCD is made with either a passive matrix or an active matrix display grid. The active matrix LCD is also known as a thin film transistor (TFT) display. The passive matrix LCD has a grid of conductors with pixels located at each intersection in the grid.

➤ **Buzzer-**

8051 reads the signal and provides alert by turning on buzzer. And Buzzer will ring.

➤ **Crystal Oscillator-**

An electronic circuit or electronic device that is used to generate periodically oscillating electronic signal is called as an electronic oscillator. The electronic signal produced by an oscillator is typically a sine wave or square wave. An electronic oscillator converts the direct current signal into an alternating current signal. The radio and television transmitters are broadcasted using the signals generated by oscillators. The electronic beep sounds and video game sounds are generated by the oscillator signals. These oscillators generate signals using the principle of oscillation.

➤ **Power supply-**

Input AC supply is needed to be converted into DC supply as per requirements of various components and devices. To provide different DC voltages, step-down transformers, voltage regulators are used.

➤ **Software Used-**

For simulation, we can use Proteus software. While using this software, we need to add some flame sensor, microcontroller, and crystal oscillator.

Code-

FIRE DETECTION AND ALARM SYSTEM USING 8051

```
#include<reg51.h>
#define lcd P3

sbit FLAME=P1^1;

sbitrs=P2^0; //register select
sbitrw=P2^1; //RW
sbit en=P2^2; //enable

voidlcd_init();
voidcmd(unsigned char);
voiddat(unsigned char);
void delay();
voidlcd_string(char *s);

void main()
{
    lcd_init();
    lcd_string(" *s ");
    while(1) {
        if(FLAME)
        {
            cmd(0xc0);
            lcd_string("Flame Detected");
            delay();
        } else {
            cmd(0xc0);
            lcd_string(" FIAME NOT DETECTED ");
        }
    }
}

voidlcd_init()
{
```

FIRE DETECTION AND ALARM SYSTEM USING 8051

```
cmd(0x38);  
cmd(0x0e);  
cmd(0x06);  
cmd(0x01);  
cmd(0x80);  
}
```

```
voidcmd(unsigned char a)  
{  
  lcd=a;  
  rs=0;  
  rw=0;  
  en=1;  
  delay();  
  en=0;  
}
```

```
voiddat(unsigned char b)  
{  
  lcd=b;  
  rs=1;  
  rw=0;  
  en=1;  
  delay();  
  en=0;  
}
```

```
voidlcd_string(char *s)  
{  
  while(*s) {  
    dat(*s++);  
  }  
}
```

```
void delay()  
{  
  unsignedint i;  
  for(i=0;i<20000;i++);  
}
```

➤ **Pin outs-**

- Vcc – 5v
- Gnd – Ground
- DO – P1.0

➤ **lcd**

- RS – P2.0
- RW – P2.1
- EN – P2.2
- Data Lines – P3.0 – P3.7

Chapter No-5
Advantages and Disadvantages

ADVANTAGES

- Lower Insurance Rates
- Constant Protection
- Deterrent to Criminals

DISADVANTAGES-

- Cut Phone Line
- Lower Insurance Rates
- False Alarms
- Expense

Chapter No-6
APPLICATIONS

APPLICATIONS-

- Hydrogen stations
- Combustion monitors for burner
- Oil and gas pipelines
- Automotive manufacturing facilities
- Nuclear facilities
- craft hangars
- Turbine enclosures

Experiential Learning through Final Year Projects

- **Solve Complex Engineering Problems**
- **Professional Ethics and Responsibilities**
- **Life Long Learning**
- **Team work**

SVERUS College of Engineering, Pandharpur
Department of Electronics & Telecommunication

B. E. B TIME TABLE for year 2018-2019 SEM-I (w.e.f. 13/7/2018) Classroom No.- MF 423

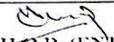
Day / Time	09.00am to 10.00am	10.30am to 11.30am	11.30am to 12.30pm	12:30pm to 01:30pm	1:30pm to 02:30pm	2:30pm to 02:45pm	02:45pm to 03:45 pm	03:45pm to 04:45 pm	
Thu	SATCOM	IP	Lunch Break	B1-VLSI		Short Break	Gate Tutor (/ASS, /NPK)	CCN	
Fri	B1-IP			B2-CCN					
	B2-VLSI			B3-SATCOM/CT	IP		VLSI		Gate Tutor (/LAP, /ASS)
	B3-CCN								
Sat	VLSI	CCN		B1-CCN				IP	CT
Sun	IP	Gate Tutor (/LAP, VSB) (CAED-II)		B2-SATCOM/CT	CCN		CT	VLSI	SATCOM
Mon	CT	Gate Tutor (/LAP, /NSP)(CAED II & ADS)		B3-IP	SATCOM		VLSI	B1-SATCOM/CT	
						B2-IP			
Tue	Project Day			Project Day			Project Day		

Pranayama Session : 10am to 10.30am

Subject	Subject Teacher	Practical Teacher	Practical Location
SATCOM	/Prof. N. P. Kulkarni	/Prof. N. P. Kulkarni	T11-1
CCN	Dr. A. S. Vibhute	/Prof. M. Biswas	CAED-I
VLSI	/Prof. A. S. Singh	/Prof. A. S. Singh	CAED-II
CT	/Prof. L. A. Palange	/Prof. L. A. Palange	T11-1
IP	Prof. V. S. Bhong	Prof. V. S. Bhong	CAED-III
Gate Tutor	/ASS, /NPK, /LAP, /NSP, VSB		CAED-I & II, ADS-LAB
Seminar & Project	Prof. H. K. Bhaldar		


 TT Co ordinator
 /Prof. L. A. Palange


 CC
 /Prof. L. A. Palange


 H.O.D. (ENTC)
 Dr. A. S. Vibhute

SYLLABUS



SOLAPUR UNIVERSITY, SOLAPUR **FACULTY OF ENGINEERING & TECHNOLOGY** **ELECTRONICS & TELECOMMUNICATION ENGINEERING**

Syllabus for

B.E. (E & TC Engineering) w.e.f. Academic Year 2015-16



SOLAPUR UNIVERSITY, SOLAPUR
FACULTY OF ENGINEERING & TECHNOLOGY
Electronics & Telecommunication Engineering

Program Educational Objectives and Outcomes

Program Educational Objectives (PEO'S)

- 1 To prepare students to give good theoretical background with sound practical knowledge, enable them to analyze and solve Electronics and communication Engineering problems by applying basic principles of mathematics, science, and engineering and using modern tools and techniques.
- 2 To make students to test hardware components and software for offering solution to real life situations.
- 3 To inculcate students to be sensitive to ethical, societal and environmental issues while pursuing their professional duties.
- 4 To build strong fundamental knowledge amongst students to pursue higher education, and to enhance research and continue professional development in Electronics, communication and IT industries with attitude for lifelong learning.
- 5 To nurture students with technical and communication skills in order to be able to function on multidisciplinary fields and make them aware of contemporary issues at national and international levels.
- 6 To develop students for team working and managerial skills leading to entrepreneurship and leadership.

Program Outcomes (PO's)

1. An ability to apply knowledge of mathematics, science, and engineering,
2. An ability to design and conduct experiments, as well as to analyze and interpret data,
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability,
4. An ability to function on multidisciplinary teams,
5. An ability to identify, formulate, and solve engineering problems,
6. An understanding of professional and ethical responsibility,
7. An ability to communicate effectively,
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context,
9. A recognition of the need for, and an ability to engage in life-long learning,
10. A knowledge of contemporary issues, and
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.



SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF ENGINEERING & TECHNOLOGY
STRUCTURE OF B.E (Electronics & Telecommunication Engineering)

W.E.F 2015-16

B. E. (Electronics & Telecommunication Engineering) Semester- I

Sr. No.	Subject	Teaching Scheme				Examination Scheme				
		L	Tut	P	Total	Th.	TW	POE	OE	Total
1	Computer Communication Network	4	--	2	6	100	25	50	--	175
2	VLSI Design	4	--	2	6	100	25	50	--	175
3	Satellite Communication	3	1	--	4	100	25	--	--	125
4	Coding Theory	3	1	--	4	100	25	--	--	125
5	Elective – I	4	--	2	6	100	25	--	--	125
6	Seminar & Project	--	--	4	4	--	25	--	50	75
7	Vocational Training	--	--	--	--	--	25	--	--	25
Total		18	2	10	30	500	175	100	50	825

**Elective – I Advanced Telecommunication Network
Image Processing
Advance DSP.**

B. E. (Electronics & Telecommunication Engineering) Semester- II

Sr. No.	Subject	Teaching Scheme				Examination Scheme				
		L	Tut	P	Total	Th.	TW	POE	OE	Total
1	Broadband Communication	3	1	--	4	100	25	--	25	150
2	Multimedia Communication Techniques	4	--	2	6	100	25	--	50	175
3	Embedded Systems	4	--	2	6	100	25	--	50	175
4	Elective – II	4	--	2	6	100	25	--	--	125
5	Project	--	--	8	8	--	100	100	--	200
Total		15	1	14	30	400	200	100	125	825

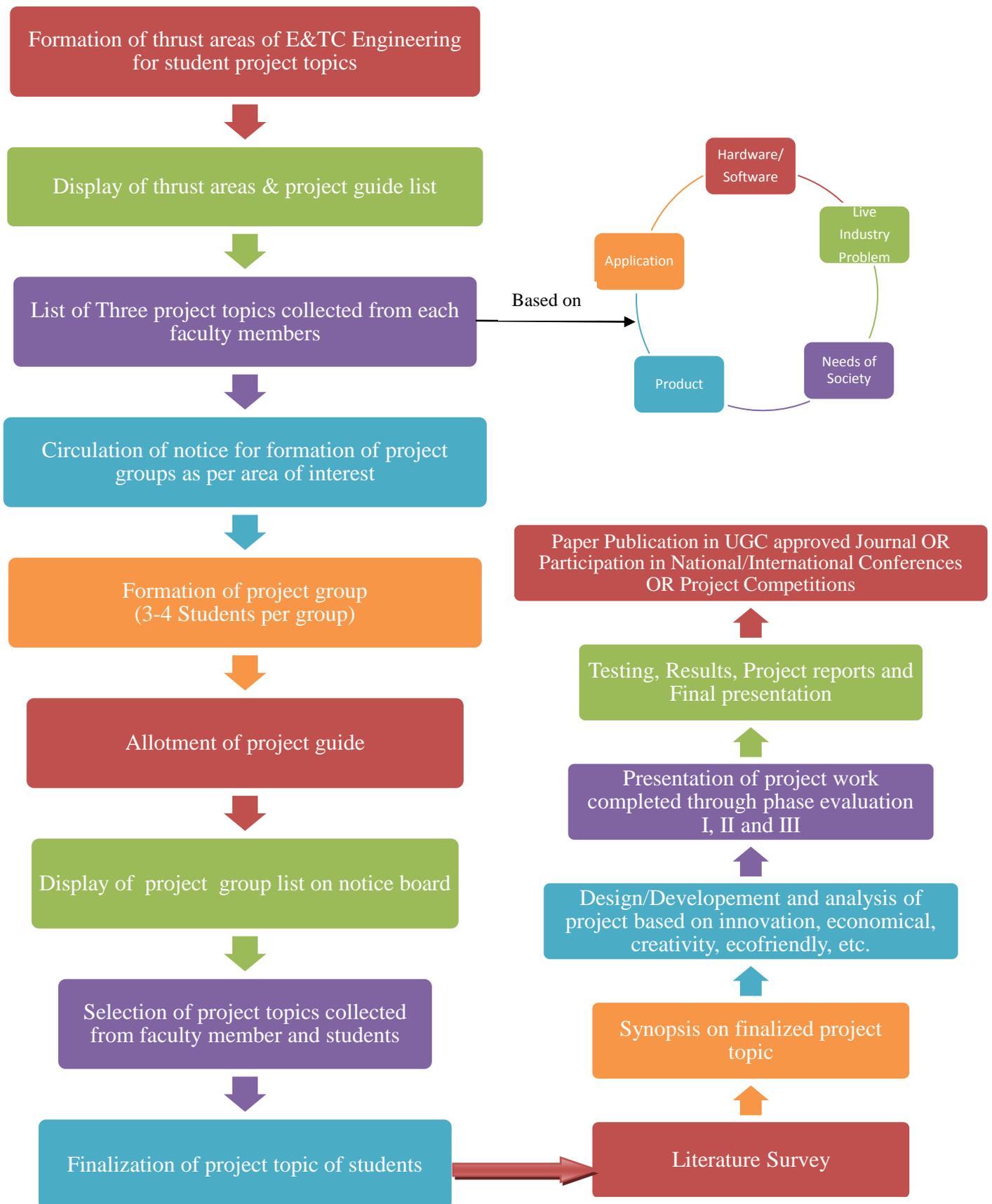
**Elective – II Wireless Sensor Network
Pattern Recognition
DSP Processors & Application**

Note:

- Minimum strength of the students for Elective be 15.
- Term work assessment shall be a continuous process based on student's performance in class tests, assignments, homework, subject seminars, quizzes, laboratory books and their interaction and attendance for theory and lab sessions as applicable.

FINAL YEAR PROJECT PROCESS

❖ Processes related to BE (Final Year) project identification, allotment, continuous monitoring, evaluation including demonstration of working prototypes and enhancing the relevance of projects



SUMMARY OF FINAL YEAR E&TC PROJECT



SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
DEPARTMENT OF ELECTRONIC & TELECOMMUNICATION ENGINEERING

SUMMARY OF FINAL YEAR PROJECT

Sr. No.	Academic Year	Class	No. of Students	No. of Projects
1.	2015-16	BE ENTC	139	50
2.	2016-17		142	48
3.	2017-18		96	33
4.	2018-19		107	38
5.	2019-20		119	39

A handwritten signature in blue ink, appearing to be 'C. Q. E.', is written above the printed name.

HOD ENTC

HEAD

Dept. of Electronics & Telecom. Engg.
C. Q. E. Pandharpur

PROJECT GUIDE LIST (E&TC) WITH AREA OF SPECIALIZATION

SVERI's College of Engineering, Pandharpur

Department of E&TC Engineering

List of Faculty Members with Area of Specialization

2018-19

Sr. No.	Research Area of Specialization	Group Faculty Members
1	AI & Machine Learning, Deep Learning,	Dr. A. S. Vibhute Mrs. M. M. Pawar Dr. N. B. Bhadure
2	Image & Video Processing	Dr. A. S. Vibhute Dr. S. M. Mukane Dr. Mrs. M. M. Patil Mrs. M. M. Pawar Mrs. J. S. Shinde Mr. N. S. Admile Mr. S.P. Swami Mr. S. A. Inamdar Ms. Ankita Singh Mr. V. S. Bhong
3	Signal Processing	Dr. A. S. Vibhute Mrs. M. M. Pawar Mr. M. S. Mathpati
4	IoT & Embedded Systems	Dr. A. S. Vibhute Mr. M. S. Mathpati Mrs. J. S. Shinde Mr. A. A. Jadhav Mr. H. K. Bhalidar Mr. M. A. Deshmukh Mr. S. P. Swami Mr. A. M. Kasture Mr. D. P. Narsale Mr. S. A. Inamdar Mr. S.P. Swami Mrs. N. P. Kulkarni Ms. M. S. Biswas Ms. S. A. Atole
5	Communication Systems	Mr. M. S. Mathpati Mr. H. K. Bhalidar Mrs. N. P. Kulkarni Mr. S. A. Inamdar Mr. A. M. Kasture Ms. M. S. Biswas Mr. J. S. Hallur Ms. L. A. Palange


HEAD

Dept. of Electronics & Telecom. Engg.

Q. E. Pandharpur

6	Antenna and Microwave Engg.	Mr. M. S. Mathpati Mr. H. K. Bhaldar Mr. A. A. Jadhav Mr. A. M. Kasture Ms. S. S. Kadam
7	Analog & Power Electronics	Mr. D. A. Kumbhar Mr. A. M. Kasture Mr. S. A. Inamdar Mr. H. K. Bhaldar Mr. S.P. Swami Mr. D. P. Narsale Ms. S. A. Atole
8	Digital Circuits & VLSI Design	Mrs. J. S. Shinde Ms. S. S. Kadam Ms. S. A. Atole

hup
**HOD E&TC
HEAD**

Dept. of Electronics & Telecom. Engg.
Q. E. Pandharpur

SVERI's College of Engineering, Pandharpur.
Department of Electronics & Telecommunication

A.Y: 2018-19

Class: BE (ENTC) -A

List of Final Year Projects

Group no.	Name of Student	Project	Name of the Guide	PO	PSO
BE A1	Upase Sidharth Ravindra	Design and Develop a cost effective E-rickshaw with Battery and Paddle	D A Kumbhar	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Panpude Ajay Balak				
	Kandi Nikhil Mallikarjun				
BE A3	Waghmare Varsha Ashok	Study, Modification and Development in the induction heating system to develop a water purification system	D P Narsale	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Walujkar Shubhangi Sunil				
	Patil Komal Kamalakar				
BE A5	Bhosale Swapnali Sudhakar	Smart Blind Stick	M A Deshmukh	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Ghongade Sneha Raja				
	Shinde Seema Sadashiv				
BE A7	Awatade Vaishnavi Vitthal	GPS based vehicle tracking and monitoring system - A solution for transportation	M A Deshmukh	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Gaikwad Pratiksha Arun				
	Javanjal Gayatri Sanjay				
A9	Waghmare Ashanta Laxman	Raspberry Pi based reader for blind people	A A Jadhav	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Pangare Mohini Madhukar				
	Sawale Bhagyashri Chandrakant				
	Shinde Urmila Deepak				
BE A11	More Mayuri Mahadeo	Design of micro-strip patch array antenna for wireless application	M S Mathpati	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Shinde Shilpa Ravindra				
	Rangar Swagata Jaivant				
BE A13	Dingare Krishna	Voice controlled water controller system using Arduino	S A Inamdar	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Raj shivaji Palase				
	Shahane Ajinkya Abhaykumar				
	Prakash Chittapure				
BE A15	Jadhav Nilesh Dnyaneshwar	Electric trolley (Sponsored)	H K Bhaladar	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Patil Gaurav Dnyandeve				
	Adhatrav Madhav Prakash				
BE A2	Anantpure Mokshada Ramling	Gas leakage detection and accident prevention system using IoT	J S Shinde	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Kambale Prajakta Narayan				
	Kore Bhagawati Prakash				
BE A4	Atar Shahista Iqbal	voice controlled calculator	/S S Kadam	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Jadhav Diksha Vitthal				
	Chavan Banubai Dattatray				
BE A6	Kamble Bhagwati Krushna	Heart Rate Monitoring System using Low Cost Optical Sensor	/N P Kulkarni	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Khune Rupali Satish				
	Raut Privanka Bhimrao				
	Shinde Sunita Prakash				
BE A8	Yelale Priti Sitaram	Design and implementation of Wheelchair controlled by using eye movement	A M Kasture	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Paparkar Sonali Pandurang				
	Waghmare Diksha				
BE A10	Bhosale Punam Shirang	Automatic seed sowing robot	J S Hallur	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Yedave Vidya Dattatraya				
	Shinde Jyoti Bhairavnath				
BE A12	Yelme Mitali Devidas	Solar Powered Arduino based wireless grass cutter system	S A Inamdar	1,2,3,4,5,7,8,9,10,11,12	1,2,3
	Biradar Abhishakta				
	Salunkhe Shital Dhanaji				
BE A14	Rajput Amruta Narayansing	Virtual eye for blind	V S Bhong	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3
	Masal Usha Arjun				
	Tate gita baliram				
BE A16	Shaikh Navid Mahamad	Counting of RBC's and WBC's using Image Processing Technique	Dr. A S Vibhute	1,2,3,4,5,6,7,8,9,10,11,12	1,2,3
	Rajput Karansingh babusing				
	Rahul dattatray Pawar				


Project Coordinator


HOD

DEPT
 Dept of Electronics & Telecom. Engg
 Pandharpur

A
Synopsis
on
“ Low Cost Fruit Grading and Sorting System ”

Submitted

by

Name of Student	Roll No
Ms. Prachi Avadhut Mane	22
Ms. Sayali Dilip Chavan	06
Ms. Sayali Shamrao Koli	19

UNDER THE GUIDANCE OF
Dr. A.S. Vibhute

Department of Electronics and Telecommunication



COLLEGE OF ENGINEERING, PANDHARPUR

2018-19

Low Cost Fruit Grading and Sorting System

SYNOPSIS

1. Name of the College : SVERI's College of Engineering, Pandharpur.

2. Name of the Course : B.E. Electronics & Telecommunication Engineering

3. Name of the Student : 1. Ms. Sayali Shamrao Koli
2. Ms. Sayali Dilip Chavan
3. Ms. Prachi Avadhut Mane

4. Name of the Guide : Dr.A.S.Vibhute

5. Proposed Title of the Project: Low Cost Fruit Grading and Sorting System Using Robotic Arm

6. Relevance:

Introduction:

India is an agriculture country. Different types of fruits and vegetables are produced in India. In India all the pre-harvest and post-harvest process are done manually with help of labour. Manual process is very time consuming, less efficient so to get accurate result automation in agriculture industry is needed. The post-harvest process includes sorting and grading of fruits. Different quality factors are considered for sorting and grading of fruits. These factors are internal quality factors and external quality factors. The external quality factors are texture, shape, color, size and volume, and internal quality factors are test, sweetness, flavor, aroma, nutrients, carbohydrates present in that fruits.

Need of study:

The manual inspection poses problems in maintaining consistency in grading and uniformity in sorting. To speed up the process as well as maintain the consistency, uniformity and accuracy, a prototype Robotic arm based grading and sorting system will developed. The system Robotic arm collect image from the camera placed on the top of a conveyer belt carrying Fruit , then it process the images in order to collect several relevant features which are sensitive to the maturity level of the Fruit.

Low Cost Fruit Grading and Sorting System

Problem Statement:

Manually it is not possible for farmers to separate each fruit so to make it more accurate and reliable we are implementing this system. By using the image processing technique as well as robotic arm system, we can save the time and increase its market value as per the quality. Image processing is a technique which provides consistent, reasonably accurate, less time consuming and cost effective solution for farmers. Robotics gained more importance in the modern era since it requires less cost to operate than human labour to do the same task ,also once programmed robot will perform better than an experienced human labour.

Objectives:

- 1.To design a system to check the quality of a specific fruit.
- 2.To check the parameters of fruit like color, size & dark spot on the fruit.
- 3.To design an automatic system this will divide the fruit in different quality and reduce the human efforts

7. Present Theories & Practices:

The development of portable fruit sorting and grading machine based on computer vision for small agro-industries. The mechanical system is designed from low cost material in the form of inclined and segmented plane to substitute the utilization of conveyor belt. In this case, motor servos are used as gate opener and director for the mechanical system. The autonomous system collects video image from a Logitech C920 webcam placed on the top of analysis area, then the image will be analyzed due to the process of computer vision. Firstly, the computer vision algorithm transforms the RGB (Red, Green, and Blue) color space to HSV (Hue, Saturation, and Value) color space of the image to facilitate the processes of color segmentation that are robust to the light intensity fluctuation. To speed up the process, every single frame is classified to 2 ROI (Region of Interest) based on fruit position in queuing and analysis area. Then the system will cluster fruit quality according to the level of maturity and its dimension. In the end, the autonomous system will actuate the servos to move the fruit to a specific bin

Low Cost Fruit Grading and Sorting System

according to their quality grade. Then the result of fruit analysis data will be displayed on PC's monitor. The system can do the task in 500 ms with precision result.

Literature Survey

Sr. No.	Name of Paper and Year of Publication	Author	Methodology	Conclusion
1.	A Fruit Quality Management System Based on image processing.	Zalak R barat, Narendra Singh Limbad.	Image processing ,Pre processing.	Among different segmentation techniques ANN and SVM gives better accuracy.
2.	Arm Based Fruit Grading and Management System Using Image processing.	Manoj B. Avhand, Satish M. Turkane.	Robotic arm,Image processing	Propose the system is faster than the graph based algorithm.
3.	Fruit and vegetables quality evaluation using computer vision(2018 June).	Anuja Bhargava , Atul Bhansal	Computer Vision ,Fruit grading ,Image processing	Efficiency can be increased by taking images in different directions.
4.	Machine Vision system for quality grading fruits.	J Balseo ,E Mioletto	Machine Vision	System showed good results but algorithm needs to be repetitively tested by experts.
5.	A Fruit Quality Management System Based on Image Processing.	Ms. Jadhav, Rupali S. and Prof. Patil, S.S.	Machine Vision	Quality of fruit is analysed by processing on various methods.
6.	"Technical Manual: Good Agricultural Practices in the Production of Tomato under Protected Conditions",2007.	Jaramillo J., Rodriguez V., Guzman M., Zapata M. and Rengifo T.	Computer Vision and Image processing.	The best grade of tomato is detected by analyzing various parameters basically on colour.

Low Cost Fruit Grading and Sorting System

7.	An Integrated Model for Evaluating the Amount of Data Required for Reliable Recognition,2006	M. Lindenbaum	Pattern analysis and Machine learning.	Evaluation and recognition of image is done by image processing.
8.	Low cost object sorting robotic arm using raspberry pi.	Viren Pereira, Vandyk Amsdem Fernandes and Junieta Sequeira.	Raspberry pi and Robotic arm .	Object that is sorted is placed to its respective position.
9.	Rapid Colour Grading for Fruit Quality Evaluation Using Direct Colour Mapping.	Dah-Jye Lee, James K. Archibald, Guangming Xiong.	Image Processing.	Best category of fruit is analysed on the basis of colour of fruit using direct colour mapping method.
10.	Computer Vision Based Fruit Grading System for Quality Evaluation of Tomato in Agriculture industry, Year 2016.	Megha P. Arakeri, Lakshmana.	Machine Learning and Image processing.	The grade of tomato is evaluated using computer vision to improve the yield of tomato.

Low Cost Fruit Grading and Sorting System

8. Outline of Proposed Work:

Block Diagram:

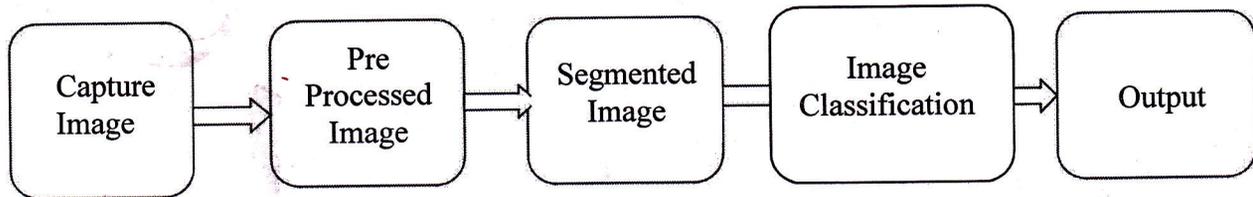


Fig: Block diagram

Methodology:

Working:

1. Image Capture:

First step of the image processing is explained below which is nothing but image capturing. Image capturing is done with the help of camera or scanner and we have used here camera of 5mega pixels for this project. Technical details of the image capturing and data transfer are explained below. This block involves capturing an image. To improving the lighting conditions in the room.

2. Pre-processing image:

Now after the capturing of the image, pre-processing is the next step of the digital image processing. Pre-processing is used for the conversion of the color captured in the image for the system point of view from Binary to Gray code for further data processing.

3. Image Segmentation:

Image segmentation is used for the segmentation of the color to identify the color difference in the fruits. So we are segmenting the data for the understanding of the system about the classification of the colors of fruits, as the segmentation should stop when the objects of interest in an application has been isolated.

Low Cost Fruit Grading and Sorting System

4. Image Classification:

Classification for the image is the next step and used for the classification of the color of the fruit depends on the data given by image segmentation part, on the basis of which further fruit color is classified. Quality of fruit detection method using classified is one of the most often used methods of information extraction. Image classification is the labeling of a pixel or a Group of pixel...

Low Cost Fruit Grading and Sorting System

9. Expected result:

With the proposed system, using the low cost Robotic Arm it will give the appropriate results as sorting and grading the fruit.

10. Available facility:

1. Image capturing is done with the help of camera or scanner and we have used here camera of 5mega pixels for this project.
2. we are segmenting the data for the understanding of the system about the classification of the colors of fruits.
3. Image classification is the labeling of a pixel or a group of pixels based on its Binary to Grey value

11. Work plan:

Sr. No.	Month	Details of Work Carried Out
1.	July 2019	Finalization of the project title
2.	August 2019	Submission of project synopsis & seminars on project topic
3.	September 2019	component selection, Circuit diagram design and Simulation of project circuit diagram
4.	October 2019	1 st phase of project work & publish one review paper on the project in international journal/SCI peer reviewed journal
5.	November 2019	2 nd phase of project work i.e. completion of project work
6.	December 2019	Report writing and one paper will publish in UGC approved peered reviewed international journal

Low Cost Fruit Grading and Sorting System

12. Expected Date of Completion Of Work: 31st December 2019

13. Approximate expenditure:

Sr. No.	Name of Components	Cost of Components
1.	Raspberry Pi	1000/-
2.	PIR sensor	200/-
3.	Rotating Disc	100/-
4.	Sensor	80/-
5.	Raspberry Pi 5MP	500/-
7.	Driver circuit	300/-
8.	Stepper motor	900/-
Total cost		3080/-

References:

- [1]. A Fruit Quality Management System Based on image processing, Volume 8, Issue(Nov.-Dec.2013)
- [2]. Journal paper on "Arm Based Fruit Grading and Management System Using Image processing" by Manoj B. Avhand, Satish M. Turkane, P.D.V.V. P's Collage of Engineering, Ahmednagar, Maharashtra, India, P.R.E.C. Loni, Ahmednagar, Maharashtra, In-dia in January 2013.
- [3]. Harshavardhan G. Naganur, Sanjeev S. Sannakki, Vijay SRaiurohit, Arunkumar R, "Fruits Sorting and Grading using Fuzzy logic," International Journal of Advanced Research in Computer Engineering &Technology(IJARCET) Volume 1, Issue 6, August 2012, pp117-122. [3] John B. Njoroge.
- [4]. Cheng, H.D., Chen, C.H., Chiu, H.H. and Xu, H. "Fuzzy Homogeneity Approach to Multilevel Thresholding", IEEE Transactions On Image Processing (TIP), Vol. 7, No. 7, pp. 1084-1086,
- [5] Ms. Jadhav, Rupali S. and Prof. Pati!, S.S. (2013), "A Fruit Quality Management System

Low Cost Fruit Grading and Sorting System

Based on Image Processing" IOSR Journal of Electronics and Communication Engineering (IOSR-JECE) e-ISSN: 2278-2834, p- ISSN: 2278-8735.Vol, 8, Issue 6 (Nov.-Dec. 2013).

[6] Jaramillo J., Rodriguez V., Guzman M., Zapata M. and Rengifo T. (2007), "Technical Manual: Good Agricultural Practices in the Production of Tomato under Protected Conditions". FAO 2007.

[7] M. Lindenbaum, "An Integrated Model for Evaluating the Amount of Data Required for Reliable Recognition", IEEE Trans. on Pattern Analysis and Machine Intelligence, 2006.

[8] Viren Pereira, Vandyk Amsdem Fernandes and Junieta Sequeira, "Low cost object sorting robotic arm using raspberry pi", 2014 IEEE global humanitarian technology conference, Sept 27, 2014.

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Date: 9 / 9 / 2019

Place: Pandharpur

Sayali Koli :- Sayali Koli
Sayali Chavan :- Sayali Chavan
Prachi Mane :- Prachi Mane

()
BE Student

(Prof. Dr. A.S. Guide)
Vibhute

Project Accepted and Approved By:

1. Mr. J. S. Halbur J. S. Halbur

2. Mr. A. A. Tadkar A. A. Tadkar

3. Mr. D. P. Narsale D. P. Narsale

4.

5.

SVERI'S COLLEGE OF ENGINEERING PANDHARPUR
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING
SEMINAR AND PROJECT ET416 SEM-I 2018-19 BE-I DIV: A

Sr No	Roll No.	Name of Student	Literature Review	Problem Identification	Synopsis Quality	Oral Communication	ICT Tools used	Innovations	Social Applications	Total
			5	2	3	5	5	3	2	
			ET 416.1	ET 416.2	ET 416.2	ET 416.3	ET 416.4	ET 416.5	ET 416.5	
1	44	Upase Sidharth Ravindra	5	2	3	5	4	2	2	23
2	43	Panpude Ajay Balak	5	2	3	4	4	2	2	22
3	40	Kandi Nikhil Mallikarjun	5	2	3	4	5	2	2	23
4	1	Anantpure Mokshada Ramling	5	2	3	4	4	2	2	22
5	10	Kambale Prajakta Narayan	4	2	3	4	4	2	2	21
6	13	Kore Bhagawati Prakash	5	2	3	4	4	2	2	22
7	25	Waghmare Varsha Ashok	5	2	3	4	5	2	2	23
8	26	Walujkar Shubhangi Sunil	5	2	3	4	4	2	2	22
9	17	Patil Komal Kamalakar	4	2	3	4	4	2	2	21
10	2	Atar Shahista Iqbal	5	2	3	4	4	2	2	22
11	8	Jadhav Diksha Vitthal	5	2	3	4	5	2	2	23
12	5	Chavan Banubai Dattatray	5	2	3	4	5	2	2	23
13	4	Bhosale Swapnali Sudhakar	4	2	3	4	4	2	2	21
14	7	Ghongade Sneha Raja	4	2	3	4	4	2	2	21
15	20	Shinde Seema Sadashiv	4	2	3	3	4	2	2	20
16	11	Kamble Bhagwati Krushna	4	2	3	4	4	2	2	21
17	12	Khune Rupali Satish	5	2	3	4	4	2	2	22
18	29	Raut Privanka Bhimrao	4	2	3	3	4	2	2	20
19	21	Shinde Sunita Prakash	4	2	3	3	4	2	2	20
20	3	Awatade Vaishnavi Vitthal	5	2	3	4	5	2	2	23
21	6	Gaikwad Pratiksha Arun	5	2	3	4	5	2	2	23
22	9	Javanjal Gayatri Sanjay	4	2	3	4	4	2	2	21
23	28	Yelale Priti Sitaram	5	2	3	5	4	2	2	23
24	16	Paparkar Sonali Pandurang	5	2	3	4	4	2	2	22
25	24	Waghmare Diksha	5	2	3	4	4	2	2	22
26	23	Waghmare Ashanta Laxman	4	2	3	5	4	2	2	22
27	15	Pangare Mohini Madhukar	4	2	3	3	4	2	2	20
28	19	Sawale Bhagyashri Chandrakant	5	2	3	4	4	2	2	22
29	22	Shinde Urmila Deepak	4	2	3	4	4	2	2	21
30	31	Bhosale Punam Shirrang	4	2	3	3	4	2	2	20
31	27	Yedave Vidya Dattatraya	4	2	3	4	4	2	2	21
32	52	Shinde Jyoti Bhairavnath	4	2	3	4	3	2	2	20
33	33	More Mayuri Mahadeo	4	2	3	4	3	2	2	21
34	32	Shinde Shilpa Ravindra	5	2	3	4	3	2	2	21
35	35	Rangar Swagata Jaivant	4	2	3	4	4	2	2	21
36	36	Yelme Mitali Devidas	4	2	3	4	3	2	2	20
37	34	Biradar Abhishakta	4	2	3	4	4	2	2	21
38	30	Salunkhe Shital Dhanaji	5	2	3	4	3	2	2	21
39	39	Dingare Krishna	4	2	3	4	4	2	2	21
40	47	Palase Raj shivaji	5	2	3	3	3	2	2	20
41	50	Shahane Ajinkya Abhaykumar	4	2	3	4	3	2	2	20
42	48	Chittapure Prakash	4	2	3	4	3	2	2	20
43	18	Rajput Amruta Narayansing	5	2	3	4	4	2	2	22
44	14	Masal Usha Arjun	4	2	3	4	4	2	2	21
45	38	Tate gita baliram	4	2	3	4	3	1	2	19
46	42	Jadhav Nilesh Dnyaneshwar	3	2	3	4	3	2	2	19
47	51	Patil Gaurav Dnyandev	4	2	3	4	4	2	2	21
48	45	Adhatrav Madhav Prakash	4	2	3	4	3	2	2	20
49	41	Shaikh Navid Mahamad	5	2	3	5	3	2	2	22
50	49	Rajput Karansingh babusing	5	2	3	4	4	2	2	22
51	46	Pawar Rahul dattatray	4	2	3	4	3	1	2	19
52		Chaugule Jayashri Dattatray	5	2	3	5	4	2	2	23
53		Shinde Prajakta Tanaji	5	2	3	5	4	2	3	24
54		Sanlunke Punam Balasaheb	5	2	3	5	4	2	3	24

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Dept of Electronics & Telecom. Eng
Q E Pandharpur

DESIGN OF SMALL SCALE ELECTRONIC TROLLEY WITH 500KG LOAD CARRYING CAPACITY

¹A. GAURAV D. PATIL, ²B. MADHAV P. ADHATRAO, ³C. NILESH D. JADHAV

Abstract - Present paper manages structure and manufacture of modern trolley which can be utilized to exchange gear or things starting with one spot then onto the next spot. A trolley these days are imperative for exchanging diverse things from spot to put in our day by day life or even in working life according to the necessity. We can see trolleys in shopping center, air terminal and ventures for taking care of the products. In the airplane terminal, travelers use trolleys to exchange their baggage till the check in counters. Once in a while they face higher weight issues at the check in, making them pay the abundance stuff charge or discard couple of critical things thereof as it were. This makes an awkward and ungainly circumstance at the check in. Furthermore, if the traveler is a maturity or senior native it's extremely a very frenzy circumstance. Also, a study dependent on a readied poll did at Muscat airplane terminal uncovered the requirement for considerable enhancements in the present trolleys regarding solace in baggage taking care of, stacking and emptying of the gear and the requirement for weight of the gear at the season of stacking itself. Moreover, numerous sustenance and kitchen enterprises use trolleys to get and exchange the merchandise things to the store subsequent to gauging them. The Arduino based electronically worked steerable trolley created here intends to address few of these key issues.

I. INTRODUCTION

The In the areas of transportation various carrying vehicles are available, but most of them have a problem of manual pushing and pulling, difficult steering. So these types of problems led to the development of the Electronics trolley capable of reducing manual effort during driving. Electrically powered trolley also reduces time to reach the destination and increases profit. The problems of carrying heavy loads in a wheel cart or similar vehicles provide a vision to develop a trolley which can solve these problems. The new era of world demands an interactive and ergonomically suitable product like those product which are affordable but should reduce human efforts , best suited to environment , easy to carry , and do not require maintenance.

II. METHODOLOGY

a) Problem Definition

To fulfil the needs of the transportation some carrying vehicles are required. As per today's demands of the customer those carrying vehicles should be able to carry enough amounts of payload and in much less time. So our work aims on designing such vehicle which can carry goods in less time and require less effort from worker.

b) Construction/Components

Motor:

Specifications:

1. Type – BLDC Geared motor.
2. Operating Voltage – 24Volt DC
3. Output Capacity – 250W
4. RPM (after reduction) – 300
5. Full load current – 13.4 A

6. No load current – 2.2A
7. Torque constant – 8 N.m(400 kg-cm)
8. Sprocket – 9 Tooth only fits bicycle chains



Fig.1 Motor

Bearing

A bearing is used to hold the camshaft. This also provides the relative motion between rotating shaft and at either end the cam is attached. It allows higher permeability for the free rotations with minimum frictional losses.

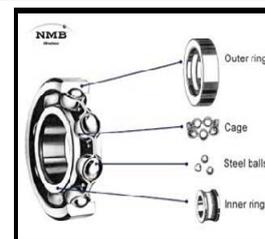


Fig.2 Bearing

Arduino Uno

Arduino Uno is a microcontroller board is an open-source electronics platform mainly based on AVR

microcontroller Atmega328. Atmega328 microcontroller is placed on the board that comes with a number of features like timers, counters, interrupts, PWM, CPU, I/O pins and based on a 16MHz clock that helps in producing more frequency and number of instructions per cycle. The current version of Arduino Uno comes with USB interface, 6 analog input pins, 14 I/O digital ports that are used to connect with external electronic circuits. Out of 14 I/O ports, 6 pins can be used for PWM output.

Features of the Arduino UNO:

1. Microcontroller: ATmega328
2. Operating Voltage: 5V
3. Input Voltage (recommended): 7-12V
4. Input Voltage (limits): 6-20V
5. Digital I/O Pins: 14 (of which 6 provide PWM output)
6. Analog Input Pins: 6
7. DC Current per I/O Pin: 40 mA
8. DC Current for 3.3V Pin: 50 mA
9. Flash Memory: 32 KB of which 0.5 KB used by bootloader
10. SRAM: 2 KB (ATmega328)
11. EEPROM: 1 KB (ATmega328)
12. Clock Speed: 16 MHz

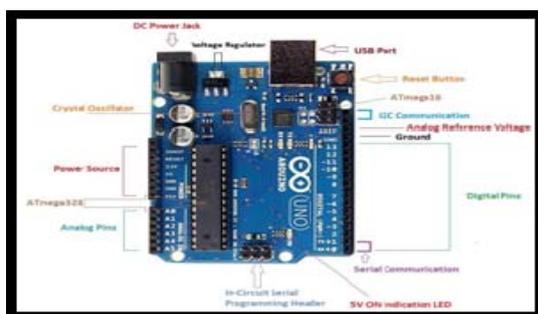


Fig.3 Arduino Uno

Relay Module

A relay is an electrically operated switch of mains voltage. It means that it can be turned on or off, letting the current go through or not. Controlling a relay with the Arduino is as simple as controlling an output.

- **COM:** common pin.
- **NO (Normally Open):** there is no contact between the common pin and the normally open pin. So, when you trigger the relay, it connects to the COM pin and supply is provided to a load.
- **NC (Normally Closed):** there is contact between the common pin and the normally closed pin. There is always connection between the COM and NC pins, even when the relay is turned off. When you trigger the relay, the circuit is opened and there is no supply provided to a load.

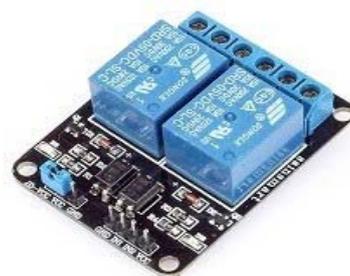


Fig.4 Relay Module

Chain

Roller chains are the type of chain drive most commonly used for transmission of mechanical power between two sprockets. It consists of a series of short cylindrical rollers held together by side links. It is driven by a toothed wheel called a sprocket.

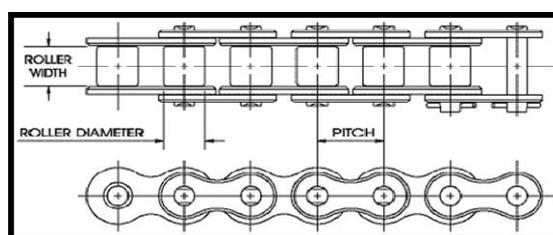


Fig.5 Chain

12V Battery

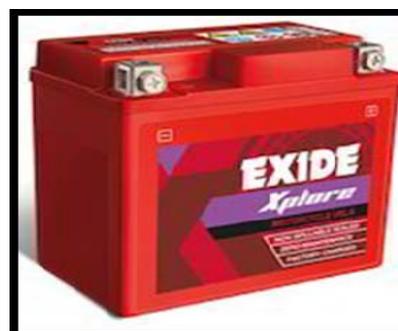


Fig.6 Battery

Battery is a device which is used to store the charge. Here, battery is used to supply a charge to the motor to obtain expected output from the motor. The battery is used as per the motor requirements to achieve optimized output. We are going to use a battery that is dry cell of 12 V capacity of voltage.

Shaft

A shaft is a rotating machine element which is used to transmit power from one place to another. This shaft forms an integral part of the machine itself. The crank shaft is an example of machine shaft. Shaft (mechanical engineering), a rotating machine element used to transmit power. Line shaft is a power transmission system. Drive shaft is a shaft for transferring torque. Axle is a shaft around which one or more wheels rotate.

LCD Display

An LCD is an electronic display module which uses liquid crystal to produce a visible image. The 16x2 LCD display is a very basic module commonly used in DIYs and circuits. The 16x2 translates to a display 16 characters per line in 2 such lines. In this LCD each character is displayed in a 5x7 pixel matrix.

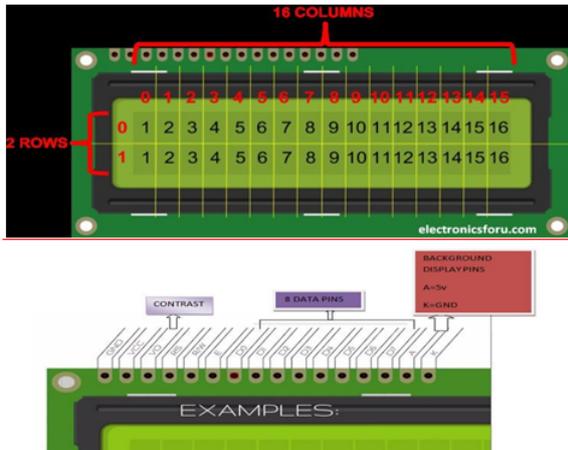


Fig.7 16X2 LCD pin out diagram

WORKING

When the main power switch (DPST) is ON, it will connect the batteries to the motor through DPDT switch and the voltage regulator. The DPDT switch is used to inverse the present connections of the batteries to the motor. Simply if this switch is in forward connection after pressing it at either side it will give the reverse connections to motor. When the motor rotates, it will transfer its rotational to the sprocket with the help of a chain drive. As the sprocket is connected to the shaft, the shaft also rotates with the sprocket in the same direction. The front wheels are connected to the shaft which is rotated in the direction of motion of rotor the motor. Thus when the motor rotates, it will rotate the front wheels also. This assembly gives the linear motion to the trolley, which is our required goal. The steering is used to change the direction of the linear motion of the trolley, which is connected to rare wheel. The rare wheel is not connected to the motor directly or indirectly. But it is connected to the steering by a shaft. We also introduced a battery level indicator which continuously shows the voltage level of our batteries.

COMPARISON BETWEEN DIFFERENT TROLLEYS

Table 1: Comparison of different trolleys

	Wooden carriage	Metal trolley	Cycle rickshaw trolley	eLECTONIC TROLLEY
1.Payload	<300kg	<200kg	<400kg	<500KG
2.Speed	<3km/h	Very low	<10km/h	<25km/h

3.Steering	Very Difficult	Easy	Easy	Easy
4. Material of platform	Wood	Metal	Wood or metal	Wooden
5.Wheels	Rubber Tyre wheels	Metal wheels	Rubber Tyre wheels	Rubber Tyre wheels
6.Driving	Manual push and pull	Manual pull	Paddle driven	motor driven.0
7.Controlling	Difficult	Easy	Medium	easy

BATTERY CALCULATIONS:

1. Power of battery

(Voltage * Ah rating) = power in Watts

Here, series connection of two batteries gives 24 volts and 24 Ah rating.

Therefore,

$$(24V * 24Ah) = 576 \text{ Watts}$$

2. Power of motor = 250 Watts

3. Number of hours run to a consume the total power of battery

$$\text{Hours} = \frac{\text{power of battery}(V \cdot Ah)}{\text{power of motor}(Watt)}$$

$$= \frac{576}{250} = 2.304 \text{ hr}$$

4. Laboratory range of battery

$$= (\text{Number of hours' motor run} * 25\text{kmph})$$

$$= (2.304 * 25)$$

$$= 57.6 \text{ km}$$

CONCLUSIONS

Our project is successfully implemented for the design and fabrication of Electronics-Trolley using the electrical power is will be very useful in small scale industries. There are many machines based on electronics-trolley but it has some demerits like large in size, costly, need skilled people to operate and it needs more man power. But our machine will overcome these demerits by compact in size, less cost, no need for skilled people and there is no need of more man power. The main aim for this trolley is to reduce timing for transporting and neglect the power required to push and pull the trolley, this aim is achieved in our Electronics-trolley.

ACKNOWLEDGMENT

We express our sincere regards to our guide Prof. Mr. Bhaldar H. K. of SVERI's College of Engineering, Pandharpur for his continuous guidance and motivation. We are also thankful to our Head of Department Prof. Mr. Vibhute A. S. for his co-

operation and valuable support. We are also grateful to our faculty & friends and other all that showed their efforts towards us and also helps us in every trouble.

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- [2] SabdeAbhijit Manoharrao1, Prof. Jamgekar R.S., "ANALYSIS& OPTIMIZATION OF HYDRAULIC SCISSOR LIFT", june 2016.
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- [6] SabdeAbhijitManoharrao, Prof. Jamgekar R.S., "DESIGN AND ANALYSIS OF HYDRAULIC SCISSOR LIFT BY FEA", Oct-2016.
- [7] Justin R. Kidwell "MECHANICAL DESIGN AND FABRICATION OF A LIFT SYSTEM",2012.
- [8] Gaurav Dnyandev Patil "Student of BE Electronics and Telecommunication Engineering at Punyashlok Ahilyadevi Holkar University, Solapur, Maharashtra, India".
- [9] Madhav Prakash Adhatrao "Student of BE Electronics and Telecommunication Engineering at Punyashlok Ahilyadevi Holkar University, Solapur, Maharashtra, India".
- [10] Nilesh Dnyaneshwar Jadhav "Student of BE Electronics and Telecommunication Engineering at Punyashlok Ahilyadevi Holkar University, Solapur, Maharashtra, India".

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Industrial and Production Engineering

ICIPE-BENGALURU

Certificate

This is to certify that *Gaurav D. Patil* has presented a paper entitled "*Design of Small Scale Electronic Trolley with 500kg Load Carrying Capacity*" at the International Conference on Industrial and Production Engineering (ICIPE) held at Bengaluru, India on 14th April, 2019.

SA-CIPE-PUNE-14049-1456

Paper ID





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Certificate

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SA-CIPE-PUNE-14049-1456

Paper ID



Chairman

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Industrial and Production Engineering

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Certificate

This is to certify that *Nilesh D. Jadhav* has presented a paper entitled “*Design of Small Scale Electronic Trolley with 500kg Load Carrying Capacity*” at the International Conference on Industrial and Production Engineering (ICIPE) held at Bengaluru, India on 14th April, 2019.

SA-CIPE-PUNE-14049-1456

Paper ID



Chairman

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Experiential Learning through Industrial Visit

- **Identify Industrial problems**
- **Professional Ethics and Responsibilities**
- **Life Long Learning**

SUMMARY SHEET (2015-16)

ENTC Department

Industrial Visits Summary Sheet 2015-16

Sr. No	Date of Industrial Visit	Class	Name of Companies	For Subject	No. Of Students	No. of Faculty
1	01/09/2015	SE	Puneca Electronics Pune	Electronic workshop lab	46	04
2	02/09/2015	SE	Technocrats Forum Kothrud, Pune		46	04
3	21/09/2015	TE	Hindusthan Electronics Engg. Company, Mumbai.	Software Engineering Process Management	107	06
4	22/09/2015	TE	Ananta Analysis Pvt. Ltd., Mumbai		107	06
5	28/09/2015	BE	Technocrats Forum Kothrud, Pune	Satellite communication	40	04
6	29/09/2015	BE	BARC, Mumbai		40	04
7	03/02/2016	SE	Akashwani Kendra, Ratnagiri	Analog Communication	85	05
8	04/02/2016	SE	Elite Technology, sangali		85	05
9	01/03/2016	TE	Perfect Electronics, Wai	Mobile Communication	104	06
10	02/03/2016	TE	RP Electronics, Mahad		104	06
11	15/02/2016	BE	YES Elevator, Pune	Broadband Communication	106	06
12	16/02/2016	BE	DDK, Pune		106	06

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SUMMARY SHEET (2016-17)

Industrial Visit Summery sheet

ENTC Department

Sr. No	Date of industrial Visit	Class	Year	Semester	Name of Company	No of Students	No of Faculty
1	24/08/2016	SE A	2016-17	SEM-I	Thuse Electronics Bhosari Pune	34	03
	25/08/2016		2016-17	SEM-I	Cotmac electronics Bhosari Pune		
2	30/08/2016	TE A&B	2016-17	SEM-I	SPJ Embedded Technologies Pvt Ltd Pune	86	06
	31/08/2016		2016-17	SEM-I	Gaytri Engineers Pune		
3	04/03/2017	SE A &B	2016-17	SEM-II	IGTR Aurangabad	87	06
	05/03/2017		2016-17	SEM-II	Videcon Industries Aurangabad		
4	14/03/2017	TEA	2016-17	SEM-II	E infochip Ahmadabad	35	05
	06/03/2017	TE B	2016-17	SEM-II	Falcan Engineers Ahamdanagar Indus Tower Pune	39	03


IV Coordinator

Mr. D. P. Narsale


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SUMMARY SHEET (2017-18)

Industrial Visit Summary sheet

ENTC Department

Sr. No	Date of industrial Visit	Class	Year	Semester	Name of Company	No of Students	No of Faculty
1	22/08/2017	SE A	2017-18	SEM-I	Gayatri Electronics Pune	51	03
	23/08/2017		2017-18	SEM-I	Perfect Electronics Satara		
2	26/08/2017	TE A & B	2017-18	SEM-I	Sandip Electronics & Automation Pune	88	05
	27/08/2017		2017-18	SEM-I	Neelu Electrical Pune		
3	02/09/2017	BE B	2017-18	SEM-I	All India Radio Station Kolhapur	40	04
			2017-18	SEM-I	Nebulus Automation Pvt Ltd Kolhapur		
4	18/08/2017	BE A	2017-18	SEM-I	All india Radio Station Pune	45	03
	19/08/2017		2017-18	SEM-I	Apron Tech satara		
5	23/01/2018	SE A & B	2017-18	SEM-II	ELITE Electronics Sangli	117	06
	24/01/2018		2017-18	SEM-II	SNR Electronics Sangli		
6	27/02/2018	TE A&B	2017-18	SEM-II	Reliance Jio	96	05
	28/02/2018		2017-18	SEM-II	Dolphin Labs		

IV Coordinator

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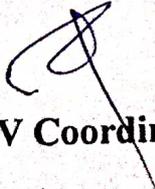
SUMMARY SHEET (2018-19)

Industrial Visit Summary sheet

ENTC Department

Academic Year 2018-19

Sr. No	Date of industrial Visit	Class	Year	Semester	Name of Company	No of Students	No of Faculty
1	20/08/2018	SE A	2018-19	SEM-I	Dolphin Labs, Pune	55	04
	21/08/2018				Gaytri Engineers Pune		
2	05/09/2018	TE A&B	2018-19	SEM-I	ISRO, Bangalore	98	06
	06/09/2018				Preva Systems, Bangalore		
	07/09/2018				Lipra Pvt Ltd, Mysore, Bangalore		
3	21/01/2019	SE A & B	2018-19	SEM II	APTRON Tech Pvt. Ltd Satara	99	06
	22/01/2019				Perfect Electronics, Wai Satara		
4	22/02/2019	TE A & B	2018-19	SEM II	Sai Info Solutions Nashik	101	06
	23/02/2019	TE A & B			Technosys Control Solutions		
5	22/02/2019	BE A & B	2018-19	SEM II	Ideaz Multimedia, Kolhapur	109	06
	23/02/2019	BE A & B			Delight Bulb Industries, Ratnagiri		
Total No of Students went for industrial visit in 2018-19						462	
Total industrial visit incentives given to the students in 2018-19						Rs. 2,77,200/-	


IV Coordinator
Mr. D. P. Narsale


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SUMMARY SHEET (2019-20)

Industrial Visit Summary sheet

ENTC Department

Academic Year 2019-20

Sr. No	Date of industrial Visit	Class	Year	Semester	Name of Company	No of Students	No of Faculty
1	31/08/2019	SE A	2019-20	SEM-I	Perfect Electronics Satara	65	04
	01/09/2019				Gaytri Engineers Pune		
2	03/10/2019	TE A	2019-20	SEM-I	Sycon Agricontrols Sangali	48	03
	04/10/2019				Ideaz Multimedia Kolhapur		
3	25/09/2019	TE B	2019-20	SEM-I	Manu Electronics Aurangabad	45	04
	26/09/2019				IGTR Aurangabad		
	27/09/2019				Airport Controller Aurangabad		
4	01/10/2019	BE A& B	2019-20	SEM I	Delight Bulb Automation Ratnagiri	110	06
	02/10/2019				Ideaz Multimedia Kolhapur		
5	24/01/2020	SE B	2019-20	SEM II	Perfect Electronics, Wai	61	4
	25/01/2020				AIRS Rtanagiri		
6	27/01/2020	SE A		SEM II	Apron Tech Stara	57	3
	28/01/2020				ISEES Technology Mahad		


IV Coordinator

Mr. D. P. Narsale


HOD ENTC

Dr. A. S. Vibhute

HEAD
Dept. of Electronics & Telecomm. Engrg.
A. T. Pundharpur

PERMISSION FROM INDUSTRY

Fwd: Regarding Permission for Industrial Visit - jadhavaa@coe.sveri.ac.in - College of Engineering, SVERI Pandharpur Mail

2/21/2019

Gmail

Search mail

Compose

Inbox 323

Starred

Snoozed

Sent

Drafts 118

More

Akshay +

----- Forwarded message -----

From: Rajeev Deole <rajeev_delight@yahoo.co.in>

Date: Thu, 21 Feb 2019, 11:57

Subject: Re: Regarding Permission for Industrial Visit

To: Dhanaji Narsale <dpnarsale@coe.sveri.ac.in>

Dear Sir,

We hereby grant permission for Industrial Visit on 23/02/2019.

Thanks,
Rajeev Deole
Delight Bulb Industry

On Tuesday, 19 February, 2019, 3:35:13 pm IST, Dhanaji Narsale <dpnarsale@coe.sveri.ac.in> wrote:

Dear sir/madam,

Hope you find this mail in good mood!!!!!!

With reference to above subject I undersigned prof. Dr. A. S. Vibhute Head of ENTC department would like to have permi

Details are tabulated below table

Date	Class	Approximate strength of students	No. of faculty of accompanying
23/02/2019	B.E. (ENTC)	100	06

No recent chats
Start a new one

2/19/2019

Fwd: Regarding Permission for Industrial visit - varshaawaghmare@coop.sveri.ac.in - SVERIs, College of Engineering Pandharpur Mail



Search mail

Compose

Inbox 422

Starred

Snoozed

Sent

Drafts 4

Unwanted

More

Varsha +

----- Forwarded message -----
From: **Dhanaji Narsale** <dnarsale@coe.sveri.ac.in>
Date: Tue, Feb 19, 2019 at 3:34 PM
Subject: Regarding Permission for Industrial visit
To: <[satyjeetkop@gmail.com](mailto:satyajeetkop@gmail.com)>

Dear sir/madam,

Hope you find this mail in good mood!!!!

With reference to above subject I undersigned prof. Dr. A. S. Vibhute Head of ENTC department would like to have per

Details are tabulated below table

Date	Class	Approximate strength of students	No. of faculty of accompanying
22/02/2019	B.E. (ENTC)	100	06

Please give us consent for the same as early as possible.

Thanking you!!!

Reply

Forward

No recent chats
Start a new one

2/21/2019

Fwd: Regarding Permission for Industrial visit - varshaawaghmare@coep.sveri.ac.in - SVERIs, College of Engineering Pandharpur Mail

☰ Gmail

🔍 Search mail

Compose

Inbox 429

Starred

Snoozed

Sent

Drafts 4

📧 Unwanted

More

👤 Varsha +

No recent chats
Start a new one

To ,
The Principal (Through HOD),
Department of Computer ,
Pandharpur.
Subject :- Permission to visit our company

Respected sir ,
As per your email dated 19/2/2019 we are pleased to
inform you that, we permit you to visit our company, & we charge Rs. 50/- per student on dates . The details of the visit
Class: BE
Number of students: 100
Number of staff members: 6
Date of visit: 22/2/2019
Time of visit : 10.00 AM
Confirm with us, other particulars of your visit on
telephone or in e-mail.
Thanking you,

Yours Truly,
Satyajeet Savant

Ideaz Multimedia
3rd lane, Main Road Rajarampuri,
Kolhapur
Cell : 9960079177, 9260060482
Kolhapur - Maharashtra (India)

Reply

Forward

Application

19/02/19

To,
Dean Students,
SVERI's COE,
Pandharpur

Subject: Permission for industrial visit.

Respected sir,
for academic purpose, the students of BE (ENTC) (A & B) wish to visit following companies on 22nd feb and 23rd Feb 2019.

- 1) Delight Auto Industries Pvt. Ltd, Raenagiri
- 2) Com Idear, Kolhapur

We got permission from these companies and required permission letters attached with it. Including both divisions around 100 students are ready for visit.

Above mentioned industries/organisations are related with the following academic course.

- 1) MCT - Multimedia Communication Techniques

Some of the students are not ready because of their personal issues as
i) Health issue ii) family function
iii) Parents are not ready. iv) financial issue.
All these students will report to college and they will do their work. The schedule of I.V, permission letter, list of students are attached.

So kindly allow the BE (ENTC) students for I.V.

Thanking You,

Regards
C.C of BE-A
C.C of BE-B

	BE-A	BE-B
Total :	52	60
Ready for visit:	45	47
YD :	1	5

Forwarded to IV coordinator for consideration

AA
19/12/19
(BE-A CC)
(Mr. A. A. Jadhav)

M. Biswas
19/12/19
(BE-B CC)
(Ms. Mohua Biswas)
forwarded to Humble H.O.D.
for consideration.

gpr
21/02/19
(Industrial Visit Coordinator)
Mr. B. P. Narsale

Pr. A. S. Vibhute
24/2/19
(Prof. Pr. A. S. Vibhute)
HOD ENTC
permitted as per the schedule

HEAN
Dept. of Electronics & Telecom. Engg.
Q. E. Pandharpur

Dr. A. A. Utpat
(Dean Student)

Date: - 21/02/19

To,
The Principal,
SVERI's C.O.E. Pandharpur.

Subject: - Regarding permission for 2 days industrial visit at Kolhapur and Ratnagiri on 22/02/2019 and 23/02/2019.

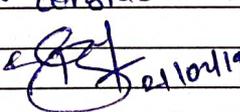
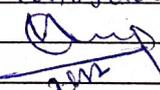
Respected sir,

We the student of B.E.(ENTC) would like to have permission for 2 days industrial visit at Kolhapur and Ratnagiri on 22/02/2019 and 23/02/2019. We have enclosed herewith tentative budget, schedule and route for two days with permission received from industries.

Please permit us to visit for industries as above mentioned dates we will assure you that, we will follow all instructions given by our faculty during industrial visit and we will be in utmost discipline throughout the industrial visit.

Thanking you!

Yours faithfully
Students of B.E.(ENTC)-A&B

Remark of Class Co-ordinator:-	Remark of I.V. Co-ordinator:-	Remark of HOD	Remark of dean Students:-
forwarded	forwarded to	Recommended &	
to Div co-ordinator for	Hon'ble H.O.D	forwarded to	
consideration & approval	for consideration	Dean student	
	 21/02/19	for consideration	
			

CA
Mishra

As a part of expenditure of industrial visit we have collected Rs. 1600/- per head from B.E. (ENTC) students. Details of the same are the given below-

Sr. No.	Head of Expenditure	Amount (in Rs.)
1.	Travelling	1000/-
2.	Lodging	400/-
3.	Miscellaneous	200/-
	Total	1600/-

Route decided for 2 days industrial visit at at Kolhapur and Ratnagiri on 22/02/2019 and 23/02/2019 is as follows:-

Pandharpur to Kolhapur	Ratnagiri to Pandharpur
Pandharpur	Ratnagiri
Sangola	Karad
Miraj	Dighanchi
Kolhapur	Pandharpur

Schedule for industrial visit at Kolhapur and Ratnagiri on 22/02/2019 and 23/02/2019 is as follows:-

Date	Time	Particulars
22/02/2019	03:00 AM	Departure from Pandharpur
22/02/2019	08:00 AM	Arrival to Kolhapur
22/02/2019	10:00 AM	Breakfast
22/02/2019	11:00 AM	Visit to Com Ideaz , Kolhapur
22/02/2019	03:00 PM	Lunch
22/02/2019	05:00 PM	Departure from Kolhapur
22/02/2019	09:00 PM	Arrival to Ratnagiri
22/02/2019	10:00 PM	Dinner , at lodge , Ganpatipule
23/02/2019	08:00 AM	Breakfast
23/02/2019	11:00 AM	Visit to Delight Auto Industries Ratnagiri.
23/02/2019	03:00 PM	Lunch
23/02/2019	04:30 PM	Toward pandharpur
23/02/2019	11:30 PM	COE Pandhrpur

Due to unavailability of lodging for 95 students & 6 faculty members at Ratnagiri, the nearby place (40 minutes) Ganpatipule is selected for staying arrangement.

CA
BE ENTC
CC

M. Biswas
BE ENTC-B
CC

(Handwritten signature)
22/2/19



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'
COLLEGE OF ENGINEERING, PANDHARPUR.

ISO 9001-2000 Certified Institute & Accredited by Institutes of Engineers, India,
Gopalpur -Ranjani Road, Gopalpur, P.B. No. 54, Tal - Pandharpur- 413 304,
Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.
(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)
E-mail :- coe@sveri.ac.in

Date: 21 / 02 / 2019

NOTICE

Following faculty member are here by informed to accompany B.E (ENTC) students are 2 days industrial visit at Ratnagiri and Kolhapur on 22/02/2019 and 23/02/2019

Sr. No.	Name	Sign
01	Prof. D.A. Kumbhar	
02	Prof. Akshay. Jadhav	
03	Prof. M.S. Biswas .	
04	Prof. Ankita Singh	
05	Prof.	
06		

(Mr. D.P.Narsale)
I.V. Co-ordinator
ENTC Department

(Dr.A.S Vibhute)
HOD
ENTC Department
HEAD

Dept. of Electronics & Telecom. Engg.
C. O. E. Pandharpur



A-div

Industrial visit
Department of Electronics and Telecommunication Engineering
 Class & Division: BE-A

ROLL NO	NAME OF STUDENT	Sign	ROLL NO	NAME OF STUDENT	Sign
1.	/Anantpure Mokshada Ramling	<u>Mokshada</u>	27	/Yedave Vidya Dattatraya	<u>Yedave Vid</u>
2.	/Atar Shahista Iqbal	<u>Atar S.I</u>	28	/Yelale Priti Sitaram	<u>Priti</u>
3.	/Awatade Vaishnavi Vitthal	<u>Awatade</u>	29	/Raut Priyanka Bhimrao	NA
4.	/Bhosale Swapnali Sudhakar	<u>Swapnali</u> NA	30	/Salunkhe Shital Dhanaji	<u>Shital</u>
5.	/Chavan Banubai Dattatray	<u>B.D</u>	31	/Bhosale Punam Shirang	<u>Punam</u>
6.	/Gaikwad Pratiksha Arun	<u>Pratiksha</u>	32	/Shinde Shilpa Ravindra	<u>Shinde</u>
7.	/Ghongade Sneha Raja	NA	33	/More Mayuri Mahadeo	<u>More</u>
8.	/Jadhav Diksha Vitthal	<u>Diksha</u>	34	/Biradar Abhishakta	<u>Biradar</u>
9.	/Javanjal Gayatri Sanjay	<u>Javanjal</u>	35	/Rangar Swagata Jaivant	NA
10.	/Kambale Prajakta Narayan	<u>Prajakta</u>	36	/Yelme Mitali Devidas	<u>Yelme</u>
11.	/Kamble Bhagwati Krushna	<u>Bhagwati</u>	37	/Snehal dilip Kawate	NA
12.	/Khune Rupati Satish	<u>Rupati</u>	38	/Tate gita baliram	<u>Tate</u>
13.	/Kore Bhagawati Prakash	<u>Bhagawati</u>	39	Dingare Krishna	<u>Dingare</u>
14.	/Masal Usha Arjun	<u>Usha</u>	40	Kandi Nikhil Mallikarjun	<u>Kandi</u>
15.	/Pangare Mohini Madhukar	<u>M.M.Pangare</u>	41	Shaikh Navid Mahamad	NA
16.	/Paparkar Sonali Pandurang	<u>Sonali</u>	42	Jadhav Nilesh Dnyaneshwar	NA
17.	/Patil Komal Kamalakar	<u>Komal</u>	43	Panpure Ajay Balak	<u>Ajay</u>
18.	/Rajput Amruta Narayansing	<u>Amruta</u>	44	Upase Sidharth Ravindra	<u>Upase</u>
19.	/Sawale Bhagyashri Chandrakant	<u>Bhagyashri</u>	45	Adhatrav Madhav Prakash	<u>Adhatrav</u>
20.	/Shinde Seema Sadashiv	<u>Shinde</u>	46	Rahul dattatray Pawar	<u>Rahul</u>
21.	/Shinde Sunita Prakash	NA	47	Raj shivaji Palase	NA
22.	/Shinde Urmila Deepak	<u>Urmila</u>	48	Prakash Chittapure	NA
23.	/Waghmare Ashanta Laxman	NA <u>Ashanta</u>	49	Rajput Karansingh babusing	<u>Karansingh</u>
24.	/Waghmare Diksha	NA	50	Shahane Ajinkya	<u>Ajinkya</u>
25.	/Waghmare Varsha Ashok	<u>Waghmare</u>	51	Patil Gaurav Dnyandeve	NA
26.	/Walujkar Shubhangi Sunil	<u>Shubhangi</u>	52	Shinde Jyoti	NA

Note-

Batch	A1	A2	A3
Roll No.	1-19	20-38,52	39-51

32-F

VA

Mr. Akshay A Jadhav
Class Coordinator

NA - Not Attended

VA
Dr. A. S. Vibhute
HOD ENT



Date: 21/02/2019

Department of Electronics and Telecommunication Engineering
 Class & Division: BE-B Academic Year: 2018-19 (Sem-II)

B-div

INDUSTRIAL VISIT

Roll No.	Name Of Student	Sign	Roll No.	Name Of Student	Sign
1.	Adhvalkar Mayureshwar Hanmant		31	Ingale Sayali Sunil	NA
2.	Dhaware Ganesh Bhimrao		32	Jadhav Rohini Ramchandra	NA
3.	Kadam Shrikant Uttamrao	NA	33	Jindam Sapana Hanamantu	
4.	Kamble Ananda Nagnath		34	Joshi Sayali Nandkumar	
5.	Kumthe Kutuboddin Husenbasha		35	Kokil Soniya Sanjay	
6.	Kundurkar Sandesh Dilip	NA	36	Lokhande Trupti Pandurang	NA
7.	Khadbade Akash		37	More Priyanka Arjun	
8.	Naiknavare Tushar Ambadas		38	Nagane Radhika Hanmant	
9.	Patil Mahesh Jivan	NA	39	Naiknaware Priyanka Navanath	
10.	Surwase Shyam Balaji	NA	40	Naikwadi Heena Faruk	
11.	Adlinge poonam Haridas		41	Nakate Priyanka Ashok	NA
12.	Arekar Uma Tukaram		42	Pandhare Nilam Nagnath	
13.	Bhosale Payal Dnyaneshwar	NA	43	Patil Gayatri Vishwasrao	
14.	Bhosale Snehal Deepak		44	Patil Neha Manikrao	
15.	Bubane Vaibhavi Kantilal		45	Patil Nishigandha Amar	NA
16.	Bavan Vishakha Ashok		46	Patil Pooja Sanjeetrao	
17.	Deshmukh Snehal Uttam		47	Patki Vaishnavi Kiran	NA
18.	Deshpande Kranti Damaji		48	Pawar Archana Ajinath	
19.	Dhanwate Dipali Bandu	NA	49	Pawar Shubhangi Abasaheb	
20.	Dhotre Priyanka Mahesh		50	Potdar Aparna Virbhadra	
21.	Dixit Priyanka Sunil		51	Sawant Kajol Vitthal	
22.	Gadekar Sayali Sudhakar		52	Salunke Punam Balasaheb	NA
23.	Gaikwad Kartiki Prakash		53	Shinde Prajakta Tanaji	NA
24.	Gaikwad Poonam Dadasaheb		54	Shingare Shubhangi Baliram	
25.	Gend Gayatri Navnath		55	Suryavanshi Payal Sunil	
26.	Ghadage Priyanka Yuvraj		56	Sutar Nikita Navanath	
27.	Ghodake Kajal Namdeo		57	Thorat Kiran Vijaykumar	
28.	Ghodake Supriya Satish		58	Chougule Jayshree	NA
29.	Kolekar Babita Bira	NA	59	Akshaykumar Dargude	
30.	Ingale Komal Dhananjay	NA	60	Jamdade Kalpesh Tatyasaheb	NA

NA → Not Attended

Sample of Student Undertaking



COLLEGE OF ENGINEERING, PANDHARPUR.
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Gopalpur -Ranjani Road, Gopalpur, P.B. No. 54, Tal - Pandharpur- 413 304,
Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.
(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)
E-mail :- coe_pan@rediffmail.com

Date: 22/9/2019

Undertaking

To,
Principal,
SVERI's COE, Pandharpur.

Sub: Undertaking about industrial visit.

Respected sir,

I am undersigned student Suryawanshi. C.N of Class TE Division: B having Roll No. 53 giving the undertaking about the industrial visit.

Sir, in industrial visit I will not do any misbehavior. During industrial visit I will follow our rules and regulation very strictly. While visiting in company I will not wondering here and there and also I will not make noise in company. I will behave such like our behavior will not become their problematic.

During industrial visit whatever days are required that will be covered by co-ordination of our staff members have already given assured about that. Our syllabus will cover within desired time. I will give assured that our result will be 100% Think on it.

Thanking You!!

Yours Faithfully

Name:- Suryawanshi. C.N

Parent contact:- 9146461668.



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(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)
E-mail :- coe_pan@rediffmail.com

Date: 22/9/2019

Undertaking

To,
Principal,
SVERI's COE, Pandharpur.

Sub: Undertaking about industrial visit.

Respected sir,

I am undersigned student More Vaishnavi Jaysing of Class TE Division: B having Roll No. 25 giving the undertaking about the industrial visit.

Sir, in industrial visit I will not do any misbehavior. During industrial visit I will follow our rules and regulation very strictly. While visiting in company I will not wondering here and there and also I will not make noise in company. I will behave such like our behavior will not become their problematic.

During industrial visit whatever days are required that will be covered by co-ordination of our staff members have already given assured about that. Our syllabus will cover within desired time. I will give assured that our result will be 100% Think on it.

Thanking You!!

More Vaishnavi Jaysing
Yours Faithfully

Name:- More Vaishnavi Jaysing
Parent contact:- 9420491171

Sample of Thanks Letter



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S
COLLEGE OF ENGINEERING, PANDHARPUR.
ISO 9001-2000 Certified Institute & Accredited by Institutes of Engineers, India,
Gopalpur -Ranjani Road, Gopalpur, P.B. No. 54, Tal - Pandharpur- 413 304,
Dist. Solapur (Maharashtra) Ph.: (02186) 225083
(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)
E-mail :- dpnarsale@coe.sveri.ac.in

COEPR/2018-19/ENTC/

Date:-21/02/2019

14

To,
The Manager,
Delight Auto Industries,
Ratnagiri.

Subject: - Thanks letter

Respected sir,

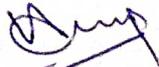
We extend our sincere gratitude for allowing our Final year students to visit your organization. This visit not only helps our students in understanding practical concept but also boost their confidence. Your valuable guidance will always keep the students inspiring and motivating. I request the same kind of cooperation in future also.

Thanking you.

for Delight Bulb Industry



Yours truly


(Dr. A.S. Vibhute)
HOD ENTC Dept.
SVERI's COE, Pandharpur

Received



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S
COLLEGE OF ENGINEERING, PANDHARPUR.
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E-mail :- dpnarsale@coe.sveri.ac.in

COEPR/2018-19/ENTC/

Date:-21/02/2019

To,
The Manager,
Ideaz Multimedia Pvt.Ltd.
Kolhapur

Subject: - Thanks letter

Respected sir,

We extend our sincere gratitude for allowing our Final year students to visit your organization. This visit not only helps our students in understanding practical concept but also boost their confidence.
Your valuable guidance will always keep the students inspiring and motivating.
I request the same kind of cooperation in future also.

Thanking you.

Yours truly


(Dr. A.S. Vibhute)
HOD ENTC Dept.
SVERI's COE, Pandharpur

Received





Summary of Industrial Visit

Sr. No.	Event : Industrial Visit	
1.	BE ENTC	
2.	Industry Visit dates: 22/02/2019 & 23/02/2019	
3.	Industry details:-	
	1) Ideaz Multimedia Address: Silver Arch, 3rd Lane , Near Archies Gallery, Rajarampuri, Kolhapur - 416003, Maharashtra, India Contact Person: Mr. SatyaJeet Sawant (9960079177) Email Id: satyaJeetkop@gmail.com	2) Delight Bulb Industries Address: W 10 A, MIDC, Maruti Mandir, Ratnagiri, Maharashtra 415639 Contact Person: Mr. Rajeev (9822124534) Email id: rajeev_delight@yahoo.co.in
4)	Visit Report: a) <i>On 22nd February 2019: Ideaz Multimedia</i> Established in the year 1999, Ideaz Multimedia in Rajarampuri, Kolhapur is a top player industry in the Kolhapur. The belief that customer satisfaction is as important as their products and services have helped this establishment garner a vast base of customers, which continues to grow by the day. It is a creation multimedia industry which is the best in the 3d animation learning. Here we expertise in techniques and get a chance to get our ideas portrayed. It is known to provide top service in the following categories: Animation Services, Web Designing. b) <i>On 23rd February 2019: Delight Bulb Industries</i> The company Delight Bulb Industries was established in the year 1984. We are manufacturer of these products lamps, bulbs and lights. Equipped with the best of technology, these products have gained a high demand in the national system. These lighting is the most effective method of outdoor lighting. For lighting of sport arenas like stadiums, swimming pools. For parks, gardens, sea shores, monuments and historical sites.	
5)	Outcome :	Mapping of POs
	1. Students acquired the knowledge about different Animation Services, Web Designing	1,2,3,4,5,6
	2. Students acquired the knowledge about manufacturing processes involved for manufacturing of electronic products such as lamps, bulbs and lights for lighting of sport arenas like stadiums, swimming pools	1,2,3,4,5,6

Name of Faculty

- 1) Prof. Akshay A. Jadhav *AJA*
- 2) Prof. D.A.Kumbhar *D.A.K*
- 3) Prof. Mohua Biswas *M.Biswas*
- 4) Prof. A.S.Singh *A.S.Singh*



Ideaz Multimedia



Delight Bulb Industry

Experiential Learning through Internships/ Vocational Training

- **Solve Complex Engineering Problems**
- **Professional Ethics and Responsibilities**
- **Life Long Learning**
- **Team work**

SYLLABUS



SOLAPUR UNIVERSITY, SOLAPUR
FACULTY OF ENGINEERING & TECHNOLOGY
ELECTRONICS & TELECOMMUNICATION ENGINEERING

Syllabus for

B.E. (E & TC Engineering) w.e.f. Academic Year 2015-16



SOLAPUR UNIVERSITY, SOLAPUR
FACULTY OF ENGINEERING & TECHNOLOGY
Electronics & Telecommunication Engineering

Program Educational Objectives and Outcomes

Program Educational Objectives (PEO'S)

- 1 To prepare students to give good theoretical background with sound practical knowledge, enable them to analyze and solve Electronics and communication Engineering problems by applying basic principles of mathematics, science, and engineering and using modern tools and techniques.
- 2 To make students to test hardware components and software for offering solution to real life situations.
- 3 To inculcate students to be sensitive to ethical, societal and environmental issues while pursuing their professional duties.
- 4 To build strong fundamental knowledge amongst students to pursue higher education, and to enhance research and continue professional development in Electronics, communication and IT industries with attitude for lifelong learning.
- 5 To nurture students with technical and communication skills in order to be able to function on multidisciplinary fields and make them aware of contemporary issues at national and international levels.
- 6 To develop students for team working and managerial skills leading to entrepreneurship and leadership.

Program Outcomes (PO's)

1. An ability to apply knowledge of mathematics, science, and engineering,
2. An ability to design and conduct experiments, as well as to analyze and interpret data,
3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability,
4. An ability to function on multidisciplinary teams,
5. An ability to identify, formulate, and solve engineering problems,
6. An understanding of professional and ethical responsibility,
7. An ability to communicate effectively,
8. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context,
9. A recognition of the need for, and an ability to engage in life-long learning,
10. A knowledge of contemporary issues, and
11. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.



SOLAPUR UNIVERSITY, SOLAPUR

FACULTY OF ENGINEERING & TECHNOLOGY

STRUCTURE OF B.E (Electronics & Telecommunication Engineering)

W.E.F 2015-16

B. E. (Electronics & Telecommunication Engineering) Semester- I

Sr. No.	Subject	Teaching Scheme				Examination Scheme				
		L	Tut	P	Total	Th.	TW	POE	OE	Total
1	Computer Communication Network	4	--	2	6	100	25	50	--	175
2	VLSI Design	4	--	2	6	100	25	50	--	175
3	Satellite Communication	3	1	--	4	100	25	--	--	125
4	Coding Theory	3	1	--	4	100	25	--	--	125
5	Elective – I	4	--	2	6	100	25	--	--	125
6	Seminar & Project	--	--	4	4	--	25	--	50	75
7	Vocational Training	--	--	--	--	--	25	--	--	25
Total		18	2	10	30	500	175	100	50	825

Elective – I **Advanced Telecommunication Network**
Image Processing
Advance DSP.

B. E. (Electronics & Telecommunication Engineering) Semester- II

Sr. No.	Subject	Teaching Scheme				Examination Scheme				
		L	Tut	P	Total	Th.	TW	POE	OE	Total
1	Broadband Communication	3	1	--	4	100	25	--	25	150
2	Multimedia Communication Techniques	4	--	2	6	100	25	--	50	175
3	Embedded Systems	4	--	2	6	100	25	--	50	175
4	Elective – II	4	--	2	6	100	25	--	--	125
5	Project	--	--	8	8	--	100	100	--	200
Total		15	1	14	30	400	200	100	125	825

Elective – II **Wireless Sensor Network**
Pattern Recognition
DSP Processors & Application

Note:

- Minimum strength of the students for Elective be 15.
- Term work assessment shall be a continuous process based on student's performance in class tests, assignments, homework, subject seminars, quizzes, laboratory books and their interaction and attendance for theory and lab sessions as applicable.

SUMMARY OF VOCATIONAL TRAINING



SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR

DEPARTMENT OF ELECTRONIC & TELECOMMUNICATION ENGINEERING

SUMMARY OF VOCATIONAL TRAINING

Sr. No.	Academic Year	Class	No. of Industries	No. of Students
1.	2017-18	BE	10	59
2.	2018-19		14	43
3.	2019-20		10	59

HOD ENTC

HEAD

Dept of Electronics & Telecom. Engg.
C O E Pandharpur

2017-18 LIST WITH SAMPLE CERTIFICATES

Department of Electronics & Telecommunication Engineering

INTERNSHIP DETAILS

A.Y.: 2017-18

Roll.No.	Name of the student	Industry Name
1	MOKSHADA RAMLING ANANTPURE	AFTEK LIMITED SOLAPUR
2	SHAHISTA IQBAL ATAR	AFTEK LIMITED SOLAPUR
3	VAISHNAVI VITTHAL AWATADE	AFTEK LIMITED SOLAPUR
4	SWAPNALI SUDHAKAR BHOSALE	AFTEK LIMITED SOLAPUR
5	BANUBAI DATTATRAY CHAVAN	AFTEK LIMITED SOLAPUR
6	PRATIKSHA ARUN GAIKWAD	AFTEK LIMITED SOLAPUR
7	SNEHA RAJA GHONGADE	AFTEK LIMITED SOLAPUR
8	DIKSHA VITTHAL JADHAV	AFTEK LIMITED SOLAPUR
9	GAYATRI SANJAY JAVANJAL	AFTEK LIMITED SOLAPUR
10	PRAJAKTA NARAYAN KAMBALE	AFTEK LIMITED SOLAPUR
11	BHAGWATI KRUSHNA KAMBLE	AFTEK LIMITED SOLAPUR
12	USHA ARJUN MASAL	AFTEK LIMITED SOLAPUR
13	MOHINI MADHUKAR PANGARE	AFTEK LIMITED SOLAPUR
14	SONALI PANDURANG PAPARKAR	AFTEK LIMITED SOLAPUR
15	KOMAL KAMALAKAR PATIL	AFTEK LIMITED SOLAPUR
16	BHAGYASHRI CHANDRAKANT SAWALE	AFTEK LIMITED SOLAPUR
17	SUNITA PRAKASH SHINDE	AFTEK LIMITED SOLAPUR
18	URMILA DEEPAK SHINDE	AFTEK LIMITED SOLAPUR
19	ASHANTA LAXMAN WAGHMARE	AFTEK LIMITED SOLAPUR
20	DEEKSHA DILIPKUMAR WAGHMARE	AFTEK LIMITED SOLAPUR
21	VARSHA ASHOK WAGHMARE	AFTEK LIMITED SOLAPUR
22	PRITI SITARAM YELALE	AFTEK LIMITED SOLAPUR
23	PUNAM SHRIRANG BHOSALE	4 DIMENSION LIMITED, PUNE
24	MAYURI MAHADEO MORE	AFTEK LIMITED SOLAPUR
25	ABHISHAKTA SUBHASH BIRADAR	4 DIMENSION LIMITED, PUNE
26	GITA BALIRAM TATE	AFTEK LIMITED SOLAPUR
27	KRISHNA SADANAND DINGARE	BSNL, SOLAPUR
28	NIKHIL MALLIKARJUN KANDI	BSNL, SOLAPUR
29	SIDHARTH RAVINDRA UPASE	BSNL, SOLAPUR
30	MADHAV PRKASH ADHATRAO ADHATRAO	AFTEK LIMITED SOLAPUR
31	KARANSING BABUSING RAJPUT	AFTEK LIMITED SOLAPUR
32	PATIL GAURAV	NEBULAR AUTOMATION
33	PAYAL DNYANESHWAR BHOSALE	MSEB, PANDHARPUR
34	VAIBHAVI KANTILAL BUBANE	BSNL, SOLAPUR
35	SNEHAL UTTAM DESHMUKH	AFTEK LIMITED SOLAPUR
36	KRANTI DAMAJI DESHPANDE	AFTEK LIMITED SOLAPUR
37	PRIYANKA MAHESH DHOTRE	ELECTROSAL HI.TECH
38	PRIYANKA SUNIL DIXIT	SATHE ENGINEERING COMPANY
39	SAYALI SUDHAKAR GADEKAR	MSEB, PANDHARPUR
40	KARTIKI PRAKASH GAIKWAD	AFTEK LIMITED SOLAPUR
41	GAYATRI NAVNATH GEND	AFTEK LIMITED SOLAPUR
42	KAJAL NAMDEO GHODAKE	AFTEK LIMITED SOLAPUR

43	SUPRIYA SATISH GHODAKE	AFTEK LIMITED SOLAPUR
44	KOMAL DHANANJAY INGALE	BIHARAT ELECTRICALS
45	ROHINI RAMCHANDRA JADHAV	BSNL, SATARA
46	SAYALI NANDKUMAR JOSHI	MSEB, PANDHARPUR
47	PRIYANKA ARJUN MORE	AFTEK LIMITED SOLAPUR
48	PRIYANKA NAVANATH NAIKNAWARE	SKADA TECH, PUNE
49	HEENA FARUK NAIKWADI	SKADA TECH, PUNE
50	PRIYANKA ASHOK NAKATE	AFTEK LIMITED SOLAPUR
51	NILAM NAGNATH PANDHARE	AFTEK LIMITED SOLAPUR
52	GAYATRI VISHWASRAO PATIL	MSEB, SHI TPHAL
53	NEHA MANIKRAO PATIL	AFTEK LIMITED SOLAPUR
54	POOJAA SANJEETRAO PATIL	AFTEK LIMITED SOLAPUR
55	VAISHNAVI KIRAN PATKI	MSEB, PANDHARPUR
56	APARNA VIRBHADRA POTDAR	AFTEK LIMITED SOLAPUR
57	KAJOL VITTHAL SAWANT	AFTEK LIMITED SOLAPUR
58	SHUBHANGI BALIRAM SHINGARE	BSNL, SOLAPUR
59	KIRAN VIJAYKUMAR THORAT	DOORDARSHAN KENDRA

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HEAD
 Dept. of Electronics & Telecom. Engg.
 C. O. E. Pandharpur

2017-18 LIST WITH SAMPLE CERTIFICATES

Department of Electronics & Telecommunication Engineering

INTERNSHIP DETAILS

A.Y.: 2017-18

Roll.No.	Name of the student	Industry Name
1	MOKSHADA RAMLING ANANTPURE	AFTEK LIMITED SOLAPUR
2	SHAHISTA IQBAL ATAR	AFTEK LIMITED SOLAPUR
3	VAISHNAVI VITTHAL AWATADE	AFTEK LIMITED SOLAPUR
4	SWAPNALI SUDHAKAR BHOSALE	AFTEK LIMITED SOLAPUR
5	BANUBAI DATTATRAY CHAVAN	AFTEK LIMITED SOLAPUR
6	PRATIKSHA ARUN GAIKWAD	AFTEK LIMITED SOLAPUR
7	SNEHA RAJA GHONGADE	AFTEK LIMITED SOLAPUR
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11	BHAGWATI KRUSHNA KAMBLE	AFTEK LIMITED SOLAPUR
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27	KRISHNA SADANAND DINGARE	BSNL, SOLAPUR
28	NIKHIL MALLIKARJUN KANDI	BSNL, SOLAPUR
29	SIDHARTH RAVINDRA UPASE	BSNL, SOLAPUR
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31	KARANSING BABUSING RAJPUT	AFTEK LIMITED SOLAPUR
32	PATIL GAURAV	NEBULAR AUTOMATION
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34	VAIBHAVI KANTILAL BUBANE	BSNL, SOLAPUR
35	SNEHAL UTTAM DESHMUKH	AFTEK LIMITED SOLAPUR
36	KRANTI DAMAJI DESHPANDE	AFTEK LIMITED SOLAPUR
37	PRIYANKA MAHESH DHOTRE	ELECTROSAL HI.TECH
38	PRIYANKA SUNIL DIXIT	SATHE ENGINEERING COMPANY
39	SAYALI SUDHAKAR GADEKAR	MSEB, PANDHARPUR
40	KARTIKI PRAKASH GAIKWAD	AFTEK LIMITED SOLAPUR
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42	KAJAL NAMDEO GHODAKE	AFTEK LIMITED SOLAPUR

43	SUPRIYA SATISH GHODAKE	AFTEK LIMITED SOLAPUR
44	KOMAL DHANANJAY INGALE	BIHARAT ELECTRICALS
45	ROHINI RAMCHANDRA JADHAV	BSNL, SATARA
46	SAYALI NANDKUMAR JOSHI	MSEB, PANDHARPUR
47	PRIYANKA ARJUN MORE	AFTEK LIMITED SOLAPUR
48	PRIYANKA NAVANATH NAIKNAWARE	SKADA TECH, PUNE
49	HEENA FARUK NAIKWADI	SKADA TECH, PUNE
50	PRIYANKA ASHOK NAKATE	AFTEK LIMITED SOLAPUR
51	NILAM NAGNATH PANDHARE	AFTEK LIMITED SOLAPUR
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53	NEHA MANIKRAO PATIL	AFTEK LIMITED SOLAPUR
54	POOJAA SANJEETRAO PATIL	AFTEK LIMITED SOLAPUR
55	VAISHNAVI KIRAN PATKI	MSEB, PANDHARPUR
56	APARNA VIRBHADRA POTDAR	AFTEK LIMITED SOLAPUR
57	KAJOL VITTHAL SAWANT	AFTEK LIMITED SOLAPUR
58	SHUBHANGI BALIRAM SHINGARE	BSNL, SOLAPUR
59	KIRAN VIJAYKUMAR THORAT	DOORDARSHAN KENDRA

Handwritten signature

HEAD
 Dept. of Electronics & Telecom. Engg.
 C. O. E. Pandharpur

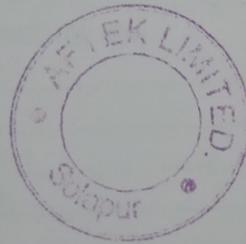
A-19/2, CHINCHOLI M.I.D.C.
SOLAPUR - 413 255.
Phone : 91-217-2357637 / 2357692

CERTIFICATE

This is to certify that, **Miss Shahista Iqbal Atar** a Student of SVERI's College of Engineering, Pandharpur (S.E. E & TC) has successfully completed his concurrent Vacation Training from 27th May 2017 to 10th June 2017 in our company. To best of my knowledge, she is sincere, honest and devoted to the work. She bears a good moral conduct.

Date: 10th June 2017

Place: Solapur



Aftek Limited, Solapur

A handwritten signature in blue ink, enclosed within a hand-drawn oval.

Authority Signature

Office of the General Manager Telecom,
Telephone Bhavan, Balives, Solapur-413 002.
Tel No. : 0217 - 2723899



Bharat Sanchar Nigam Limited
(A. Govt. of India Enterprise)

CERTIFICATE

This is to certify that

Mr. Sidharth Ravindra Upase

has completed successfully the following Course conducted by
Bharat Sanchar Nigam Limited, Solapur

Name of the Course : Vocational Training For Diploma/Engg Students

Course Subject : Overview of Telecom Systems & Its Functioning

Commencing Date : 06-06-2017

Duration : 15 Days

AGM (ADMN)

Course Code : SPRVTFESB17 Course Schedule Code : SPRVTFESB172WK

LIST OF VOCATIONAL TRAINING

Department of Electronics & Telecommunication Engineering

INTERNSHIP DETAILS

A.Y.: 2018-19

Roll.No.	Name of the student	Industry Name
1	Dargude Pratiksha Nagnath	Divya Electrical, Tembhurni
2	Dubal Samiksha Nanasaheb	Data Council, Pune
3	Jadhav Pranita Sunil	Apron Tech, Satara
4	Kaldhone Amruta Sanjay	Pioneer Electronics, Pune
5	Kambale Reshma Hanumant	Laxmi Agro Energy Pvt. Ltd., Solapur
6	Koli Sayali Shamrao	Laxmi Agro Energy Pvt. Ltd., Solapur
7	Koli Vrushali Rajendra	Laxmi Agro Energy Pvt. Ltd., Solapur
8	Mane Prachi Avadhut	Prem Turbine, Pune
9	Patil Sayali Suryakant	Solar Electronics, Solapur
10	Ronge Swapnaja Yuvraj	Mind Matrix
11	Sanjekar Pratiksha Vijay	Apron Tech, Satara
12	Shinde Priyanka Subhash	Laxmi Agro Energy Pvt. Ltd., Solapur
13	Shingade Varsha Balvant	Unitech Autoswitch
14	Tamboli Anisa Kadar	Apron Tech, Satara
15	Tarange Reshma Sham	Apron Tech, Satara
16	Waghmode Yamini Vilas	Pioneer Electronics, Pune
17	Yadav Chhaya Appa	Solar Electronics, Solapur
18	Upase Sangamesh	BSNL
19	Bagal Mohini Tanaji	Solar Electronics, Solapur
20	Bhosale Aishwarya Gopal	Solar Electronics, Solapur
21	Bhosale Kavita Ganpat	Solar Electronics, Solapur
22	Bhosale Ruchita Vilas	Newsoft Solution Solapur
23	Chavare Shubhangi Sambhaji	Solar Electronics, Solapur
24	Dhotre Rohini Shahaji	Digitech Electronics Training, Latur
25	Gumaste Ketaki Sunil	Solar Electronics, Solapur
26	Koli Jyoti Nagnath	Solar Electronics, Solapur
27	More Kirti Ashok	Kannad Industry, Sangli
28	Myakal Samita Balaji	Kannad Industry, Sangli
29	Navalai Seema Laxman	Kannad Industry, Sangli
30	Navgire Pragati Purushottam	Solar Electronics, Solapur
31	Patil Dhanshree Sanjay	Kannad Industry, Sangli
32	Patil Nishigandha Santosh	Kannad Industry, Sangli
33	Potdar Gunjan Sarang	Kannad Industry, Sangli
34	Shahane Manasi Mahesh	Digitech Electronics Training, Latur
35	Suryase Tejaswini Vishnu	Solar Electronics, Solapur
36	Wagh Kanchan Sudhakar	Solar Electronics, Solapur
37	Yadav Anuja Dnyaneshwar	Solar Electronics, Solapur
38	Hindule Madhavi Shashikant	BSNL, Solapur

39	Sawant Mayuri Balkrushna	Newsoft Solution Solapur
40	Yelasange Anjali Mahadev	Kannad Industry, Sangli
41	Ranaware Rohit Suhas	Kannad Industry, Sangli
42	Sonawane Sharad Magan	Vitthal Refined Sugar Factory Ltd., Solapur
43	Tate Deshmukh Krishna Rajendra	Sharda Electronics & Co., Sangli
44	Maradkar Dnyaneshwari Suryakant	L&T Electrical & Automation, Ahmednagar
45	Jagtap Aniketa Ashok	Mega Kit
46	Parbat Supriya Sayaji	Apron Tech, Satara
47	Vhanmane Sonali Kanhaiyalal	Apron Tech, Satara
48	Kamble Mahesh Bibhishan	Apron Tech, Satara
49	Nagane Priyanka Vitthal	Apron Tech, Satara
50	Rokade Soniya Sanjay	Data Council, Pune
51	Maske Yogita Suresh	Basic Matlab & Embedded Enternship
52	Katkar Anjali Pandurang	Kannad Industry, Sangli
53	Wakade Prajakta Kashinath	Apron Tech
54	Gore Janabai Balasaheb	Sugar Industry
55	More Tanuja Ashok	Apron Tech, Satara
56	Baba Bhagyashri Shivshankar	Solar Electronics, Solapur
57	Hindule Ravikant Shashikant	Apron Tech, Satara
58	Karande Jayashri Dattatraya	Solar Electronics, Solapur
59	Asabe Pratima Navnath	Solar Electronics, Solapur


HOD ENTC

HEAD

Dept. of Electronics & Telecom. Engg.
C. O. U. Pandharpur

INDUSTRY CERTIFICATE

Office of the General Manager Telecom
Telephone Bhavan Balives Solapur-413 002
Tel No. 0217 - 2723899



Bharat Sanchar Nigam Limited
(A. Govt. of India Enterprise)

CERTIFICATE

This is to certify that

HINDULE MADHAVI SHASHIKANT

has completed successfully the following Course conducted by
Bharat Sanchar Nigam Limited, Solapur

Name of the Course : Vocational Training For Diploma/Engg Students

Course Subject : Overview of Telecom Systems & Its Functioning

Commencing Date : 24-05-2018

Duration : 2 Week

AGM (ADMN)

Course Code : SPRVTFESB24 Course Schedule Code : SPRVTFESB242WK

LIST OF VOCATIONAL TRAINING

Department of Electronics & Telecommunication Engineering

INTERNSHIP DETAILS

A.Y.: 2019-20

Roll.No.	Name of the student	Industry Name
1	Kale Abhilasha Avinash	KANNAD ELECTRONICS, Sangli
2	Nikte Geeta Prashant	KANNAD ELECTRONICS, Sangli
3	Rajmane Manali Sunil	KANNAD ELECTRONICS, Sangli
4	Pathan Sameer Khajoddin	Solar Electronics, Solapur
5	Mule Soujanya Subhash	KANNAD ELECTRONICS, Sangli
6	Thengal Pallavi Vishwas	KANNAD ELECTRONICS, Sangli
7	Dhekale Pratiksha Rajaram	Shivharshad Electrical Transformer, Watambare
8	Bagal Madhuri Navanath	DIVYA Electrical Company, Temburni
9	Wadtile Vaishnavi Janardan	Shivharshad Electrical Transformer, Watambare
10	Chakote Digvijay	Apron Tech, Satara
11	Shembade Janhavi Dilip	Solar Electronics, Solapur
12	Hodade Rushikesh Somnath	Vedam Lab
13	Vhasale Sagar Appaso	DRM Office, Solapur
14	Mulani Salman Shahajahan	Solar Electronics, Solapur
15	Lokhande Mayuri	Apron Tech, Satara
16	Mendhegiri Shweta Shantinath	KANNAD ELECTRONICS, Sangli
17	Vhargar Monali Vilas	KANNAD ELECTRONICS, Sangli
18	Kumbhar Seema Ramdas	Shivharshad Electrical Transformer, Watambare
19	Phulare Nikita Sham	Solar Electronics, Solapur
20	Khadekar Nisha Soudagar	KANNAD ELECTRONICS, Sangli
21	Bennesur Laxmi Iranna	Shivharshad Electrical Transformer, Watambare
22	Ghodake Shubham Tukaram	DRM Office, Solapur
23	Jagtap Suranjali Bandu	Shivharshad Electrical Transformer, Watambare
24	Bachute Bhushan Siddeshwar	KANNAD ELECTRONICS, Sangli
25	Repal Shraddha Anil	Vedam Lab
26	Maske Akshay Rajendra	DRM Office, Solapur
27	Walugade Pratiksha Ankush	Shivharshad Electrical Transformer, Watambare
28	Chavan Rutuja Shivaji	Vedam Lab
29	Chavare Bhushan Mahavir	Solar Electronics, Solapur
30	Tapise Puja Digambar	Shivharshad Electrical Transformer, Watambare
31	Khandare Darshana Rajesh	Sugar Factory, Sangola
32	Pawar Sanjay Shankar	Solar Electronics, Solapur
33	Pachave Nitin Subhash	Solar Electronics, Solapur
34	Shelake Puja Ramchandra	Solar Electronics, Solapur
35	Mahajan Ishita Pradeep	Solar Electronics, Solapur
36	Harane Sanjivani Raju	Solar Electronics, Solapur
37	Mukare Vaibhav Suryakant	DRM Office, Solapur
38	Dhanwate Upendra Narsinha	KANNAD ELECTRONICS, Sangli

39	Ubale Santosh Datatraya	Solar Electronics, Solapur
40	Danure Amit Ganpatrao	Bajaj Elevators & Electricals
41	Walekar Smita Mahadev	KANNAD ELECTRONICS, Sangli
42	Indi Shivganga Subhash	Shivharshad Electrical Transformer, Watambare
43	Wagaj Pratiksha Hanumant	Shivharshad Electrical Transformer, Watambare
44	Gunjal Surekha Vilas	KANNAD ELECTRONICS, Sangli
45	Jadhav Vrushali Arun	Solar Electronics, Solapur
46	Godase Shruti Nagesh	DRM Office, Solapur
47	Randive Ashwini Bramhadev	Shivharshad Electrical Transformer, Watambare
48	Mirgane Shraddha Bharat	KANNAD ELECTRONICS, Sangli
49	Kale Komal Kiran	KANNAD ELECTRONICS, Sangli
50	Hegade Nikita	B & R Electro Tech, Sangli
51	Dudhal Rutuja Suresh	Shivharshad Electrical Transformer, Watambare
52	Devakate Gayatri Chichalappa	Shivharshad Electrical Transformer, Watambare
53	Mhamane Aishwarya Sanjay	Solar Electronics, Solapur
54	Bhosale Utkarsha Bharat	Shivharshad Electrical Transformer, Watambare
55	Shinde Jyoti Sanjay	DRM Office, Solapur
56	More Suhashini Balaji	Shivharshad Electrical Transformer, Watambare
57	Bharma Swati Shivalingappa	Shivharshad Electrical Transformer, Watambare
58	Katakamawar Shreenivas D.	DRM Office, Solapur
59	Jamagi Yogini Siddhappa	Shivharshad Electrical Transformer, Watambare

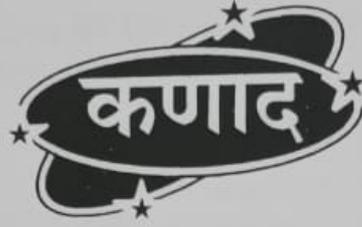
bmj

HEAD

Dept. of Electronics & Telecom. Engg.
Q. U. Pandharpur

KANAAD SERVICES AND TRAINING

SANGLI



Certificate

We have pleasure to certify that

Mr./Miss/Ms. Geeta Prashant Nikte.

is awarded this certificate for having successfully completed
a vocational training Program / Workshop on
Electronic circuit Analysis

During the period from 29-5-2019 To 12-6-2019

PHOTO

Course Co-ordinator
KANAAD SERVICES AND TRAINING



SOLAR ELECTRONICS

green world in the making

Office : 'IJamata Bungalow', Near Maharashtra Bank,
Saat Rasta, Solapur 413 003 (M.S.), India.
Tel. 91-217-2602467 Tele/Fax : 91-217-2601713
Email : solarlighting11@gmail.com
solar1989@rediffmail.com

Website : www.solarelectronics.in www.solarelectronics.tradeindia.com www.indiamart.com/solar-electronics/

Date : - 07/06/2019.

Ref. No: - SUR/19K06/472

CERTIFICATE

This is to certify that, *Mr. Sameer Khajoddin Pathan* student of *Shri Vithal Education & Research Institute's, College of Engineering, Pandharpur* Studying in *ENTC 2nd Year*. Undergone the *Industrial Training* in our Company *Solar Electronics, Solapur* for the period of *24th May 2019* to *07th June 2019*.

He has completed the training successfully.

Thanking you,

For Solar Electronics, Solapur.

f. Aslondhe
Authorised Signatory



Pune Office : Building No. 1, Flat No. 4, Zala Housing Society, Karishma Chowk,
Karve Road, Behind Papa Jones, Pune 411 029, (M.S.), INDIA.
Factory : Plot No. 142, Hotgl Road, Industrial Estate,
Solapur 413 003. Maharashtra, INDIA

Experiential Learning through Virtual Labs

- **Use Modern IT Tools**
- **Apply the basic engineering knowledge**
- **Life Long Learning**

Virtual Lab Registration Procedure

About Virtual Lab: Physical distances and the lack of resources make us unable to perform experiments, especially when they involve sophisticated instruments. Conducting joint experiments by two participating institutions and also sharing costly resources has always been a challenge. Today most equipment has a computer interface for control and data storage. It is possible to design good experiments around some of this equipment which would enhance the learning of a student. Internet-based experimentation further permits use of resources knowledge, software, and data available on the web, apart from encouraging skillful experiments being simultaneously performed at points separated in space (and possibly, time). Virtual Labs will be made more effective and realistic by providing additional inputs to the students like accompanying audio and video streaming of an actual lab experiment and equipment.

Objectives: 1.To provide remote-access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level, post graduate level as well as to research scholars.

2.To enthuse students to conduct experiments by arousing their curiosity. This would help them in learning basic and advanced concepts through remote experimentation.

3.To provide a complete Learning Management System around the Virtual Labs where the students can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self evaluation.

4.To share costly equipment and resources, which are otherwise available to limited number of users due to constraints on time and geographical distances.

Registration Steps are as follows with respect to PART A (internet) and PART B (intranet):

Part A: Registration on COE, Pune Virtual Lab Portal

Step1: Copy and paste following url into web browser and press enter for request:

<https://portal.coepvlab.ac.in/>

Step2: Click on "[Virtual Labs Simulation Portal \(internet\)](#)" in application links section, it will redirect you to next page

Step3: Click on "**Register**" tab (on the page upper right corner), it will redirect you to registration form page

Step4: Enter all the details like First Name, Middle Name, Last name, DOB, Mobile number, etc.

NOTE: 1. Select college name from dropdown list as "**NC 15 Shri Vithal Education & Research Institute, Pandharpur**"

2. Provide Your College email_id in the required field.

Step5: After completion of Step4, the system will send Login Details on your registered email id. **Sign in to your college email id**

Step6: Use this User Id and Password received at your email id for the validation purpose on following link: <https://portal.coepvlab.ac.in/vlab/>

Step7: You can Change your password (if required)

Step8: **As per your interest and your streams, you can check available labs.**

Step9: **Click on any experiment and run the simulation part of that experiment. If simulation part visualize clearly, then your registration is considered as successful.**

Step10. Logout

Part B: Login on SVERI's Virtual Lab Server

(This process you have carry out on next day because Virtual Lab Server from COE, Pune have scheduled synchronization of data with our Virtual Lab Server everyday at midnight. So, once registration on their server will allow you to access our server on next day.)

After completing above procedure from step1 to step10 from PART A, on next day login to our Virtual Lab server using following link:

<http://14.139.114.201:8080/vlab/>

Note: Use the same emailid and password which is used for the Part A registration process.

Here onwards, we need to use virtual labs available for our academic enrichment purpose by using our server link: <http://14.139.114.201:8080/vlab/>

For any query, kindly connect to the undersigned.



Mr. P. G. Gaikwad
CSE, Department
Virtual Lab Nodal Center Coordinator
SVERI's College of Engineering, Pandharpur

2015-16

Browser tabs: You are signed in as, detectportal.firefox.com, Fwd: Forget Passwor, COEP::VLAB, Search results - Goo, Meet - fgb-yuxa, Television History, +

Address bar: <https://portal.coepvlab.ac.in/vlab/auth/home>

Navigation: Most Visited, Getting Started, Web Slice Gallery, Suggested Sites, Other Bookmarks



Home Records  Welcome, Pankaj Gaikwad

Search By:

College Name:

Virtual Area:

Lab Name:

Experiment Name:

State Name:

From date:

To date:

Search

Total Simulator Time : 12 : 32 : 36 Total Simulator Hit : 143

Taskbar:  2:03 PM 2/12/2021

2016-17



Search By: General

College Name: NC 15 Shri Vitthal Education & Research Institute, Pandharpur, Solapur

Virtual Area: Electronics and Communications

Lab Name: --Any--

Experiment Name: --An...

State Name: --Any--

From date: 01/07/2016

To date: 30/06/2017

Search

Statistical View Graphical View

Total Simulator Time : 1 : 13 : 26 Total Simulator Hit : 14

2017-18



Home Records Welcome, Pankaj Gaikwad

Search By: General

College Name: NC 15 Shri Vitthal Education & Research Institute, Pandharpur, Solapur

Virtual Area: Electronics and Communications

Lab Name: --Any--

Experiment Name: --An...--

State Name: --Any--

From date: 01/07/2017

To date: 30/06/2018

Search

Statistical View Graphical View

Total Simulator Time : 3 : 6 : 41

Total Simulator Hit : 133

2018-19

Browser tabs: You are signed in as, detectportal.firefox.com, Fwd: Forget Passwo, COEP :: VLAB, Search results - Goo, Meet - fgb-yuxa, Television History, In

Address bar: <https://portal.coepvlab.ac.in/vlab/auth/home>

Navigation: Back, Forward, Home, Refresh

Tools: 80%, Print, Home, Star, Download, Print, Refresh, Menu

Bookmarks: Most Visited, Getting Started, Web Slice Gallery, Suggested Sites, Other Bookmarks



Home Records Welcome, Pankaj Galkwad

Search By:

College Name:

Virtual Area:

Lab Name:

Experiment Name:

State Name:

From date:

To date:

Search

Total Simulator Time : 63 : 9 : 0 Total Simulator Hit : 1036

Windows taskbar: Start button, File Explorer, Edge, VLC, Firefox, PowerPoint, Word

System tray: Network, Volume, Safely Remove Hardware, Date/Time: 2:06 PM 2/12/2021

2019-20



Search By: General

College Name: NC 15 Shri Vitthal Education & Research Institute, Pandharpur, Solapur

Virtual Area: Electronics and Communications

Lab Name: --Any--

Experiment Name: --An...

State Name: --Any--

From date: 01/07/2019

To date: 30/06/2020

Search

Statistical View Graphical View

Total Simulator Time : 53 : 55 : 23 Total Simulator Hit : 711

SCREENSHOTS

The screenshot shows a web browser window displaying a virtual lab interface. The browser's address bar shows the URL `he-coep.vlabs.ac.in/Experiment1/index1.html`. The page header includes the logo for "LABS" and the text "An MHRD Govt of India Initiative". The interface has several tabs: "Adder", "Subtractor", and "4 bit Adder/Subtractor". Under the "Adder" tab, there are sub-tabs for "Half Adder", "Full Adder", and "2bit Adder". The "2bit Adder" sub-tab is active, showing a circuit diagram of a 2-bit adder. The circuit consists of two full adders. The first full adder takes two 1-bit inputs, "Input A1" and "Input B1", and produces a sum output "SUM1" and a carry output "CARRY". The second full adder takes two 1-bit inputs, "Input A2" and "Input B2", and produces a sum output "SUM2" and a carry input "Cin". The "CARRY" output of the first full adder is connected to the "Cin" input of the second full adder. The current state of the circuit is: Input A2 is ON (1), Input B2 is OFF (0), Input A1 is OFF (0), Input B1 is ON (1), CARRY is ON (1), SUM2 is 0, and SUM1 is 0. There are "Run" and "Clear" buttons on the left side of the circuit. A video player interface is visible at the bottom of the browser window, showing a play button and a progress bar.

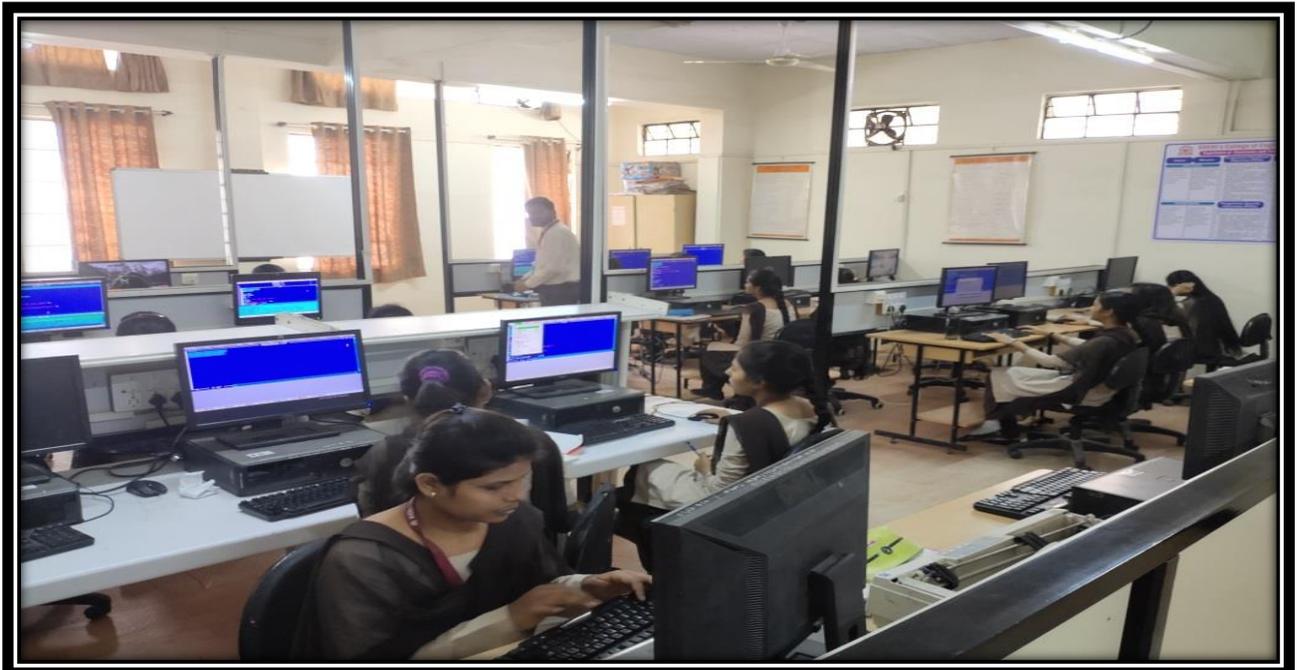
The screenshot shows a web browser window displaying a virtual lab interface. The browser's address bar shows the URL `sm-nitk.vlabs.ac.in/exp13/index.html#`. The page header includes the text "Virtual Lab MOM L 1". The main content area shows a diagram of a mechanical assembly being held by two hands. Below the diagram, the text reads "Final Length between the punch mark = 77.31mm". At the bottom of the diagram area, there is a copyright notice: "© 2016 - 2020 SOLVE - The Virtual Lab @ NITK Surathkal, Department of Water Resources & Ocean Engineering". A video player interface is visible at the bottom of the browser window, showing a play button and a progress bar. The video player's title bar reads "Virtual Lab MOM L 1".

Experiential Learning through Lab Work

- **Individual Participation**
- **Apply the basic engineering knowledge**
- **Design and analysis of experiments**



Laboratory Name: Electronics Design and Power Electronics Laboratory



Laboratory Name: Computer Aided Electronics Design Lab III

Experiential Learning through Hands-on Workshops

- **Apply the basic engineering knowledge**
- **Use of Modern Tools**
- **Communicate effectively**
- **Life Long Learning**

SUMMARY SHEET FROM 2015-16 TO 2019-20

SVERI's College of Engineering, Pandharpur Department of Electronics and Telecommunication Engineering

Summary of Workshops/ STTP 2015 To 2020

Sr. No.	Year	Name of Workshop	Department	Date	Department	Details of Resource Person (Name, Designation, Institute/Organization, Contact Details (email/phone), Year of Experience)
1	2015-16	Use of Scilab and Open Source Resource for Engineering Applications	35	07/12/2015 to 11/12/2015	ENTC	1. Ms Varsha Patil Assistant Professor, AISSMS IOIT, Pune 2. Mr. Vinayak Mandlik Assistant Professor, ENTC Dept. Bharati Vidyapeeth COE Kolhapur 3. Mr.U.S.Sagare Assistant Professor, Dr.D. Y.Patil Institute of Engineering & Technology, Kolhapur 4. Mr. Asvija B. Senior Technical Officer, C-DAC, Bangalore
2	2015-16	Entrepreneurship Awareness Camp-ENTC	145	19/08/2015 to 21/08/2015	ENTC	Mr. Pandurang Kambale, Project Officer, MCED, Solapur District Industrial Center, Solapur Mobile No. 7020531125 Email ID: solapurpomced@gmail.com
3	2015-16	Meta Material, Antenna Design, Innovations and Applications	40	02/05/2016 to 7/5/2016	ENTC	1. Dr. Anandrao B. Kakade, Dean R&D, RIT Sakharale 2. Dr. Shrinivas Mahajan Professor, College of Engineering, Pune 3. Mr. Sumit Pillai Design Tech Systems 4. Prof. R S Bhadade Assistant Professor, MIT, kotrud
4	2016-17	Entrepreneurship Awareness Camp-ENTC	90	09/08/2016 to 11/08/2016	ENTC	Mr. Pandurang Kambale, Project Officer, MCED, Solapur District Industrial Center, Solapur Mobile No. 7020531125 Email ID: solapurpomced@gmail.com
5	2017-18	Entrepreneurship Awareness Camp-ENTC	102	08/08/2017 to 10/08/2017	ENTC	Mr. Pandurang Kambale, Project Officer, MCED, Solapur District Industrial Center, Solapur Mobile No. 7020531125 Email ID: solapurpomced@gmail.com
6	2017-18	Workshop on 'Exploring Arduino applications in the field of Engg' organized by ENTC dept sponsored by IET Solapur local centre.	30	29/06/2017	ENTC	1. Mr. A I Merchant CEO, 3-Axes Kalburgi 2. Mr. Sharan K. Director, Preva Systems Pvt. Ltd., Bangalore 3. Mr. Raviprakash, Preva Systems Pvt. Ltd., Bangalore
7	2017-18	Electronic Product Design	25	04/01/2018 to 8/1/2018	ENTC	1. Mr. Sanjay Jogalekar Founder, Kanaad Electromation Solutions Pvt. Ltd. 2. Mr. Kunal Wakhare SOFTCON Pvt Ltd, Pune 3. Mr. Sumit Kamble SOFTCON Pvt Ltd, Pune
8	2018-19	Entrepreneurship Awareness Camp-ENTC	132	27/08/2018 to 29/08/2018	ENTC	Mr. Pandurang Kambale, Project Officer, MCED, Solapur District Industrial Center, Solapur Mobile No. 7020531125 Email ID: solapurpomced@gmail.com
9	2019-20	Entrepreneurship Awareness Camp-ENTC	84	26/08/2019 to 28/08/2019	ENTC	Mr. Pandurang Kambale, Project Officer, MCED, Solapur District Industrial Center, Solapur Mobile No. 7020531125 Email ID: solapurpomced@gmail.com
10	2019-20	Recent Developments in Antenna design, Fabrication and Testing	40	26/12/2019 to 30/12/2019	ENTC	1. Mr. Anirudha Kulkarni, RF Design Engineer at Mumbai 2. Mr. Mohit Garade , Project Engineer, Altair india ,Pune 3. Mr. Praveen B Mohite, Director Aptron Tech, satara 4. Dr. Veerendra D Dean R&D GNDEC, Bidar
11	2019-20	Advances and Research Opportunities in ENTC Engineering	42	10.06.2020 to 14.06.2020	ENTC	1. Mr. Sanjay Jogalekar Founder, Kanaad Electromation Solutions Pvt. Ltd. 2. Mr. Sudarshan Natu MD, Nital Computer Systems Pvt. Ltd. 3. Dr. Akash Gandhmal Technical Lead, Applied Material, Bengaluru 4. Dr. Shrinivas Mahajan Professor, College of Engineering, Pune 5. Dr. D.T. Ingole Director, Innovation, Incubation and Linkages SGBAU, Amaravati

bmp

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Dept of Electronics & Telecom. Engg
S. O. E. Pandharpur

OFFICE ORDER

Department of Electronics and Telecommunication Engineering

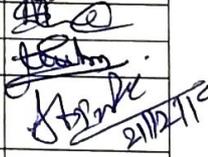
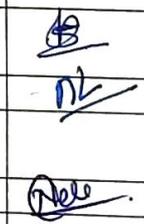
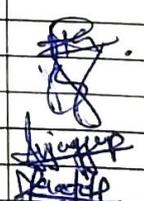
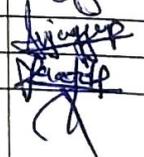
Date: 19.12.19

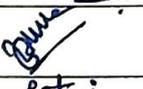
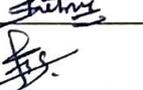
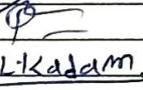
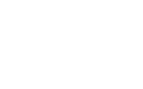
Office order

It is brought to the notice of all the teaching and non-teaching staff, that the following committees have been formed for the smooth conduction of One Week Short term Training Program on "Recent Developments in antenna Design, Fabrication and Testing" from 26th to 30th December 2019".

Note:

1. Registration fee for faculty members and PG students is Rs.750/-
2. All the PG and UG guides are informed to ensure your respective students to register for STTP and it is mandatory for PG students.

Committee Name	Responsibilities	Members	Signature	
Organizing Secretary	Overall monitoring	Dr. A S Vibhute		
Co-ordinator		Dr. Mrs. M M Pawar		
Co -Coordinator		Mr.M S Mathpati		
Registration and Publication committee	Preparation of Broacher, Banners, Advertisement, Sponsors and Sending broacher to different colleges. Certificate, Feedback form preparation. Kit preparation, Registration of participants, publishing the news of inauguration and valedictory of STTP.	Ms. S S Kadam	 21/12/19	
		Mrs. J S Shinde (Co ordinator)		
		Ms. M S Biswas		
		Mr. J S Hallur		
Food Committee	Arrangement of breakfast and Lunch for outside participants and Tea during Session(2 Times)	Ms. L A Palange		
Accommodation Committee		Arrangements of rooms for guest and participants		Mr. S.A. Inamdar (Coordinator)
		Mr. M A Deshmukh		
		Mr. A M Kasture (Coordinator)		
		Ms. N S Patil		
Stage Committee	Decoration, rangoli, Anchoring for inauguration and valedictory, Certificate distribution and , Feedback form collection.			
				Dr. Mrs. M M Pawar (Coordinator)
				Ms. N P Kulkarni
				Mr. V S Bhong
				Ms. P B Kashid
Transportation Committee	Arrangement of vehicle for Guest and participants	Ms. S V Jagzap		
		Ms. S A Atole		
		Mr. D P Narsale (Coordinator)		
		Mr. Akshay Jadhav		

Committee Name	Responsibilities	Members	Signature
Lab Arrangement committee	Announcement of session, Schedule preparation and managing lab sessions	Ms. Sneha Kadam (Coordinator)	
		Mr. A A Jadhav	
		Mr. H K Baldhar	
Budget	Collecting and distribution of amount to different activity.	Mr. A D Mali	
		Ms. G G Unnale (Coordinator)	
Video shooting, photography and Others.	Calling concerned person for Video shooting and photography Lab and hall cleanliness and other timely activity.	Mr. S P Swami	
		Mr. N S Admile (Coordinator)	
		Mr. G M Patil,	
		Mr. Sharad Kadam	


Co-ordinator


Organizing Secretary

SCHEDULE OF STTP/WORKSHOP

Department of Electronics and Telecommunication Engineering

SVERI's COE, Pandharpur

"Recent Developments in Antenna Design, Fabrication and Testing"

STTP schedule from 26th to 30th December 2019

Day/Date		Resource person	Sessions					
			I		II		III	IV
Day1	Thursday 26.12.2019	Mr. Anirudha Kulkarni , Team Leader & RF Design Engineer, RF Lab Solutions, Pune.	8.30-10.00 Registration 10.00-10.30 Inauguration		10.45-12.45 Technical session (AK)		2.00 -3.15 Technical Session (AK)	3.15-5.00 Hands on experience (AK)
Day2	Friday 27.12.2019	Mr. Shreehari Bhat Senior Application Specialist- Electromagnetic Solutions, Pune	9.00-11.15 Technical session (SB)	S H O R T B R E A K	11.30-12.45 Technical session (SB)	L U N C H B R E A K	2.00 -3.15 Design and simulation Using CADFEKO (SB)	3.15-5.00 Design and simulation Using CADFEKO (SB)
Day3	Saturday 28.12.2019	Mr. Shreehari Bhat Senior Application Specialist- Electromagnetic Solutions, Pune	9.00-11.15 Technical session (SB)		11.30-12.45 Technical session (SB)		2.00 -3.15 Design and simulation Using CADFEKO(SB)	3.15-5.00 Mr. Praveen B Mohite Demonstration of PCB Design (PBM)
Day4	Sunday 29.12.2019	Mr. Praveen B Mohite Director Apron Tech, satara	9.00-11.15 Demonstration of PCB Design (PBM)		11.30-12.45 Demonstration of PCB Design (PBM)		2.00 -3.15 Demonstration of PCB Design (PBM)	3.15-5.00 Demonstration of PCB Design (PBM)
Day5	Monday 30.12.2019	Dr. Veerendra D Dean R&D and Associate Professor, GNDEC Bidar	9.00-11.15 Smart antenna and its application		11.30-12.45 Testing of Antenna Using VNA Technical Expert from EntupleTech.Pvt. Ltd.		2.00 -3.00 Visit to SVERI's R&D activity	3.15-4.15 Valedictory function



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Dept. of Electronics & Telecom. Engr.
Pandharpur

SAMPLE OF STTP/WORKSHOP ATTENDANCE

S.V.E.R.I'S

COLLEGE OF ENGINEERING, PANDHARPUR.

Department of Electronics and Telecommunication Engineering

One Week Short Term Training Programme

On

"Recent Developments in antenna Design, Fabrication and Testing"

From 26th to 30th December 2019"

5th Day Attendance

Date: 30/12/19 .

Sl No.	Name of the Participants	Session-I	Session-II	Session-III
1	Amol C. Bhosale			
2	Mahesh.M. Zade			
3	H.C. Bhaldar			
4	D.P. Narsale			
5	D.S. Shinde			
6	Mendhegiri Shweta			
7	Patil Ashvini			
8	Nikhe Geeta	G.P. Nikhe	G.P. Nikhe	G.P. Nikhe
9	Waire Saroja Shammao			
10	chavan Rutuja Shivaji			
11	Mujawar Simran Hajisheb			
12	Priyanka vitttal Nagare			
13	sneha Bhaskar kamble			
14	More komal Narasheb			
15	Shirame Amruta D.			
16	Bhosale U.B	UBB	UBB	UBB
17	Galkwad A.B	GAB	GAB	GAB
18	INS. Patil			
19	L.A. Palange			
20	Mr. S. P. Swarni			
21	Gawali Sachin			
22	Hodade Pushikesh Somnath			
23	Kambe mahesh. B			
24	J.S.V. Jagtap			
25	J.S.A. Atole			
26	A.M. Yaktare			
27	Mr. J. S. Halbur			
28	M.A. Rasmukh			
29	P.S. Valte			
30	A.D. Malivasekar			

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Dept. of Electronics & Telecom. Engg.
P. O. E. Pandharpur

संशोधनासाठी कार्यशाळेची गरज : अनिरुद्ध कुलकर्णी

स्वेरीमध्ये एस.टी.टी.पी. कार्यशाळेचे उदघाटन

पंढरपूर (प्रतिनिधी) : 'आपल्या दैनंदिन जीवनात अँटिना आणि त्याच्याशी संबंधित विविध विभाग हे खूप महत्वाचे असून या इलेक्ट्रॉनिक्स क्षेत्रांमध्ये उपलब्ध असणाऱ्या अद्ययावत सुविधांमध्ये काम करावे लागते. अँटिना प्रोजेक्टमध्ये सध्या काम युद्धपातळीवर सुरु आहे. राष्ट्रीय कार्य संशोधन अंतर्गत अँटिना या क्षेत्रामध्ये संशोधन करणाऱ्यांची संख्या मात्र खूप कमी आहे. या तुलनेत कॉलेज ऑफ इंजिनियरिंग पंढरपूरमध्ये चालू असणारे या क्षेत्रातील संशोधन संबंधी इलेक्ट्रॉनिक्स अँड टेलिकम्युनिकेशन डिपार्टमेंटच्या कार्यशाळा माध्यमांतील सुविधांचा वापर करून भविष्यात अँटिना क्षेत्रात उत्तम संशोधन कार्य करता येवू शकते म्हणून संशोधनासाठी कार्यशाळेची गरज असते. 'असे प्रतिपादन पुण्यातील आर. एफ. सोल्युशन्सचे रेडीओ

फ्रिक्वेन्सी (आर.एफ.) डीझाईन इंजिनिअर अनिरुद्ध कुलकर्णी यांनी व्यक्त केले. गोपाळपूर (ता. पंढरपूर) येथील स्वेरी संचलित कॉलेज ऑफ इंजिनिअरिंगच्या इलेक्ट्रॉनिक्स अँड टेलिकम्युनिकेशन इंजिनिअरिंग विभागात आयोजिलेल्या आणि आठवडाभर चालणाऱ्या 'शॉर्ट टर्म ट्रेनिंग प्रोग्राम (एस.टी. टी.पी.)' च्या उदघाटन प्रसंगी अभियंता अनिरुद्ध कुलकर्णी उपस्थितांना मार्गदर्शन करत होते. प्रास्तविकात कार्यशाळेचे समन्वयक प्रा. महेश मठपती यांनी एस. टी. टी. पी. कार्यक्रमाबाबत सविस्तर माहिती देवून ही कार्यशाळा आयोजिन्याचा हेतू सांगितला. ए. आय. सी. टी. ई. कडून मॉडरॉब अंतर्गत मिळालेल्या निधीतून स्वेरी इंजिनीअरिंगच्या ई.अँड



टी.सी. विभागाने मायक्रोवेव लॅब अद्ययावत करण्यात आली आहे. त्याचा फायदा सर्व विद्यार्थ्यांना व संशोधकांना व्हावा ह्या हेतूने या कार्यशाळेचे आयोजन करण्यात आले. पुढे बोलताना अभियंता कुलकर्णी यांनी उपलब्ध असणाऱ्या सुविधा वेक्टर नेटवर्क

अॅनालायझर (२० गिगा हर्ट्झ क्षमतेचे), कॅड फेको सॉफ्टवेअर आणि पीसीबी प्रोटोटाइप मशीन याबाबत माहिती दिली. शैक्षणिक अधिष्ठाता व सिव्हील इंजिनिअरिंगचे विभागप्रमुख डॉ. प्रशांत पवार यांनी संशोधन क्षेत्रातील होत असलेली प्रगती

बाबत मार्गदर्शन केले. ही कार्यशाळा आठवडाभर चालणार असून इलेक्ट्रॉनिक्स क्षेत्रातील नामवंत संशोधक मार्गदर्शन करणार आहेत. यावेळी संशोधन विभागाचे अधिष्ठाता डॉ. एस. आर. पाटील, इलेक्ट्रॉनिक्स अँड टेलिकम्युनिकेशन

स्वेरीच्या इलेक्ट्रॉनिक्स अँड टेलिकम्युनिकेशन इंजिनिअरिंग विभागात शॉर्ट टर्म ट्रेनिंग प्रोग्रामचे उदघाटन करताना अनिरुद्ध कुलकर्णी रेडीओ फ्रिक्वेन्सी (आर.एफ.) डीझाईन इंजिनिअर अनिरुद्ध कुलकर्णी सोबत डावीकडून कार्यशाळेचे समन्वयक प्रा. महेश मठपती, विभागप्रमुख डॉ. अनुप विभूते, शैक्षणिक अधिष्ठाता व सिव्हील इंजिनिअरिंगचे विभागप्रमुख डॉ. प्रशांत पवार व संशोधन विभागाचे अधिष्ठाता डॉ. एस. आर. पाटील आदी.

इंजिनिअरिंगचे पदवी व पदविकेचे विद्यार्थी व प्राध्यापक उपस्थित होते. सुत्रसंचालन प्रा. नीता कुलकर्णी यांनी केले तर आभार इलेक्ट्रॉनिक्स अँड टेलिकम्युनिकेशन इंजिनिअरिंगचे विभागप्रमुख डॉ. अनुप विभूते यांनी मानले.

INVITATION LETTER TO GUEST



Shri Vitthal Education & Research Institute's

COLLEGE OF ENGINEERING, PANDHARPUR

P.B. No. 54, Gopalpur -Ranjani Road, Gopalpur, Pandharpur- 413 304, District: Solapur (Maharashtra)

Tel.: 02186-216063, 9503103757, Toll Free No.: 1800-3000-4131, E-mail: coe@sveri.ac.in, Web: www.sveri.ac.in

(Approved by A.I.C.T.E., New Delhi and Affiliated to Solapur University, Solapur)

NBA Accredited all eligible UG Programmes, NAAC Accredited Institute, Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune. ISO 9001-2015 Certified Institute



Ref: COEPR/ENTC/2019-20/08(b)

Date: 19-11-2019

To,

Anirudha S. kulkarni
RF Labs Pune

Subject: Invitation as resource person for one week STTP.

Respected Sir,

Shri Vitthal Education and Research Institute (SVERI), Acharitable trust formed by devoted technocrats, established its first Project, The SVERI's College of Engineering, Pandharpur in 1998, which is approved by AICTE, New Delhi. It has been affiliated to PAH Solapur University, Solapur. The Engineering College is ISO 9001:2015 certified and institute is accredited by NBA, New Delhi and NAAC.

The Department of Electronics & Telecommunication Engineering was established in the year 1998. The department has Qualified and Dedicated Faculty Members with specialization in various areas. Department of E&TC has UG(Intake-120), PG (Intake-18) and Ph.D. programs. Department has 10 well-equipped labs out of which antenna lab is having VNA of 20GHz, CADFEKO software, and PCB Prototype machine. Considering our state of art laboratory for antenna, department has decided to extend this facility through One Week Short Term Training Program on "**Recent Developments in antenna Design, Fabrication and Testing**" from 26th to 30th December 2019".

The goal is to present a comprehensive program on different antenna designs (Microstrip Antenna, Multifunction antennas and arrays, Fractal antenna) and to realize their parameters in actual practice. The calculation of antenna dimensions will be overviewed. Design and simulation will be performed by using CADFEKO software and measured using VNA. The speakers for the session are from industry and academics.

Its pleasure and privilege to invite you as a recourse person for the same and guide the participants with your expertise on 26.12.2019. So, I request you to kindly consider and give me consent for the same.

*Received
Anirudha*

HOD ENTC

HEAD

Dept. of Electronics & Telecom. Eng.
Pandharpur

THANKS LETTER TO GUEST



Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR



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Date: 26/12/2019

Department of Electronics and Telecommunication Engineering

To,

Anirudha S. kulkarni
RF Labs Pune.

Subject: Thanks Letter

Respected sir,

This is to express our heartfelt gratitude towards you for accepting invitation as recourse person for One Week Short Term Training Program on **"Recent Developments in antenna Design, Fabrication and Testing" from 26th to 30th December 2019**." on 26th December, 2019.

Your valuable guidance will always keep the students inspiring & motivating.

I request the same kind of co-operation in future also.

Thankyou,

Yours faithfully,

Dr. A. S. Vibhute

HOD ENTG

HEAD

Dept. of Electronics & Telecom. Eng.
S. Q. L. Pandharpur

*Received
Anirudha*

FEEDBACK FORM SAMPLES

SVERIs COE, Pandharpur
Electronics and Telecommunication Engineering Department

FEEDBACK FORM

Title of the Program:- "Recent developments in Antenna Design, Fabrication and Testing"

Name of the Participant:- *Mare Saroja Shammao.*

Date:- 26th Dec to 30th Dec 2019

Particular	Excellent	Good	Satisfactory	Poor
Course content	✓			
Course material	✓			
Presentation	✓			
Duration	✓			
Faculty	✓			
General Arrangement	✓			
Hospitality		✓		
Timing of the programme	✓			
Usefulness of the programme	✓			
Any other Suggestion for improvement				

Date: 30/12/2019

Saraj.
Signature of participant

SVERIs COE, Pandharpur
Electronics and Telecommunication Engineering Department

FEEDBACK FORM

Title of the Program:-“Recent developments in Antenna Design, Fabrication and Testing”

Name of the Participant:- Snehal B. Kamble

Date:-26th Dec to 30th Dec 2019

Particular	Excellent	Good	Satisfactory	Poor
Course content	✓			
Course material	✓			
Presentation	✓			
Duration	✓			
Faculty	✓			
General Arrangement	✓			
Hospitality	✓			
Timing of the programme	✓			
Usefulness of the programme	✓			
Any other Suggestion for improvement	No.			

Date: 30/12/2019

Snehal B. Kamble
Signature of participant
Snehal Bhaskar Kamble









FINAL PRODUCT

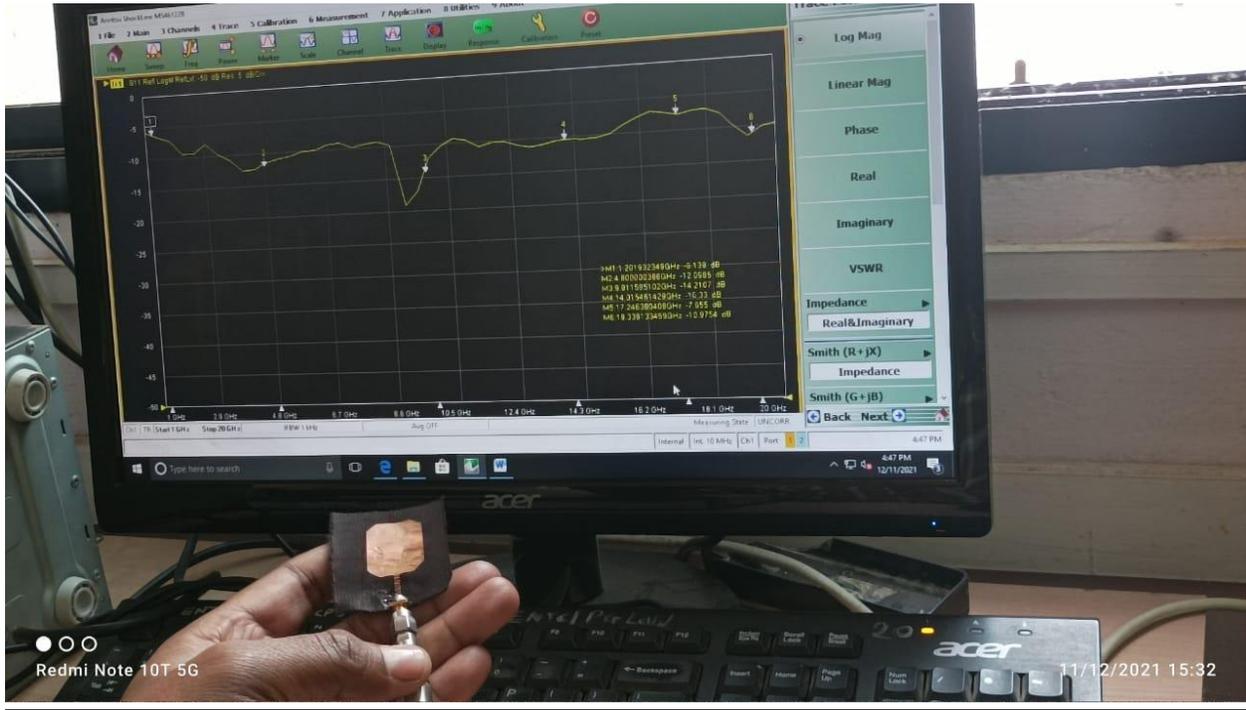
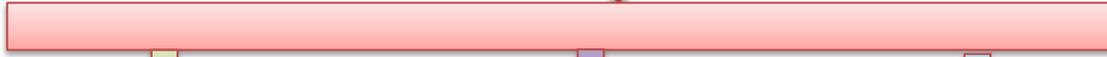


Fig. Variable Antenna for Wi-Fi, Ultra Wideband and 5G Communication

Experiential Learning through Technical Symposium

- **Individual Participation**
- **Team Work**
- **Activity Planning & Management**
- **Communication Effectively**

TECHNICAL SYMPOSIUM



ASHRAE

(American Society of Heating, Refrigerating and Air-Conditioning Engineers)

OLYMPUS

A National Level Technical Event

Various Student Associations



CESA

Civil Engineering Students Association

EESA

Electrical Engineering Students Association

MESA

Mechanical Engineering Students Association

ICON

In-Search of Computer Oriented Knowledge

ELITE

Electronics Latent In Technical Endeavor



KSHITIJ

A Technical Event



SVERI - ASHRAE Students Chapter

ESTABLISHMENT

ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers) is a global technical society that provides essential resources for sustainable design, construction and operation of buildings and their systems. SVERI's College of Engineering has established its ASHRAE student chapter on 26th March 2019.

CHAPTER BODY

Total

Post	Name
Student Branch Adviser (SBA)	Prof. Digvijay Ronge
Branch Guide	Prof. Sachin Gavali
President	Mr. Sagar Khade
Vice-President	Mr. Pranav Bhandare
Treasurer	Ms. Shraddha Gajakosh

number of ASHRAE members under the branch: **32**

Local Chapter: Pune

Student Activity Chair: Prof. Kamalnath Ghosh

ACTIVITIES

1. Regular meetings were conducted in which oath ceremony of various posts, members introduction, planning for industrial visits & technical events were made.
2. A session by branch President Mr. Sagar Khade was conducted to make members familiar with HVAC&R industry and basic fundamentals used.
3. Industry person interaction with Mr. Suhas Deshpande, an ASHRAE fellow and member of SVERI innovation council, who gave suggestions on effective working of branch.
4. The **ASHRAE Undergraduate Program Equipment Grant Program** provides grants to engineering, technical and architectural schools worldwide. We had received grant of \$3000 for '**Performance study of solar powered cold room system (SPCR) using phase change materials**' in AY 2021-2022.
5. During the COVID-19 pandemic lockdown period, various ASHRAE chapters around the globe had arranged online seminars/webinars. SVERI ASHRAE student chapter had actively participated in **29** webinars till date and students are interested in upcoming webinars too.

BENEFITS OF BECOMING ASHRAE MEMBER

- Society and chapter-level scholarships for engineering students

Become an ASHRAE member – join.ashrae.org



SVERI - ASHRAE Students Chapter



- Reduced registration to ASHRAE Annual and Winter Conferences.
- The annual Student Design Project Competition
- Undergraduate Program Equipment Grants fund colleges and universities worldwide to promote the study and teaching of HVAC&R.
- Grants-in-Aid allow for graduate students to continue their education in the HVAC&R industry.



ASHRAE Equipment Grant

Professor Digvijay <ddronge@coe.sveri.ac.in>

ASHRAE Undergraduate Program Equipment Grant

Thomson, Katie <KThomson@ashrae.org>
To: "ddronge@coe.sveri.ac.in" <ddronge@coe.sveri.ac.in>
Cc: "sanelac.consultants@gmail.com" <sanelac.consultants@gmail.com>

Tue, Mar 2, 2021 at 10:15 PM

March 2, 2021

Dear Digvijay Ronge,

Congratulations! Your submission to ASHRAE's Undergraduate Program Equipment Grant titled, "Performance study of solar powered cold room system (SPCR) using phase change materials" was approved for funding in the amount of \$3000 to SVERI's College of Engineering Pandharpur.

Before we can process your request, we require you to review the attached Award Information Sheet, which you submitted with your application. Please indicate whether the information is still current and the grant funds are still required. Also, please complete the attached Award Information Sheet and return it with any corrections to your application by **April 30, 2021**.

The Student Activities Chair of the ASHRAE Chapter in your area is copied on this email and he/she should contact you directly for a certificate/award presentation. **However, this will not be a presentation of funds since your check will be mailed in July directly to the individual you indicate on the Award Information Sheet.** If you have any questions, please contact Katie Thomson, Assistant Manager, Student Activities, at 678-539-1212 or by e-mail at kthomson@ashrae.org.

As a reminder, the students involved in the project receiving the grant funds must submit a written report to ASHRAE upon the project's completion. A project spanning more than one semester/quarter must submit a progress report at the end of each semester/quarter. Delinquent reports will disqualify you from obtaining grants in the future; therefore, if your report is going to be submitted late, please contact the Assistant Manager, Student Activities. Details on the interim and final report format are listed on the Student Zone website in the Grants section.

Again, congratulations! We look forward to an opportunity to work with you and your students.

Sincerely,

Megan Tosh

Megan Tosh

2020-21 Chair, Student Activities Committee



Shaping Tomorrow's
Built Environment Today

ashrae.org

Katie Thomson
Assistant Manager of Student Activities

We've moved! Please note our new address:

180 Technology Parkway
Peachtree Corners, GA 30092

Tel: 678-539-1212

KThomson@ashrae.org

ashrae.org/newhq



2 attachments

 **2021 Award Information Sheet.docx**
264K

 **50 - SVERI's College of Engineering.docx**
872K



Shri Vithal Education & Research Institute's COLLEGE OF ENGINEERING, PANDHARPUR

All Eligible UG Courses NBA Accredited

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In Association with ISTE Students' Chapter, MESA, ICON, ELITE, CESA

Presents



OLYMPUS 2K18

A NATIONAL LEVEL TECHNICAL SYMPOSIUM

MECHANICAL

- Robo Race
- Lathe War
- AUTOCAD Race
- CATIA Race
- Techno-Mech War

ENTC

- Circuit Blueprint
- Proteus War
- M Code- Microcontroller
- M Code- MATLAB
- Robo War

15th & 16th Sept. 2K18

For online Registration and more information- Visit <http://olympus.sveri.ac.in>



CIVIL

- FABRICA
- CAD Race
- Bridge Design
- Town Planning
- Survey Hunt

CSE & IT

- Web Design
- Code Debugging
- Blind C
- Techno-Guru
- DB-Mania
- LAN Planet

Hon. Dr. B. P. Ronge
(Principal & Founder Secretary)

Prof. S. N. Kulkarni
(Vice-Principal)

Prof. Dr. A. A. Utpat
(Dean Students')

Mr. Sidharth Upase
(President)
(9730974956)

Prof. D. T. Kashid
(Institute Co-ordinator)
(9168655335)

Ms. Dipanwita Deb
(Secretary)

Ms. Aishwarya Masal
(Joint Secretary)

Mr. Nitin Kadam
(Treasurer)
(7387419153)

Mr. Dnyanraj Telang
(Treasurer)
(7028377996)



COMMON EVENTS

- PAPERFEST
- IDEA War
- CAT-MAT Ability
- Blind Driving

- Business Plan
- ADD-ZAP
- C.R.P.
- Treasure Hunt

STAFF COORDINATORS

Prof. S. M. Kale	MECH	9168655344
Prof. M. S. Mathpati	ENTC	9503019997
Prof. S. M. Kumbhar	CSE	9886396500
Prof. M. H. Malipatil	CIVIL	9731795353

Free WiFi in Campus
SVERI OLYMPUS 2K18

Free WiFi in Campus



Tez 9730974956



Address- SVERI's College of Engineering Pandharpur, P.B. No. 54, Gopalpur-Ranjani Road, Gopalpur, Pandharpur, Dist - Solapur 413 304.

web- coe.sveri.ac.in



एक कदम स्वच्छता की ओर

Olympus Notice



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S
COLLEGE OF ENGINEERING, PANDHARPUR

P.B. No. 54, Gopalpur -Ranjani Road, Gopalpur, Tal - Pandharpur- 413 304,
Dist. Solapur (Maharashtra) Ph.(02186)- 282223, 9503103892

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E-mail : coe@sveri.ac.in Website: www.sveri.ac.in



Date: - 26/07/2018

NOTICE

Professional chapters ISTE along with Departmental Student Associations for Mechanical Engineering (MESA), Computer Science and Engineering (ICON), Civil Engineering (CESA) and Electronics and Telecommunication engineering (ELITE) is going to organize National Level Event this year also, by the name **OLYMPUS-2K18**.

The students who are interested for the positions of President, Secretary, Jt. Secretary & Treasurer for OLYMPUS 2K18 for process of making the event successfully can submit application to the respective departmental staff coordinators **on or before 31th July 2018**. Applications may be submitted for one or more of the following posts. However, one student will be offered only one post.

All the students who are going to apply for the positions of President, Secretary, Jt. Secretary & Treasurer for OLYMPUS 2K18 are here by informed to bring original marks list, original certificates of all curricular and extracurricular activities to the interviews.

Sr. No.	Post	Vacancy
1.	President for OLYMPUS 2K18	1
2.	Secretary for OLYMPUS 2K18	1
3.	Joint Secretary for OLYMPUS 2K18	1
4.	Treasurer for OLYMPUS 2K18	1

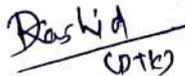
After receiving all the applications from the students for different posts of Olympus 2k18 as mentioned above the interviews will be held on as per the details given below.

Date:- 02/08/2018

Timing:- 4.30pm onwards

Venue:- Board Room, Mechanical Engg. Dept.

All the concerned are informed and act accordingly


Dashed
Dashed

(Prof. D.T. Kashid)

Institute Coordinator, OLYMPUS-2K18



(Dr. A. A. Utpat)

Dean, Students'

Copy to:

1. All Deans
2. All HODs
3. Departmental ISTE Coordinators
4. College Notice Boards
5. FTP
6. Office Copy.



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E-mail : coe@sveri.ac.in Website: www.sveri.ac.in



Date: - 03/08/2018

NOTICE

It is hereby informed to all concerned that the following are the details of the final selection to the various posts of OLYMPUS 2K18.

Sr. No.	Post	Name of Student	Class
1.	President	Mr. Siddharth Upase	B.E.(ENTC)
2.	Secretary	Ms. Dipanwita Deb	B.E.(CSE)
3.	Joint Secretary	Ms. Aishwarya Masal	T.E.(CIVIL)
4.	Treasurer	Mr. Nitin Kadam	B.E.(MECH)
		Mr. Dnyanraj Telang	

All the concerned are requested to take the note and act accordingly.



(Prof. D.T. Kashid)

Institute Coordinator, OLYMPUS-2K18



(Dr. A. A. Utpat)
Dean, Students'

Copy to:

1. Principal
2. Vice-Principal
3. All Deans
4. All HODs
5. Departmental ISTE Coordinators
6. College Notice Boards
7. FTP
8. Office Copy.



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Date: - 20/08/2018

NOTICE

All the students who are interested in working as Heads / Coordinators for the events / committees attached herewith of "OLYMPUS 2K18" for making the event successful, can submit application to the respective departmental staff coordinators **on or before 24th August 2018**. Applications may be submitted for one or more of the following posts. However, one student will be offered only one post.

All the students who are going to apply for the positions of Heads / Coordinators for the following events / committees of OLYMPUS 2K18 are hereby informed to bring original marks list, original certificates of all curricular and extracurricular activities to the interviews.

After receiving all the applications from the students for positions of Heads / Coordinators of Olympus 2k18, the interviews will be held on as per the details given below.

Date: - 25/08/2018

Timing: - for ENTIC & CIVIL-5.30 pm onwards, MECH & CSE-4:30 pm onwards

Venue: - Respective Departments

All the concerned are informed and act accordingly.

Departmental Staff Coordinators:-

1. Prof. S. M. Kale- Mech Dept.
2. Prof. S. M. Kumbhar - CSE Dept.
3. Prof. M. S. Mathpati - ENTIC Dept
4. Prof. M. H. Malipatil- Civil Dept.


(Prof. D.T. Kashid)

Institute Coordinator, OLYMPUS-2K18


(Dr. A. A. Utpat)
Dean Students'

Copy to:

1. All Deans
2. All HODs for effective circulation amongst classes.
3. Departmental ISTE Coordinators
4. College Notice Boards
5. FTP
6. Office Copy.

Sr. No.	Event / Committee	Department	Heads	Coordinators
1.	PAPERFEST (Paper Presentation)	All	2 (Each Dept.)	4 (Each Dept.)
2.	IDEA War	All	2 (Each Dept.)	4 (Each Dept.)
3.	CAT-MAT Ability (General Quiz)	All	1 (Each Dept.)	4 (Each Dept.)
4.	Robo-Race	Mech	2	12
5.	Lathe War	Mech	2	10
6.	Blind Driving	Mech	2	8
7.	CATIA Race	Mech	2	8
8.	Techno- Mech War	Mech	2	8
9.	AutoCAD Race	Mech	2	8
10.	Circuit Blueprint	ENTC	2	8
11.	Proteus War	ENTC	2	8
12.	M Code -Microcontroller	ENTC	2	6
13.	M Code - MATLAB	ENTC	2	6
14.	LAN Planet-NFS	CSE & IT	1	6
15.	LAN Planet-Counter Strike	CSE & IT	1	6
16.	FABRICA	Civil	2	8
17.	CAD Race	Civil	2	8
18.	Bridge Design	Civil	2	8
19.	Town Planning	Civil	2	8
20.	Survey Hunt	Civil	2	8
21.	Robo War	ENTC	2	10
22.	Web Design	CSE & IT	2	8
23.	Code Debugging	CSE & IT	2	8
24.	Blind C	CSE & IT	2	8
25.	Techno-Guru (CSE Quiz)	CSE & IT	2	8
26.	DB-Mania	CSE & IT	2	8
27.	Business Plan	MECH	2	8
28.	ADD-ZAP	All	2	6
29.	C.R.P. (Campus Recruitment Program)	All	2 (Each Dept.)	4 (Each Dept.)
30.	Treasure Hunt	All	2	10
31.	Agro-Challenge	MECH	2	10
32.	Registration Committee (/Prof. G. A. Fattepurkar)	All	5 (Each Dept.)	
33.	Kit preparation & distribution Committee (Prof. D.P. Narsale)	All	4 (Each Dept.)	
34.	Accommodation Committee (Prof. A. M. Kasture)	All	4 (Each Dept.)	
35.	Food Committee (Prof. S. M. Khomane)	All	5 (Each Dept.)	
36.	Certificate distribution committee (Prof. A. B. Choude)	All	8	
37.	Prize list Collection & Prize, Medal Distribution Committee (Prof. J. D. Bokerhode)	All	5	
38.	Announcements Committee (Prof. Pooja Taralgatti)	All	4	
39.	Discipline Committee (Dr. R. R. Gidde)	All	10	

Dashid
(Prof. D.T. Kashid)

Institute Coordinator, OLYMPUS-2K18


(Dr. A. A. Utpat)
Dean Students'

Olympus Office Order



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Date: 18-08-18

OFFICE ORDER

ISTE Students' Chapter and Departmental Students' Associations Viz. MESA, ELITE, ICON and CESA are organizing National Level Technical Symposium, **Olympus-2K18 on September, 15th and 16th**. The following committees have been constituted for the organization and smooth functioning of Olympus 2K18.

Sr. No.	Name of the committee	Name of the member	Department	Contact No.
1.	Management Representative	Prof. C. B. Nadagouda (Chairman, SVERI)	-	-
		Shri. D. D. Ronge (Trustee Member, SVERI)	-	-
2.	Overall organization	Dr. B. P. Ronge (Founder Secretary & Principal, SVERI), Chairman	Mech.	9545193434
		Prof. S. N. Kulkarni (Vice- Principal), Co-Chairman	Mech.	9822356199
		Dr. S. M. Mukane (Dean, Administration)	ENTC	9545552899
		Dr. P. M. Pawar (Dean, Academics)	Civil	9763394205
		Dr. A. A. Utpat (Dean, Students')	Mech	9158325055
		/Dr. M. M. Patil (Dean, R&D)	ENTC	9545553654
		Dr. M. K. Raul (Dean, TPII)	T&P	9545553881
		Dr. P. S. Kachare (Dean, Admissions, Publicity & Protocol)	Mech	9545553774
		Prof. D.T. Kashid (Institute Coordinator, Olympus 2k18)	Mech	9168655335
		Prof. S. M. Kale (Departmental ISTE Coordinator)	Mech	9163655344
		Prof. S. M. Kumbhar (Departmental ISTE Coordinator)	CSE	8445738769
		Prof. M. S. Mathpati (Departmental ISTE Coordinator)	ENTC	9740212330
Prof. M. H. Malipatil (Departmental ISTE Coordinator)	Civil	9731795353		
Prof. A. K. Parkhe (Staff Coordinator, MESA)	Mech	9503632622		

*Booked
07/19*



B. Ronge

Sr. No.	Name of the committee	Name of the member	Department	Contact No.
2.	Overall organization	Prof. Mr. N. S. Mane (Staff Coordinator, ICON)	CSE	8975405767
		Prof. Ms. S.A. Shegdar (Staff Coordinator, ICON)	CSE	8600452729
		Prof. S. S. Allagi (Staff Coordinator, CESA)	Civil	9110627406
		Prof. Akshay Jadhav (Staff Coordinator, ELITE)	ENTC	9552690535
3.	Alumni Representative	Shri. Amol Deshpande (Sr. Manager, Walchandnagar Industries, Walchandnagar)	-	-
4.	Parent Representative	Shri. Vasudev Gaikwad (A/P-Chale, Tal-Pandharpur, Dist-Solapur)	-	-
		Shri. Balasaheb Chavan (A/P-Suste, Tal-Pandharpur, Dist-Solapur)	-	-
5.	Guest receiving, accompanying & Welcome	Principal, Vice-Principal, All Deans & All HODs	-	-
6.	Paper Fest (Paper Presentation)	Prof. S. V. Jadhav (Coordinator)	Mech	9757571857
		Dr. S.B. Salunkhe	Mech	9637335111
		Dr. R. R. Gidde	Mech	9922607633
		Prof. Y. R. Kalshetty (Coordinator)	CSE	9545553836
		Prof. S. A. Gosavi (Coordinator)	Civil	9746367210
		Prof. M .S. Mathpati (Coordinator)	ENTC	9740212330
		/Prof. N .S. Patil	ENTC	275266638
7.	IDEA WAR	Prof. S. B. Patil (Coordinator)	Mech	8600056458
		/Prof. Dhanashri Patil	CSE	8695796168
		/Prof. K. V .Gidde	ENTC	7249345543
		Mr. M. G. Deshmukh	CIVIL	9448258729
8.	ROBORACE	Prof. V. R. Chavan	Mech	9870455735
		Prof. C. C. Jadhav (Coordinator)	Mech	8308689570
9.	LATHE-WAR	Prof. K.V. Chandan (Coordinator)	Mech	8007060528
		Prof. U. L. Anuse	Mech	9168655365
		Mr. Ganesh Jagtap	Workshop	9881551405
10.	AGRO-Challenge	Prof. K. S. Pukale	Mech	7776070913
		Prof. S. S. Kakade (Coordinator)	Mech	9421033397
		Prof. S. S. Wangikar	Mech	9657720923
9.	Blind Driving	Prof. S. S. Jadhav (Coordinator)	Mech	8055836682
		Prof. S.Y. Salunkhe	Mech.	9657198329
10.	C.R.P. (Campus Recruitment Process)	Prof. Mr. N. S. Pandhare	T&P	9421363454
		Prof. Mr. S. G. Padwale (Coordinator)	T&P	8668867387
		Prof. Pirjade	T&P	7033178770
11.	CATIA RACE	Dr. A. B. Shinde (Coordinator)	MECH	9503103804
		Prof. A. K. Parkhe	Mech	9503632622

Basid (OTK)



B. Rongre

Sr. No.	Name of the committee	Name of the member	Department	Contact No.
12.	AUTO-CAD RACE	Prof. S. J. Shinde (C)	Mech.	9168655323
		Prof. A. K. Parkhe	Mech	9503632622
13.	Bridge Design	Prof. S. M. Mali	CIVIL	9545541576
		/Prof. V. S. Kshirsagar (Coordinator)	CIVIL	9545553884
14.	WEB Design	Prof. Ms. S. S. Kadam (Coordinator)	CSE	9766880771
		Prof. Ms. P. S. Doshi	CSE	9511696931
15.	Circuit Blueprint	Prof. Mrs. J. S. Shinde (Coordinator)	EXTC	9545553667
16.	CAT-MAT ability (General quiz)	/Prof. D. D. Pujari (Coordinator)	EXTC	9561247819
		/Prof. L. A. Palange	EXTC	9960471684
		Prof. B.T. Gadade	Mech	9168655398
		Prof. Mr. N. M. Maske	CSE	7020805643
17.	LAN Planet (NFS &CS)	Prof. Mr. S. S. Bansode (Coordinator)	CSE	9673143155
		Prof. G. V. Kakade	CSE	9172035632
		Prof. Mr. R. B. Kagade	CSE	9975382223
18.	Techno-Guru	Prof. Ms. Minal Pawar (Coordinator)	CSE	8806632681
		Mrs. S. S. Bhosale (Coordinator)	CSE	9503103814
19.	DB-Mania	Prof. Mr. S. M. Shinde	CSE	9545553846
		/Prof. Ms. A. Pathan (Coordinator)	CSE	7888170603
20.	Treasure Hunt	/Prof. .R. G. Sache (Coordinator)	CSE	9175687828
		Prof. M.S. Survase	Civil	8806660537
		Prof. S. G. Chavan	Mech	9512534802
		/Prof. S. Patil	EXTC	9890330584
21.	ADD-ZAP	/Prof. Ms. Pallavi Jadhav (Coordinator)	EXTC	7776989626
		Prof. N. S. Shaikh	FE	9764793186
		Prof. M. M. Shinde	CSE	7709669202
22.	FABRICA	Prof. A. B. Kokare	Civil	9766129169
		Prof. Ram V. Patil (Coordinator)	Civil	
23.	CAD RACE	Prof. S. S. Allagi	Civil	8904305133
		/Prof. S. C. Bagal (Coordinator)	Civil	7020233326
24.	Town Planning	Prof. R. H. Sule	Civil	8149226457
		Prof. M. H. Malipatil (Coordinator)	Civil	
25.	Techno- Mech War	/Prof. P. K. Patil (C)	Mech	7709211899
		/Prof. P. A. Shaikh	Mech	
26.	SURVEY HUNT	Prof. Swapnil Patil (Coordinator)	Civil	9637819102
		/Prof. S. P. Patil	Civil	9922647936
27.	ROBO-WAR	Prof. Akshay Jadhav	ENTC	9552690535
		Dr. N. B. Bahadure (Coordinator)	ENTC	7898635521
28.	BUSINESS PLAN	Prof. B. D. Gaikwad (Coordinator)	Mech	9545553790
29.	CODE DEBUGGING	Prof. Mr. G. G. Patil (Coordinator)	CSE	9168655388
30.	Blind C	Prof. L. H. Jadhav	CSE	8600288348
		Prof. A. S. Chavan (Coordinator)	CSE	9730935655

D. D. Pujari
(CJTC)



B. Range

Sr. No.	Name of the committee	Name of the member	Department	Contact No.
31.	Microcontroller	Prof. Jagdish Hallur (Coordinator)	EXTC	9975090344
		Prof. M A Deshmukh	ENTC	9970277150
32.	MATLAB	/Prof. S. J. Machale(Coordinator)	ENTC	9421393138
33.	Proteus War	Prof. J. N. Mohite (Coordinator)	ENTC	9881972414
34.	Office Committee	Prof. D. T. Kashid (Coordinator)	MECH	9168655335
		Mr. D. T. Gaikwad	Mech	8806879125
		Mr. P. Kulkarni	Mech	
		Mr. Jotiram Pawar	Mech	
35.	Welcome, Valedictory, Jallos, Felicitation Stage Decoration committee	Prof. K. B. Patil (Coordinator)	MBA	9595921154
		Prof. Y. M. Khedkar	Mech	9545553699
		& All Cultural committee members		
		Mr. P. C. Waghmare	CSE	9545553676
		Mr. R. K. Ambure	CSE	9637715298
36.	Accommodation Committee	Prof. A. M. Kasture (Coordinator)	EXTC	9403182922
		/Prof. Ms. A. S. Singh	EXTC	8806642068
		Prof. S.V. Darshane	CSE	9096552771
		Prof. S. B. Bhosale	Mech	9545553814
		/Prof. Ms. S. V. Babar	CSE	9422423653
		/Samarthini B .M.	Civil	7338067545
37.	Food Committee	Prof. S. M. Khomane (Coordinator)	Mech	9168655329
		Prof. S. A. Inamdar	ENTC	9922818946
		Mr. R. D. Kapase	Civil	8605772236
		/Prof. Ms. Mohua Biswas	EXTC	7709650013
		/Prof. R. R. Shinde	CSE	7588019374
		Mr. Jotiram Pawar	Mech	9503103882
		Mr. R. K. Ambure	CSE	9637715298
38.	Pendol Arrangement Committee	Prof. V. S. Bhong (Coordinator)	EXTC	9960224232
		Prof. H. K. Bhaldar (Coordinator)	E&TC	9095615501
		Prof. Omkar R. Sawant	CIVIL	9021681374
39.	Certificate Distribution Committee	Prof. A. B. Chounde (Coordinator)	ENTC	7767003419
		Dr. R. N. Haridas	FE	9921404894
		/Prof. Ms. S. S. Kadam	EXTC	8698026990
		/Prof. M. S. Lotake	EXTC	9766230693
40.	Medal Purchase ,Prize list Collection & Prize Distribution Committee	Prof. J. D. Bokephode (Coordinator)	CSE	9730154777
		Prof. V. R. Payghan	Civil	9049636364
		/Prof. M. J. Goski	ENTC	7721087813
		/Prof. Ms. S. A. Shegdar	CSE	8600452729
41.	Publicity Committee	Prof. Mr. S. C .Halkude (Coordinator)	Non-Teaching	9545553628
		Prof. D.T. Kashid	Mech	9168655335
42.	Kit Preparation & Distribution Committee	Prof. Mr. D.P. Narsale (Coordinator)	EXTC	8605252526
		Prof. O. L. Mahajan	MECH	7709850113
		/Prof. N .S. Patil	EXTC	8275266638
		Mr. P. B. Bhaganagare	Civil	9766223522
		/Prof. A. V. Malage	F.E.	9527827715

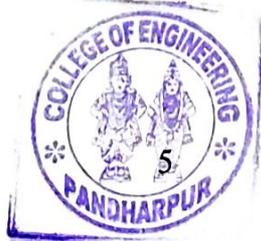
Deshid
(DTE)



B. Ronge

Sr. No.	Name of the committee	Name of the member	Department	Contact No.
43.	Judges and Guest Remuneration Committee	Prof. Mr. L. B. Raut (Coordinator)	Mech	9637238869
44.	Poster, Certificate & Banner Designing & printing	Prof. S. S. Gaikwad (Coordinator)	Mech	7709897135
		Prof. Mr. A. A. Mote	Mech	9009944017
45.	Advertisement Committee (Calling & convincing other state participants for Olympus 2k18)	Prof. Prabhakar Jha (Coordinator)	MECH	8169731968
		Prof. J. S. Hallur	EXTC	9975090344
		Prof. Shrivankumar	FE	
		/Prof. Ms. A. Pathan	CSE	7888170603
		Prof. S. R. Limkar	Civil	9511786548
46.	Olympus Website designing, updating & publication	Prof. P. G. Gaikwad (Coordinator)	CSE	8275025180
		Prof. Antosh Dyade	CSE	9545553445
47.	Announcements Committee	/Prof. Pooja Taralgatti (Coordinator)	Civil	9665570392
		Prof. Ms. Pol	MBA	
		Ms. V. M. Ghadage	Office	9503103757
48.	Electric Supply	Mr. S. G. Jadhav and team	Electrician	9545553627
49.	Rangoli Committee	/Prof. S. S. Kangale (Coordinator)	FE	
		/Prof. Ms. V. G. Kalebag	Mech	8600834998
		Mr. Vithal Jadhav	Store	
50.	Stationary	Mr. S. M. Bagal (Coordinator)	Librarian	
		Mr. Suhas Tagare	Store	
		Mr. Vithal Jadhav	Store	
51.	Transportation Facility arrangement	Mr. S. M. Bagal	Librarian	
		Prof. Omkar R. Sawant (Coordinator)	CIVIL	9021681374
52.	Registration Committee	/Prof. G. A. Fattepurkar (Coordinator)	CSE	9890909463
		Prof. Mr. S. D. Bhosale	Mech	9503103805
		Prof. G. V. Kakade	CSE	9172035632
		/Prof. Ms. N. P. Kulkarni (Coordinator)	ENTC	9823601809
		/Prof. M. J. Goski	ENTC	7721087813
53.	Seating Arrangement & Attendance Committee for Inauguration and Valedictory	Prof. G. R. Shaikh (Coordinator)	CSE	7843088305
		Prof. A. S. Chavan	CSE	9730959655
		Mr. M. G. Deshmukh	CIVIL	9448258729
		All Class Coordinators & All proctor Teachers'		

Bahid
(MTR)



B-Range

Sr. No.	Name of the committee	Name of the member	Department	Contact No.
54.	Discipline Committee	Prof. R. R. Gidde & His Team	Mech.	9922607633
		Prof. P.G. Gaikwad	CSE	8275025180
		Dr. A. A. Utpat	Mech	9158325055
		Dr. P. M. Pawar	Civil	9765394205
		Dr. S. M. Mukane	ENTC	9545552899
		Prof. M. M. Pawar	Civil	9545553888
		Dr. M. K. Raul	T&P	9545553881
		Dr. P. S. Kachare	Mech	9545553774
		Prof. S.R. Gavali	Mech	
		Dr. A. S. Vibhute	ENTC	
		Prof. V. D. Jadhav	CSE	945553837
		Dr. N. V. Khadake	Civil	
		Dr. S. A. Lendave	F.E	9545553878
		All Class Coordinators & All proctor Teachers'		
55.	P. A. System	Prof. V. S. Bhong (Coordinator)	EXTC	9960224232
		Mr. A. D. Dune	CSE	
		Mr. S. G. Jadhav	Electrician	9545553627
		Mr. B. S. Surwase	Mech	9545553819
		Mr. P. C. Waghmare	CSE	9545553676
56.	Photography, Video Shooting and publicity	Mr. A. A. Mote (Coordinator)	MECH	
		Mr. A. B. Chandanshive	Civil	9545553678
		Mr. Pravin Bansode	Diploma	
		Mr. D. T. Gaikwad	Mech	
57.	Invitation , Thanks letter, paper cuttings,& Photo Album preparation	Prof. K. B. Patil (Coordinator)	MBA	9595921154
58.	Students TA and DA Process	Prof. G. R. Shaikh (Coordinator)	CSE	9890292457
59.	Online darshan ticket booking	Prof. Mr. G.G. Patil (Coordinator)	CSE	9096454984
60.	House Keeping	Prof. R. S. Naikaware & his Team	B. Pharm.	-

All the concerned to take note and act accordingly.

Dashid
(Prof. D.T. Kashid)
Institute Coordinator,
OLYMPUS-2K18



B. Ronge
(Dr. B. P. Ronge)
Principal

C.C.

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2. All Deans
3. All HODs
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NOTICE

It is hereby informed to all concerned that the following are the details of the final selection to the various posts in Mechanical Engineering Department for OLYMPUS 2K18.

Departmental Student Head:-

1. Pise Jagdish [BE-A]
2. Jadhav Rishab [TE-A]

Sr. No.	Event	Staff Coordinator	Heads	Coordinators
1.	PAPERFEST	Prof. S.V.Jadhav Dr. S. B. Salunkhe Dr. R. R. Gidde	/Mayuri A. Raut (BE-A) Suraj K. Shende (TE-A)	/Snehal S. Kale (BE-A)
				Pruthviraj D. Pawar (SE-A)
				/Nikita N. Deomare (SE-B)
				Rohan R. Honkande (SE-A)
2.	Idea War	Prof. S. B. Patil	Shrinath J. Deshmukh (TE-A) Raviraj B. Kokil (BE)	Mahapure Suraj B. (TE-A)
				Karande Akshay R. (TE-A)
				Torne Sunil M. (TE-A)
				Ghongade Vishal B. (TE-A)
3.	Robo Race	Prof.V. R. Chavan Prof. C. C. Jadhav	Aniket B. Chavan (TE B) Pushkar M. Patil (TE B)	Anna Y. Sirsat (SE A)
				Purvesh P. Pangudwale (SE A)
				Vijas J. Shaikh (SE A)
				Pratik V. Ingale (SE B)
				Onkar G. Pore (TE B)
				Rushikesh M. Bhagwat (TE B)
				Avinash A. Deomare (TE B)
				Rama A. Mote (TE B)
				Gurudev. N. Mhetre (TE B)
				Raturaj A. Deshmukh (TE B)
				Pratap Netake (TE B)
Vyankatesh Khaladkar (TE B)				
4.	Business Plan	Prof. B. D. Gaikwad	Onkar P. Dudhane (BE-B) Rushikesh R. Waghmare (BE-C)	Mr. Shivam R. Kanade (BE)
				Rohit C. Adalinge (SE-B)
				Pratikesh P. Kumbhar (SE-B)

S.M. Kale

HEAD,
Dept. of Mechanical Engg
C.O.E. Pandharpur.

Sr. No.	Event	Staff Coordinator	Heads	Coordinators
5.	Lathe-War	Prof. K. V. Chandan Prof. U. L. Anuse	Shubham J. Jadhav (TE-A) Aniket D. Chavan (TE-A)	Piyush D. Nimgire (SE-B)
				Vikas V. Dhumal (SE-A)
				Amol M. Nagane (SE-B)
				Shubham S. Langote (SE-B)
				Ajinkya A. Jadhav (SE-A)
				Kiran M. Dune (TE B)
				Swapnil P. Ghodake (TE B)
6.	CAT-MAT Ability (Techno Quiz)	Prof. B. T. Gadade	Rupesh Bandgar (B.E)	/Shubhada Mehetre (SE-A)
				/Manasi S. Ghogale (SE-A)
				Samadhan D. Masal (SE-B)
7.	Agro Challenge	Prof. K. S. Pukale Prof. S. S. Kakade Prof. S. S. Wangikar	Akshay Hake (TE) Akash B. Rakate (TE-A)	Mr. Sayyad Farukh Husen (BE)
				Rajkumar shinde (SE)
				Rohan Honkande (SE)
				Akash Bhise (SE)
				Sunil Sonar (SE)
				Yogeshwar Devkate (SE)
				Dhumal Vikas (SE)
				Vaibhav P. Kale (SE-A)
				Pawan Gavali (SE)
				Pradip Sathe (SE)
8.	CATIA Race	Dr. A. B. Shinde Prof. A. K. Parkhe	Ashok B. Mule (BE-A) Vishal B. Waghmare (TE-A)	Nikhil V. Chavan (TE-B)
				Prasad D. Magi (SE-B)
				Akshay S. Sathe (SE-B)
				Vikas D. Patil (TE-B)
9.	AUTOCAD Race	Prof. S. J. Shinde Prof. A. K. Parkhe	Aiwale Prathemesh (TE- A) Sonage Ravikiran, (TE-B)	Rohit P. Sakhare (TE-B)
				Vasim J. Mulani (SE-B)
				Varad A. Lad (SE-B)
10.	Techno-Mech War	/Prof. P. K. Patil /Prof. P. A. Shaikh	Rajkumar Bile (B.E) Savata Randive (T.E)	Shubham Dixit (T.E)
				Abhiram Deshpande (T.E)
				Somesh Burande (B.E)
				Yogesh Burandkar (B.E)
				Sagar Bagewadi (B.E)
				Pritam Gaikwad (T.E)
				Mangesh Bhosale (B.E)

[Signature]
CS.M.Kale

HEAD
Dept. of Mechanical Engg
C.O.E. Pandharpur.

Sr. No.	Event	Staff Coordinator	Heads	Coordinators
11.	Blind Driving	Prof. S. S. Jadhav Prof. S. Y. Salunke	Sudarshan B. Shinde (TE-B) Sagar N. Gaikwad (TE-B)	Pruthvijit Gaikwad (TE-B)
				Suhas Phalake (TE-B)
				Mayur Naiknaware (TE-B)
				Ajay Jadhav (TE-B)
				Amit Pardeshi (TE-B)
				Rohit Sakhare (TE-B)
				Sudarshan Tate (TE-B)
				Rohan Pore (TE-B)
12.	Treasure Hunt	Prof. R. G. Sache	Vishal J. Kadam (TE-A) Laxman P. Pachakwade (TE-A)	Karan P. Warkhedkar (TE-A)
				Sameer M. Sayyad (TE-A)
				Shivtej C. Narule (TE-A)
13.	Registration	Prof. S. D. Bhosale	Arohan A. Jadhav (TE-A)	Raturaj Jadhav (SE-A)
				Shubham R. Atakale (TE-A)
				Vikram D. Vhanmane (TE-A)
14.	Accommodation	Prof. S. B. Bhosale	Jadhav Vijay Prakesh (TE-A)	Ghongade Vishal B. (TE-A)
				Karande Akashay (TE-A)
15.	Food Committee	Prof. S. M. Khomane	Pravin Kachare (B.E) Samadhan U. Bandagar (BE-B)	Charansinha U. Raut (TE-A)
				Nagesh S. Ronge (TE-A)
				Sachin S. Ingale (TE-A)
				Sunil Miskin (BE-A)
				Rajendra D. Pawar (BE-C)
				Shreyash D. Ptange (BE-C)
				Deepak B. Choudhari (BE-C)
				Rohan D. Gaikwad (BE-A)
16.	Certificate Distribution Committee	Prof. A. B. Choude		Mr. Ashutosh M. Potdar (BE)
				Akshay A. Takale (SE-B)
				Arbaj J. Tamboli (SE-B)
17.	Discipline Committee	Dr. R. R. Gidde	-	Pritam Gaikwad (TE-B)
				Ganesh Vastre (TE-B)
				Nitin Tele (TE-A)
				Yashraj A. Salunkhe (BE-C)

S.M. Kale
S.M. Kale

(Mr. S. M. Kale)

Departmental Co-ordinator
OLYMPUS 2k18

HEAD SRG
Dept. of Mechanical Engg
Head of Mechanical Engg. Dept.

Some Glimpses Of Olympus Event



Olympus 2k18 Poster Inauguration



Olympus 2k18 Inauguration Ceremony





Glimpses of Olympus 2k18 Events



Olympus 2k18 Valedictory and Prize Distribution Ceremony

स्वेरीत राष्ट्रीय तांत्रिक संशोधनपर स्पर्धा

प्रतिनिधी। पंढरपूर

राष्ट्रीय पातळीवरील 'ऑलम्पस २०१८' हा तांत्रिक संशोधनपर स्पर्धा कार्यक्रम १५ व १६ सप्टेंबर रोजी येथील स्वेरी कॉलेज मध्ये आयोजिण्यात आल्याची माहिती संस्थेचे सचिव प्राचार्य डॉ. बी.पी.रोंगे यांनी दिली.

यावेळी रोंगे म्हणाले, तयारी अंतिम टप्प्यात आली आहे. स्पर्धेसाठी भारतभरातून स्पर्धक येत आहेत. ऑलम्पस २०१८ हा कार्यक्रम सर्व विभागासाठी असून यामध्ये रोबोरेस, लेथ वॉर, अँटोकॅड रेस, अँग्रो चॅलेंज, टेक्नो गुरु, टाऊन प्लानिंग, एम कोड मॅटलॅब, ट्रेझर हंट, कटीया रेस, टेक्नो मेक वॉर, पेपर फिस्ट, बिझनेस प्लान, कॅट मॅट ऑबिलिटी, सीआरपी, अँड झिप, फॅब्रिका, ब्रिज डिझाइन, कॅड

रेस, सर्वे हंट, सर्किट सुडोकू, रोबोवॉर, ब्लाईंड सी, वेव डिझाइन, लॅन प्लॅनेट आदी संशोधन स्पर्धा होणार आहेत. स्पर्धेला दरवर्षी प्रचंड प्रतिसाद मिळतो. त्यामुळे संपूर्ण संशोधन समितीचे यावर नियंत्रण असते.

स्पर्धेसाठी बाहेरून आलेल्या संशोधक स्पर्धकांना कोणतीही अडचण येवू नये यासाठी विशेष समिती परिश्रम घेत आहे. सिद्धार्थ उपासे, दिपान्विता डेव, ऐश्वर्या मासाळ, नितीन कदम, ज्ञानराज तेलंग आदी विद्यार्थी देखील परिश्रम घेत आहेत. अधिक माहितीसाठी प्रा. डी.टी.काशीद (९१६८६५५३३५), प्रा. एस.एम. काळे (९१६८६५५३४४) व प्रा.एस.एम.कुंभार (मोबा. नं- ९८८६३९६५००) यांच्याशी संपर्क साधण्याचे आवाहन करण्यात आले आहे.

स्वेरीत राष्ट्रीय पातळीवरील ऑलम्पस तांत्रिक कार्यक्रम

पंढरपूर : प्रतिनिधी



राष्ट्रीय पातळीवरील ऑलम्पस २०१८ हा तांत्रिक संशोधनपर स्पर्धा कार्यक्रम येत्या १५

व १६ सप्टेंबर रोजी होणार असल्याची माहिती संस्थेचे संस्थापक सचिव व प्राचार्य डॉ. बी.पी.रोंगे यांनी दिली.

येथील श्री विठ्ठल अभियांत्रिकी महाविद्यालयाचे सचिव व प्राचार्य डॉ.रोंगे यांच्या मार्गदर्शनाखाली तसेच कार्यक्रमाचे समन्वयक प्रा. डी.टी. काशीद यांच्या सहकार्याने संपूर्ण स्पर्धेची तयारी होत आहे. यासाठी जवळपास भारतभरातून स्पर्धक येत आहेत. त्यामुळे त्यांच्या निवासापासून ते भोजनाची सोय देखील अंतिम टप्प्यात

आली आहे.

ऑलम्पस २०१८ हा कार्यक्रम सर्व विभागासाठी असून यामध्ये रोबोरेस, लेथ वॉर, अँटोकॅड रेस, अँग्रो चॅलेंज, टेक्नो गुरु, टाऊन प्लानिंग, एम कोड मॅटलॅब, ट्रेझर हंट, कटीया रेस, टेक्नो मेक वॉर, पेपर फिस्ट, बिझनेस प्लान, कॅट मॅट ऑबिलिटी, सीआरपी, अँड झिप, फॅब्रिका, ब्रिज डिझाइन, कॅड रेस, सर्वे हंट, सर्किट सुडोकू, रोबोवॉर, ब्लाईंड सी, वेव डिझाइन, लॅन प्लॅनेट असे विविध प्रकारचे संशोधन स्पर्धा होणार आहेत.

या स्पर्धात्मक कार्यक्रमाच्या अधिक माहितीसाठी प्रा. डी.टी. काशीद, प्रा. एस.एम. काळे व प्रा.एस.एम.कुंभार यांच्याशी संपर्क साधावा असे आवाहन करण्यात आले आहे.



स्वेरीत 'ऑलम्पस २०१८' राष्ट्रीय पातळीवरील तांत्रिक कार्यक्रम

प्रतिनिधी / पंढरपूर :

राष्ट्रीय पातळीवरील 'ऑलम्पस २०१८' हा तांत्रिक संशोधनपर स्पर्धा कार्यक्रम येत्या १५ व १६ सप्टेंबर रोजी होणार असल्याची माहिती संस्थेचे संस्थापक सचिव व प्राचार्य डॉ. बी. पी. रोंगे यांनी दिली.

येथील श्री विठ्ठल एज्युकेशन अँड रिसर्च इन्स्टिट्यूट, पंढरपूर संचालित अभियांत्रिकी महाविद्यालयात १५ व १६ सप्टेंबर या दोन दिवशी राष्ट्रीय दर्जाचे स्पर्धात्मक ऑलम्पस २०१८ ही स्पर्धा होत असून याची तयारी अंतिम टप्प्यात आली असल्याचे चित्र दिसत आहे.

ऑलम्पस २०१८ हा कार्यक्रम सर्व

विभागासाठी असून यामध्ये रोबोरेस, लेथ वॉर, अँटोकॅड रेस, अँग्रो चॅलेंज, टेक्नो गुरु, टाऊन प्लानिंग, एम कोड मॅटलॅब, ट्रेझर हंट, कटीया रेस, टेक्नो मेक वॉर, पेपर फिस्ट, बिझनेस प्लान, कॅट मॅट ऑबिलिटी, सीआरपी, अँड झिप, फॅब्रिका, ब्रिज डिझाइन, कॅड रेस, सर्वे हंट, सर्किट सुडोकू, रोबोवॉर, ब्लाईंड सी, वेव डिझाइन, लॅन प्लॅनेट

असे विविध प्रकारचे संशोधन स्पर्धा होणार आहेत. बाहेरून आलेल्या संशोधक स्पर्धकांना कोणतीही अडचण येऊ नये, यासाठी विशेष समिती परिश्रम घेत आहे. विद्यार्थ्यांच्यावतीने 'ऑलम्पस २०१८' चे विद्यार्थी अध्यक्ष सिद्धार्थ उपासे, सचिवा दीपान्विता डेव, सहसचिवा ऐश्वर्या मासाळ, खजिनदार नितीन कदम, ज्ञानराज तेलंग यांच्यासह

इतर विद्यार्थीदेखील परिश्रम घेत आहेत. या स्पर्धात्मक कार्यक्रमाच्या अधिक माहितीसाठी प्रा. डी.टी. काशीद (मोबा. नं-९१६८६५५३३५), प्रा. एस. एम. काळे (मोबा. नं-९१६८६५५३४४) व प्रा. एस. एम. कुंभार (मोबा. नं- ९८८-६३९६५००) यांच्याशी संपर्क साधावा, असे आवाहनदेखील यावेळी करण्यात आले आहे.



स्वेरीत अभियंता दिना निमित्त मार्गदर्शन करताना फ्लीटगार्ड फिल्टर्स प्रा.लि.चे सी.एफ.ओ. कंपनी सचिव आणि प्रमुख एच.आर. संजय कुलकर्णी सोबत संस्थेचे संस्थापक सचिव व अभियांत्रिकीचे प्राचार्य डॉ.बी.पी.रोंगे, हेड क्वालिटी आनंद दिवान, अमर माळी, जेष्ठ विश्वस्त दादासाहेब रोंगे, सुरज रोंगे व इतर

शिक्षणाबरोबरच व्यवहार ज्ञान माहित करून घ्यावे : संजय कुलकर्णी

स्वेरीत 'अभियंता दिन' संपन्न तर 'ऑलम्पस २०१८'चे थाटात उदघाटन

पंढरपूर(संतोष हलकुडे) : 'विज्ञान आणि तंत्रज्ञान विषय अभ्यासताना मनात एक प्रकारचे कुतूहल निर्माण होते त्यामुळे अनेक प्रश्नांच्या उत्तरांचा शोध घ्यावा लागतो यातून संशोधनाची निर्मिती होते त्यामुळे विद्यार्थ्यांनी शिक्षण घेताना अथवा नवीन गोष्टी करताना त्यात कुतूहल जागृत ठेवल्यास सर्वांगीण विकास शक्य होवू शकते. यासाठी विद्यार्थ्यांनी प्रगतीसाठी पुस्तकी ज्ञानाबरोबरच व्यवहारज्ञान देखील जाणून घ्यावे. त्यामुळे बाहेरील विश्वातील अनुभव घेऊन आपल्याला समाजात वावरताना आवश्यक ज्ञान मिळू शकते.यासाठी नवअभियंत्यांनी सामाजिक बांधिलकी जोपासून आपले ज्ञान वाढवावे.' असे प्रतिपादन फ्लीटगार्ड फिल्टर्स प्रा. लिमिटेडचे सी.एफ.ओ. कंपनी सचिव आणि प्रमुख एच आर. संजय कुलकर्णी यांनी केले.

श्री विठ्ठल एज्युकेशन अँड रिसर्च इन्स्टिट्यूट, पंढरपूर सं चालित अभियांत्रिकी महाविद्यालयात आयोजित केलेल्या 'अभियंता दिनी' व 'ऑलम्पस २०१८' या राष्ट्रीय संशोधन स्पर्धा कार्यक्रमाच्या उदघाटन प्रसंगी प्रमुख पाहणे म्हणून फ्लीटगार्ड फिल्टर्स प्रा. लिमिटेडचे सी.एफ.ओ. कंपनी सचिव आणि प्रमुख एच.आर. संजय कुलकर्णी

हे उपस्थितांना मार्गदर्शन करत होते. कार्यक्रमाच्या अध्यक्षस्थानी जेष्ठ विश्वस्त दादासाहेब रोंगे होते. प्रारंभी भारतरत्न डॉ. मोक्षगुंडम्प विश्वेश्वरय्या यांच्या प्रतिमेच्या पुजनानंतर संस्थेचे संस्थापक सचिव व अभियांत्रिकीचे प्राचार्य डॉ. बी.पी.रोंगे यांनी संस्थेची संपूर्ण माहिती देवून प्रास्ताविक केली. 'ऑलम्पस २०१८'चे विद्यार्थी अध्यक्ष सिद्धार्थ उपासे यांनी स्पर्धेची संपूर्ण नियमावली व सविस्तर माहिती दिली. यावेळी कांचन बागल, शैता कदम, सहसचिवा ऐश्वर्या मासाळ यांनी देखील अभियंता दिनाबाबत मत व्यक्त केले. स्वेरीचे माजी विद्यार्थी व कमिन्स इंडिया कंपनीचे मॅनेजर अमर माळी म्हणाले की, 'स्वेरीचे यश हे विद्यार्थ्यांच्या गुणवत्तेवर अवलंबून आहे आणि विद्यार्थ्यांना गुणवत्तापात्र बनविण्यासाठी येथील प्राध्यापक वर्ग प्रचंड परिश्रम घेत असतात. विद्यार्थ्यांच्या यशासाठी विविध प्रयोग केले जाते. त्यामुळेच या ठिकाणी शिक्षण घेणारे विद्यार्थी परिपक्व अभियंते बनत असून स्वेरीतील विद्यार्थ्यांचे भविष्य उज्वल आहे.' असे सांगून आलेला अनुभव व त्यातून झालेला विकास याबाबत माळी यांनी माहिती दिली. फ्लीटगार्डचे हेड क्वालिटी आनंद दिवान म्हणाले की, 'आपण काय आहोत? हे आपल्या कार्यातून

दाखवून द्यावे. विद्यार्थ्यांकडे विषय, ज्ञान आणि माणूसकी जर असेल तर भविष्यात त्याचा पुरस्कार जगभर होईल. विद्यार्थ्यांनी इंग्रजी संवाद साधताना संपूर्ण व्याकरणांचा वापर करावा.' असे सांगून दिवान यांनी विद्यार्थ्यांना कंपनीत काम करताना आवश्यक ज्ञान कसे मिळवावे याबाबत मार्गदर्शन केले. अध्यक्षस्थानावरून जेष्ठ विश्वस्त दादासाहेब रोंगे म्हणाले की, 'आपण महापुरुषांचा गौरव करताना आपल्याला व समाजाला त्यांच्या माध्यमातून एक प्रकारे प्रेरणा व ऊर्जा मिळते म्हणून विद्यार्थ्यांनी आपल्याला मिळणारे कौशल्यज्ञान समाजाच्या उपयोगी आणावेत.' असे सांगितले. यावेळी 'ऑलम्पस २०१८' निमित्ताने अभियांत्रिकीचे सर्व विभाग आकर्षक पध्दतीने सजविले होते तर जागोजागी सुगंध दखळत होता. यावेळी सुरज रोंगे, पालक संघाचे दैठणकर, डिप्लोमा इंजिनिअरिंगचे प्राचार्य डॉ. एन.डी. मिसाळ, फार्मसीच्या प्राचार्या डॉ. एस. डी. सोनवणे, अभियांत्रिकीचे उपप्राचार्य डॉ. एस.एन. कुलकर्णी, 'ऑलम्पस २०१८'चे समन्वयक प्रा. डी.टी.काशीद, सांस्कृतिक कार्यक्रम विभागप्रमुख प्रा. करण पाटील, सचिवा दिपाचिता डेब, खजिनदार नितिन कदम, ज्ञानराज तेलंग, विविध विभागाचे प्रमुख, प्राध्यापक वर्ग, शिक्षकेतर कर्मचारी, विद्यार्थी, पालक आदी उपस्थित होते. सुत्रसंचालन ऋतुराज जाधव व आकांक्षा पाटील यांनी केले तर विद्यार्थी अधिष्ठाता डॉ. अभय उत्पात यांनी आभार मानले.

चाळण्यासाठी खूप कांही पण..
वाचण्याजोगा दामाजी एक्सप्रेस च

विठ्ठल अभियांत्रिकीत अभियंता दिन साजरा

लोकमत न्यूज नेटवर्क

पंढरपूर : श्री विठ्ठल अभियांत्रिकी महाविद्यालयात अभियंता दिनी व ऑलम्पस २०१८ या राष्ट्रीय संशोधन स्पर्धा कार्यक्रमाच्या उदघाटन फ्लीटगार्ड फिल्टर्स प्रा. लिमिटेडचे सचिव संजय कुलकर्णी यांच्या हस्ते करण्यात आले. अध्यक्षस्थानी ज्येष्ठ विश्वस्त दादासाहेब रोंगे होते.

प्रारंभी भारतरत्न डॉ. मोक्षगुंडम्प विश्वेश्वरय्या यांच्या प्रतिमेचे पूजन संस्थापक सचिव डॉ. बी. पी. रोंगे यांनी केले. ऑलम्पस २०१८ चे विद्यार्थी अध्यक्ष सिद्धार्थ उपासे यांनी स्पर्धेची नियमावली व सविस्तर माहिती दिली. यावेळी कांचन बागल, श्वेता कदम, सहसचिवा ऐश्वर्या मासाळ यांनी अभियंता दिनाबाबत माहिती दिली.

स्वेरीचे माजी विद्यार्थी अमर माळी, फ्लीटगार्डचे हेड क्वालिटी आनंद दिवान, सुरज रोंगे, पालक संघाचे दैठणकर, प्राचार्य डॉ. एन. डी. मिसाळ, प्राचार्या डॉ. एस. डी. सोनवणे, उपप्राचार्य डॉ. एस. एन. कुलकर्णी, ऑलम्पस २०१८ चे समन्वयक प्रा. डी. टी. काशीद, प्रा. करण पाटील, दिपाचिता डेब, नितिन कदम, ज्ञानराज तेलंग, यांच्यासह प्राध्यापक, शिक्षकेतर कर्मचारी, विद्यार्थी, पालक उपस्थित होते. सूत्रसंचालन ऋतुराज जाधव व आकांक्षा पाटील यांनी केले. तर विद्यार्थी अधिष्ठाता डॉ. अभय उत्पात

स्वेरीत अभियंता दिन साजरा, ऑलम्पस २०१८ चे थाटात उद्घाटन

पंढरपूर- (संतोष हलकुडे) 'विज्ञान आणि तंत्रज्ञान विषय अभ्यासताना मनात एक प्रकारचे कुतूहल निर्माण होते त्यामुळे अनेक प्रश्नांच्या उत्तरांचा शोध घ्यावा लागतो यातून संशोधनाची निर्मिती होते त्यामुळे विद्यार्थ्यांनी शिक्षण घेताना अथवा नवीन गोष्टी करताना त्यात कुतूहल जागृत ठेवल्यास सर्वांगीण विकास शक्य होवू शकते. यासाठी विद्यार्थ्यांनी प्रगतीसाठी पुस्तकी ज्ञानाबरोबरच व्यवहारज्ञान देखील जाणून घ्यावे. त्यामुळे बाहेरील विश्वातील अनुभव येवून आपल्याला समाजात वावरताना आवश्यक ज्ञान मिळू शकते. यासाठी नवअभियंत्यांनी सामाजिक बांधिलकी जोपासून आपले ज्ञान वाढवावे.' असे प्रतिपादन फ्लीटगार्ड फिल्टर्स प्रा. लिमिटेडचे सी.एफ.ओ. कंपनी सचिव आणि प्रमुख एच. आर. संजय कुलकर्णी यांनी केले. येथील श्री विठ्ठल एज्युकेशन अँड रिसर्च इन्स्टिट्यूट, पंढरपूर संचालित अभियांत्रिकी महाविद्यालयात आयोजित केलेल्या 'अभियंता दिनी' व 'ऑलम्पस २०१८' या राष्ट्रीय संशोधन स्पर्धा कार्यक्रमाच्या



उद्घाटन प्रसंगी प्रमुख पाहुणे म्हणून फ्लीटगार्ड फिल्टर्स प्रा. लिमिटेडचे सी.एफ.ओ. कंपनी सचिव आणि प्रमुख एच. आर. संजय कुलकर्णी हे उपस्थितांना मार्गदर्शन करत होते. कार्यक्रमाच्या अध्यक्षस्थानी जेष्ठ विश्वस्त दादासाहेब रोंगे होते. प्रारंभी भारतरत्न डॉ. मोक्षगुंडम्प विश्वेश्वरय्या यांच्या प्रतिमेच्या पुजानंतर संस्थेचे संस्थापक सचिव व अभियांत्रिकीचे प्राचार्य डॉ. बी.पी.रोंगे यांनी संस्थेची संपूर्ण माहिती देवून प्रास्ताविक

केली. 'ऑलम्पस २०१८' चे विद्यार्थी अध्यक्ष सिद्धार्थ उपासे यांनी स्पर्धेची संपूर्ण नियमावली व सविस्तर माहिती दिली. यावेळी कांचन बागल, श्वेता कदम, सहसचिवा ऐश्वर्या मासाळ यांनी देखील अभियंता दिनाबाबत मत व्यक्त केले. स्वेरीचे माजी विद्यार्थी व कमिन्स इंडिया कंपनीचे मॅनेजर अमर माळी म्हणाले की, 'स्वेरीचे यश हे विद्यार्थ्यांच्या गुणवत्तेवर अवलंबून आहे आणि विद्यार्थ्यांना

गुणवत्तापात्र बनविण्यासाठी येथील प्राध्यापक वर्ग प्रचंड परिश्रम घेत अस्तात. विद्यार्थ्यांच्या यशासाठी विविध प्रयोग केले जाते. त्यामुळेच या ठिकाणी शिक्षण घेणारे विद्यार्थी परिपक्व अभियंते बनत असून स्वेरीतील विद्यार्थ्यांचे भविष्य उज्वल आहे.' असे सांगून आलेला अनुभव व त्यातून झालेला विकास याबाबत माळी यांनी माहिती दिली. फ्लीटगार्डचे हेड ब्रान्चिटी आनंद दिवान म्हणाले की, 'आपण काय

आहोत? हे आपल्या कार्यातून दाखवून द्यावे. विद्यार्थ्यांकडे विषय, ज्ञान आणि मानूसकी जर असेल तर भविष्यात त्याचा पुस्तकार जगभर होईल. विद्यार्थ्यांनी इंग्रजी संवाद साधताना संपूर्ण व्याकरणाचा वापर करावा.' असे सांगून दिवान यांनी विद्यार्थ्यांना कंपनीत काम करताना आवश्यक ज्ञान कसे मिळवावे याबाबत मार्गदर्शन केले. अध्यक्षस्थानावरून जेष्ठ विश्वस्त दादासाहेब रोंगे म्हणाले की, आपण

महापुरुषांचा गौरव करताना आपल्याला व समाजाला त्यांच्या माध्यमातून एक प्रकारे प्रेरणा व ऊर्जा मिळते म्हणून विद्यार्थ्यांनी आपल्याला मिळणारे कौशल्यज्ञान समाजाच्या उपयोगी आणावेत. असे सांगितले. यावेळी 'ऑलम्पस २०१८' निमित्ताने अभियांत्रिकीचे सर्व विभाग आकर्षक पध्दतीने सजविले होते तर जागोजगी सुगंध दरवळत होता. यावेळी सुरज रोंगे, पालक संधाचे दैठणकर, डिप्लोमा इंजिनिअरिंगचे प्राचार्य डॉ. एन.डी. मिसाळ, फार्मसीच्या प्राचार्य डॉ. एस. डी. सोनवणे, अभियांत्रिकीचे उपप्राचार्य डॉ. एस.एन. कुलकर्णी, ऑलम्पस २०१८ चे समन्वयक प्रा. डी.टी.काशीद, सांस्कृतिक कार्यक्रम विभागप्रमुख प्रा. करण पाटील, सचिवा दिपांजिता डेब, खजिनदार नितीन कदम, ज्ञानराज तेलंग, विविध विभागाचे प्रमुख, प्राध्यापक वर्ग, शिक्षकेतर कर्मचारी, विद्यार्थी, पालक आदी उपस्थित होते. सुत्रसंचालन ऋतुराज जाधव व आकांक्षा पाटील यांनी केले तर विद्यार्थी अधिष्ठाता डॉ. अभय उत्पात यांनी आभार मानले.

शिक्षणाबरोबरच व्यवहार ज्ञान माहित करून घ्यावे !

पंढरपूर : विज्ञान आणि तंत्रज्ञान विषय अभ्यासताना मनात एक प्रकारचे कुतूहल निर्माण होते त्यामुळे अनेक प्रश्नांच्या उत्तरांचा शोध घ्यावा लागतो यातून संशोधनाची निर्मिती होते त्यामुळे विद्यार्थ्यांनी शिक्षण घेताना अथवा नवीन गोष्टी करताना त्यात कुतूहल जागृत ठेवल्यास सर्वांगीण विकास शक्य होवू शकते. यासाठी विद्यार्थ्यांनी प्रगतीसाठी पुस्तकी ज्ञानाबरोबरच व्यवहारज्ञान देखील जाणून घ्यावे. त्यामुळे बाहेरील विश्वातील अनुभव येवून आपल्याला समाजात वावरताना आवश्यक ज्ञान मिळू शकते. यासाठी नवअभियंत्यांनी सामाजिक बांधिलकी जोपासून आपले ज्ञान वाढवावे. असे प्रतिपादन फ्लीटगार्ड फिल्टर्स प्रा. लिमिटेडचे सी.एफ.ओ. कंपनी सचिव आणि प्रमुख एच. आर. संजय कुलकर्णी यांनी केले. येथील श्री विठ्ठल एज्युकेशन अँड रिसर्च इन्स्टिट्यूट, पंढरपूर संचालित अभियांत्रिकी महाविद्यालयात आयोजित केलेल्या अभियंता दिनी व ऑलम्पस या राष्ट्रीय संशोधन स्पर्धा कार्यक्रमाच्या उद्घाटन प्रसंगी प्रमुख पाहुणे म्हणून फ्लीटगार्ड फिल्टर्स प्रा. लिमिटेडचे सी.एफ.ओ. कंपनी सचिव आणि प्रमुख एच. आर. संजय कुलकर्णी हे उपस्थितांना मार्गदर्शन करत होते. कार्यक्रमाच्या अध्यक्षस्थानी जेष्ठ



विश्वस्त दादासाहेब रोंगे होते. प्रारंभी भारतरत्न डॉ. मोक्षगुंडम्प विश्वेश्वरय्या यांच्या प्रतिमेच्या पुजानंतर संस्थेचे संस्थापक सचिव व अभियांत्रिकीचे प्राचार्य डॉ. बी.पी.रोंगे यांनी संस्थेची संपूर्ण माहिती देवून प्रास्ताविक केले. ऑलम्पस चे विद्यार्थी अध्यक्ष सिद्धार्थ उपासे यांनी स्पर्धेची संपूर्ण नियमावली व सविस्तर माहिती दिली. यावेळी कांचन बागल, श्वेता कदम, सहसचिवा ऐश्वर्या मासाळ यांनी देखील अभियंता दिनाबाबत मत व्यक्त केले. यावेळी जेष्ठ विश्वस्त दादासाहेब रोंगे म्हणाले की, आपण महापुरुषांचा गौरव करताना आपल्याला व समाजाला त्यांच्या माध्यमातून एक प्रकारे प्रेरणा व ऊर्जा मिळते म्हणून विद्यार्थ्यांनी आपल्याला मिळणारे कौशल्यज्ञान

समाजाच्या उपयोगी आणावेत. असे सांगितले. यावेळी सुरज रोंगे, पालक संधाचे दैठणकर, डिप्लोमा इंजिनिअरिंगचे प्राचार्य डॉ. एन.डी. मिसाळ, फार्म सीच्या प्राचार्या डॉ. एस. डी. सोनवणे, अभियांत्रिकीचे उपप्राचार्य डॉ. एस.एन. कुलकर्णी, ऑलम्पस चे समन्वयक प्रा. डी.टी.काशीद, सांस्कृतिक कार्यक्रम विभागप्रमुख प्रा. करण पाटील, सचिवा दिपांजिता डेब, खजिनदार नितीन कदम, ज्ञानराज तेलंग, विविध विभागाचे प्रमुख, प्राध्यापक वर्ग, शिक्षकेतर कर्मचारी, विद्यार्थी, पालक आदी उपस्थित होते. सुत्रसंचालन ऋतुराज जाधव व आकांक्षा पाटील यांनी केले तर विद्यार्थी अधिष्ठाता डॉ. अभय उत्पात यांनी आभार मानले.

Sample Certificates



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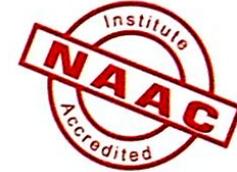
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A Series of National Level Technical Events

OLYMPUS 2K18

CERTIFICATE



Mr./Ms./Mrs. Rahul S. Kathare

of Government Polytechnic, Obad for being Winner / Runner up / Participant in the
event AutoCAD RACE of "Olympus 2K18" organised on 15th & 16th September 2018
at SVERI's College of Engineering, Pandharpur.

" Lets not wait for the change; lets be the change "


Student Co-ordinator


(Prof. D. T. Kashid)
Institute Co-ordinator, ISTE


(Dr. B. P. Ronge)
Principal





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A Series of National Level Technical Events

OLYMPUS 2K18

CERTIFICATE OF APPRECIATION



This is to certify that Mr./Ms./Mrs. Aniket D. Chavan

of Class T.E.(Mech) has worked as Head / Co-ordinator for Lathe War

Event / Committee in "Olympus 2K18" organised on 15th & 16th September 2018

at SVERI's College of Engineering, Pandharpur.

" Lets not wait for the change; lets be the change "

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Student Co-ordinator

[Signature]

(Prof. D. T. Kashid)

Institute Co-ordinator, ISTE

[Signature]

(Dr. B. P. Ronge)

Principal



Sample Report of Olympus

Report of “OLYMPUS 2K18”

It gives me an immense pleasure & joy to inform you that, our institute have organized “OLYMPUS 2K18”, a Series of National Level Technical Events under ISTE Students’ Chapter along with MESA, ELITE, ICON, ASCENT & CESA on 15th & 16th September 2018.

“OLYMPUS 2K18”, was organized with an agenda to discover the best ideas and innovations from across the nation that would reform and revolutionize the present day scenario in India. One single idea has the potential to become the harbinger of change and a crusader for a cause in the coming days. Every year, Shri Vithal Education and Research Institute’s, Pandharpur (SVERI) invites young engineers from all over the nation to participate in one of the most exciting events of the year “OLYMPUS 2K18”. This event aims at providing students, a national platform for exposure to various technical & competitive issues & helping them to enhance their overall skill.

The program started with inauguration ceremony in the auspicious hands of Chief Guest, Hon. Shri. Sanjay Kulkurni, CFO, Fleetgaurd Filters Pvt. Ltd. and Dr. B. P. Ronge, Principal, SVERI’s College of Engineering, Pandharpur. In the Valedictory Function, different participants put forward their views about the program and its organization, where most of the participants expressed their satisfaction about arrangement of such an event in this region. Prize distribution ceremony was done by hands of Chief Guest Hon. Shri. Amol Deshpande, Walchandnagar Industries, Walchandnagar. Certificates, Prizes & Medals were distributed to all the winners.

Our management leaves no stone unturned in supporting our students in this ordeal. This year a total budget of around 5.50 lakhs was set aside for this “OLYMPUS 2K18”. Thus letting the students concentrate on the actual planning and execution of the event rather than hunting for petty sponsorships. Of the budget the winners of the events can take home about 2 lakhs prize money. Total number of participants was 1400 approximately .We thank them in all humility for this wonderful gesture.

Technical Events conducted under OLYMPUS 2K18 are-

PAPERFEST (Paper Presentation)	AutoCAD Race	CAD Race	DB-Mania
IDEA War	Circuit Blueprint	Bridge Design	Business Plan
CAT-MAT Ability (General Quiz)	Proteus War	Town Planning	ADD-ZAP
Robo-Race	M Code -Microcontroller	Survey Hunt	C.R.P. (Campus Recruitment Program)
Lathe War	M Code - MATLAB	Robo War	Treasure Hunt
Blind Driving	LAN Planet-NFS	Web Design	Agro-Challenge
CATIA Race	LAN Planet-Counter Strike	Code Debugging	Techno-Guru (CSE Quiz)
Techno- Mech War	FABRICA	Blind C	

About 125 faculty coordinators and 500 student coordinators have made efforts for the success of the event.

Sr. No.	Post	Name of Student	Class
1.	President	Mr. Siddharth Upase	B.E.(ENTC)
2.	Secretary	Ms. Dipanwita Deb	B.E.(CSE)
3.	Joint Secretary	Ms. Aishwarya Masal	T.E.(CIVIL)
4.	Treasurer	Mr. Nitin Kadam	B.E.(MECH)
5.	Treasurer	Mr. Dnyanraj Telang	B.E.(MECH)


D.T.K

(Prof. D.T. Kashid)
Institute Coordinator, OLYMPUS-2K18

KSHITIJ 2K19-A TECHNICAL EVENT THROUGH MESA

We have organized KSHITIJ-2K19 under MESA in collaboration with IEI, Kolkata, Solapur Local Center, Solapur on 07th March 2019. The Function was inaugurated by **Hon. Mr. Kishor Humar**, H.R. Managing, Shriram Finance Value Device. Solapur, along with Trustee Member SVERI's, COE, Pandharpur **Hon. Prof. Suraj Ronge**, Head Dept. of Mech. Engg. Prof. S. R. Gavali, Dean, Students' Dr. A. A. Utpat, Dean Admission Dr. P. S. Kachare Principal, SVERI's COE (Poly), Pandharpur, Dr, N. D. Misal, MESA President Mr. Rajendra Pawar, MESA Staff Co-ordinator Prof. A. K. Parkhe, IEI Kolkata Students' Chapter Staff Co-ordinator Prof. D. T. Kashid.

In this event we organized 8 events like Paper Fest, Poster Presentation, General Quiz, Project Exhibition, CATIA Race, CAD War, Blind Driving & PUBG. The many students have participated in these different events from different colleges. More than 400 students were participated in this Kshitij-2k19.

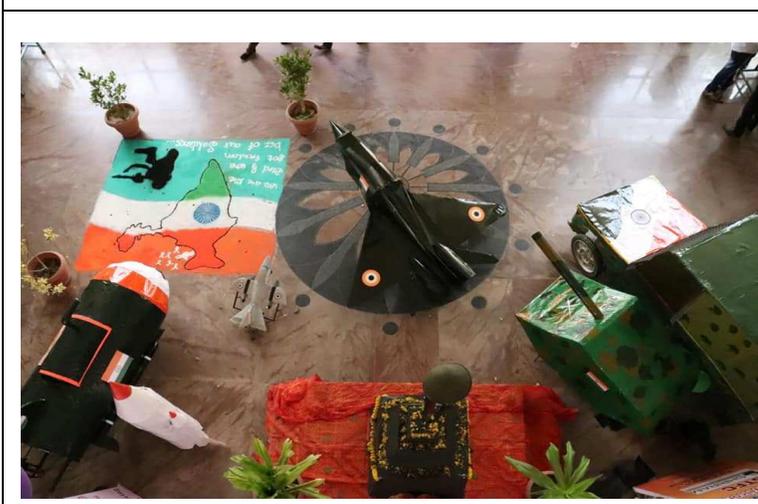


MESA Coordinator

Head, Mechanical Engg. Dept.

HEAD,
Dept. of Mechanical Engg
C.O.E. Pandharpur.

Some Glimpses of KSHITIJ Activity



Apurva

MESA Coordinator

K. S. K.

Head, Mechanical Engg. Dept.

HEAD,
Dept. of Mechanical Engg
C.O.E. Pandharpur.



MESA Coordinator

Head, Mechanical Engg. Dept.

HEAD,
Dept. of Mechanical Engg
C.O.E. Pandharpur.



Date:05/09/2018

NOTICE

All the students of ENTC Department are hereby informed to note. We are going to inaugurate the 'ELITE 2k19' on 14/09/2018. Attendance is compulsory for all the students. All the students are hereby informed to act accordingly.

ELITE President: Ms.Vaishanvi Patki. BE B

ELITE Vice President: Ms. Banu Chavan. BE A

ELITE Secretary: Mr.Pandurang Misal. TE A

ELITE Joint Secretary: Mr.Rohit Ranware. TE B

A handwritten signature in blue ink, appearing to be "CA", written over a horizontal line.

ELITE Coordinator

A handwritten signature in blue ink, appearing to be "bnp", written over a horizontal line.

HOD ENTC

14/09/2018
Dept. of Electronics & Telecom. Engg.
C. O. E. Pandharpur

Office Order of ELITE



Shri Vithal Education & Research Institute's

COLLEGE OF ENGINEERING, PANDHARPUR

P.B. No. 54, Gopalpur -Ranjani Road, Gopalpur, Pandharpur- 413 304, District: Solapur (Maharashtra)
Tel.: 02186-216063, 9503103757, Toll Free No.: 1800-3000-4131, E-mail: coe@sveri.ac.in, Web: www.sveri.ac.in
(Approved by A.I.C.T.E., New Delhi and Affiliated to Solapur University, Solapur)
NBA Accredited all eligible UG Programmes, NAAC Accredited Institute, Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune. ISO 9001-2015 Certified Institute

Date 05/09/2018.

OFFICE ORDER

The Following Students Were Deputed for the smooth conduction of ELITE 2K19 on 14/09/2018.

Sr.no.	Committee Name	Faculty Name	Student Coordinator
1	Overall Organization	Akshay Jadhav	IMs.Vaishanvi Patki. Mr.Pandurang Misal
2	Decoration and guest felicitation	/ASS /SRP	Ms.Sayli Gadekar
3	PA system	VSB	Mr.Vishal Gaikwad
4	Discipline	HKB SAI /JSS /MMPr	Mr.Annasaheb Satpute Ms.Banubai Chavan
5	Transportation	DPN	Mr.Rushikesh More
6	Anchoring	NPK	Ms Vaishnavi patki
7	Photography and video	/SDP /SSG	Mr.Sushant Aldar

ELITE Coordinator

HOD ENT



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ISO 9001:2015



DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

01/01/2019

ELITE 2K19

(ELECTRONICS LEADING IN TECHNICAL ENRICHMENT)

We have inaugurated the departmental student forum ELITE (ELECTRONICS LEADING IN TECHNICAL ENRICHMENT) on 14th Sept 2018. The theme Adopted for the same was **Industrial Revolution 4.0**. Students have made a prototype of **Solar System** . The association inaugural function was initiated with invocation and traditional lighting of lamp in TPO Seminar hall. **Mr.Sarvesh Rantparkhi** from **Suma Soft Pvt. Ltd. Pune** inaugurated the students Forum , also Guided on Requirement of industry from engineering Graduate & Advanced technology related courses . **Dr.N.D.Misal** Principal SVERI's Polytechnic (Engineering) Guided the student on the importance of Research . **Dr.Anup S Vibhute** HOD ENTC Guided Students on teamwork and innovation . On the same day, students have arranged the following Events

1. Art Gallery
2. Techno-Jam
3. Rapid Fire
4. Project Mania

Art Gallery was arranged to encourage the students' talent of art , all the students from the department contributed to the same .

The LOGO & Solgan Design Competition was held for the students in order to enhance their creative and analytical thinking . Students from all the divisions SE TE And BE ENTC have participated. In Project Mania Mini Project made by Diploma & TE students was kept for demonstration . Rapid Fire and Techno jam was the Creative events have made participant to Showcase their talent.

ELITE COORDINATOR

HOD ENTC
HEAD

Dept of Electronics & Telecom. Engg.



Some Glimpses of ELITE ACTIVITY

Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR

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Some Glimpses of ELITE Inauguration and Events Conducted



Mr. Sarvesh Ratnparkhi from Suma Soft Pvt. Ltd. Pune and SVERI's Proud Alumini Guiding the Students



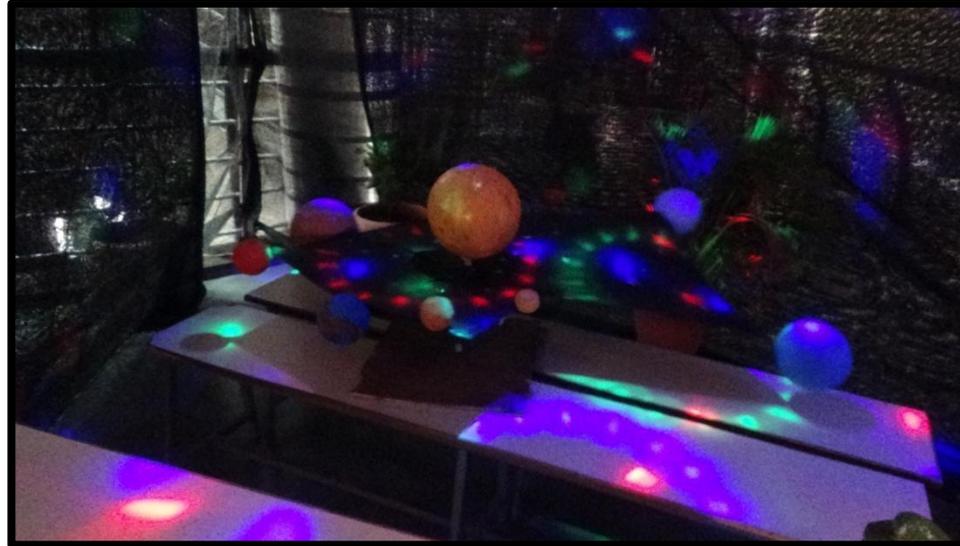
Dr.N.D.Misal Principal SVERI's Poly technic Guidning the Students



HOD ENT Dr.A.S.Vibhute Guidning the Students



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Solar System Prototype made our Students



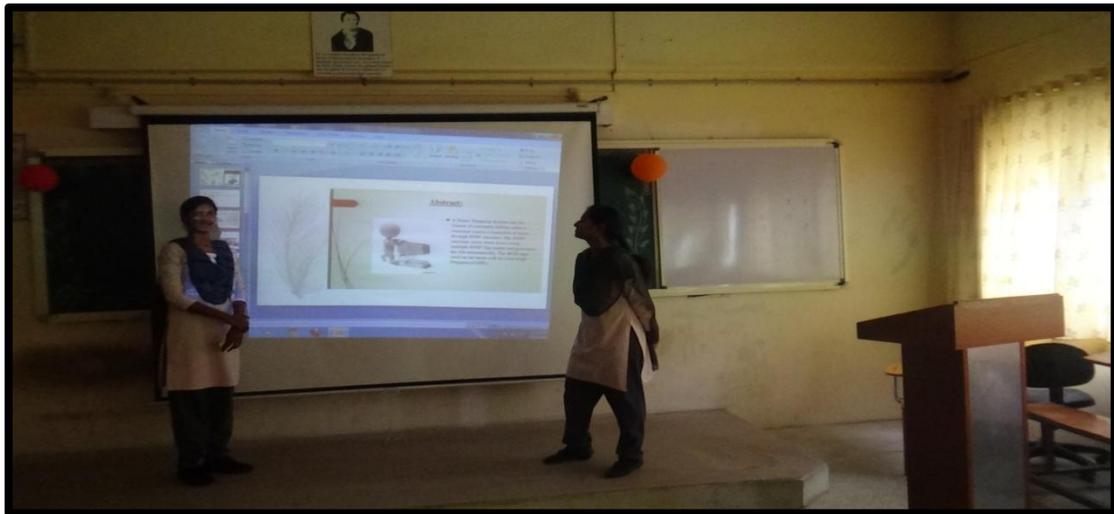
Glimpses of Project Exhibition Event



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Glimpses of Project Exhibition Event



Glimpses of Project Mania Event



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Glimpses of Rapid Fire Event



Glimpses of Art Gallery



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As a engineering or any other graduate it's our social responsibility to contribute towards environment. SVERI always take lead in such activities and this year it was no different. We had celebrated environmental day by planting trees on 21 July 2018 and take oath of preservation of trees and environment. The initiative referred as "*Sverich Zaad*"

Pandharpur is known as "*Dakshin Kashi*" of India where every year over 8 lacs pilgrims devotedly visit during "*Ashadhi Wari*". This floating population is way beyond the population of Pandharpur and hence the resource management is always a key factor every year. The use of mobile toilets and cleanliness is always an issue during Wari and hence the faculty members along with group of students participated in Nirmalwari Abhiyan for 24 hrs in four batches of 6hrs each. The faculty members and students voluntarily encouraged the pilgrims to use mobile toilets and create awareness about plastic ban.



GREEN TEAM



NIRMAL WARI ABHIYAN



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BE Farewell

Students from TE and SE ENTC have given the Farewell to the BE ENTC Students on 20th April 2018. The Function was inaugurated by Dean Students' Dr.A.A.Utpat. Our some BE ENTC Students have shared their views about college and Department



Experiential Learning through Mock Interviews

- **Individual Participation**
- **Communication Effectively**
- **Engineering Knowledge**

Video Link: <https://youtu.be/JacejXfHP-o>

Audio- Video Recording Interview

Dr. Madhav Raul- Dean TPII <placement@sveri.ac.in>

Sun, Dec 30, 2018 at 11:26 AM

To: mmshinde@coe.sveri.ac.in, "Prof. Shubhash Jadhav" <svjadhav@coe.sveri.ac.in>, Pooja Taralgatti <pdtaralgatti@coe.sveri.ac.in>, Mohua Biswas <msbiswas@coe.sveri.ac.in>, Anup Vibhute <asvibhute@coe.sveri.ac.in>, "Mr. Sachin Gavali" <srgavali@coe.sveri.ac.in>, Prashant Pawar <pawarpm@sveri.ac.in>, Vidhyarani Kshirsagar <vskshirsagar@coe.sveri.ac.in>, Vanita Jadhav CSE <vdjadhav@coe.sveri.ac.in>, "Prof. Mukund Pawar" <mukundpaw@sveri.ac.in>, Swapnil Padwale <sgpadwale@coe.sveri.ac.in>

Cc: Babruvahan Ronge <rongebp62@gmail.com>

Training & Placement Cell

Notice

All the HODs are hereby requested to carry out **Audio- Video Recording Interview** for all the students of SE&TE with immediate effect from 01/01/2019 for Second Year, it should start from 01/01/2019 & for Third Year, it should start from 25/01/2019.

The following points should be considered.

1. Everyday minimum 10 students interview should be conducted by concerned

Departmental faculty members.

2. Each student should be given 5 minutes for the interview.

3. The soft copy of video recording should be given to the students.

4. Concerned departmental faculty should prepare the schedule for TE students, every day 10 students.

5. HODs should ensure that 100 % effectiveness & involvement of students and faculty members for this activity.

6. HODs Should ensure that each subject is covered from Second Year onward.

7. Concerned departmental Coordinator should maintain the record of Video recording as well as Attendance.

Note: Swpnil Padwale sir Kindly meet all the Coordinators and brief them about the same.

Coordinator: Mr. Swpnil Padwale

Mr. S.V. Jadhav - MECH
Ms. Mohua Biswas- ENTC
Mr. M.M. Shinde -CSE
Ms. P.D. Tarlatti

Note: #Kindly find attached along with. pdf file of the Interview guide for personal Interview.

Coordinators of Concerned departments are requested to prepare plan of Technical Subjects and ensure that each respective faculty members conduct the same.

Regards

Dr. Madhav Raul

Dean-Training-Placement & Industry Interaction,

Joint Treasurer Maharashtra Association of Training and Placement Officers [MATPO]

SVERI's College of Engineering, Pandharpur,

Gopalpur-Ranjani, Road, Gopalpur,

Dist: Solapur, Pin-413304.

Cell: 09545553881

Email: placement@sveri.ac.in

madhavcoep@gmail.com

URL: www.sveri.ac.in

 [HR Interview Questions for Freshers with best Answers and Examples\(1\).pdf](#)
761K

SAMPLE NOTICE FROM DEPARTMENT



ShriVithal Education & Research Institute's

COLLEGE OF ENGINEERING, PANDHARPUR

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www.tuv.com
TD 9105448158

Date: 01/01/2019

Department of Electronics & Telecommunication Engineering NOTICE

All the second year students are informed to note that **Audio Video Recording** interview sessions will be started from 03/01/2019. The batches for the sessions are displayed on the notice board. Attendance is mandatory for the sessions. In case of absenteeism you should inform one day before to the concerned faculty coordinator.

The following points should be considered.

1. Everyday minimum 10 students' interview should be conducted.
2. Each student should be given 5 minutes for the interview.
3. The soft copy of video recording should be given to the students.

(Ms. Mohua Biswas)

ENTC Coordinator

(Prof. Dr. A.S. Vibhute)

HOD ENTC

SCHEDULE OF MOCK INTERVIEWS



Shri Vithal Education & Research Institute's

COLLEGE OF ENGINEERING, PANDHARPUR

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Department of Electronics & Telecommunication Engineering
AUDIO-VIDEO RECORDING SCHEDULE
SECOND YEAR STUDENTS

Roll No.	Name of Student	Batch	Date
A1	/AVADHUT RENUKA AUDUMBAR	I	03/01/2019
A2	/CHAVAN RUTUJA SHIVAJI		
A3	/DUCHAL SNEHAL BALASAHEB		
A4	/GUGE ASHWINI DATTATRAY		
A5	/GUJARE PUJA CHANDRAKANT		
B1	BAGAL MADHURI NAVANATH		08/02/2019
B2	BENNESUR LAXMI IRANNA		
B3	BHAGANAGARE AISHWARYA RAJESH		
B4	BHARMA SWATI SHIVALINGAPPA		
B5	BHOSALE UTKARSHA BHARAT		
A6	/GUNJAL SUREKHA VILAS	II	14/03/2019
A7	/HARANE SANJIVANI RAJU		
A8	/KALE ABHILASHA AVINASH		
A9	/KALE KOMAL KIRAN		
A10	/KHADEKAR NISHA SOUDAGAR		
B6	DEVAKATE GAYATRI CHICHALAPPA		04/01/2019
B7	DEVKAR NAMRATA DATTATRAY		
B8	DUDHAL RUTUJA SURESH		
B9	GAIKWAD AMRUTA BALASAHEB		
B10	GAWALI RENUKA SAHADEV		
A11	/MAHAJAN ISHITA PRADEEP	III	20/01/2019
A12	/MENDHEGIRI SHWETA SHANTINATH		
A13	/MIRGANE SHRADDHA BHARAT		
A14	/MORE KOMAL NANASAHEB		
A15	/NAMDAS DIPIKA DNYANESHWAR		
B11	GHONGADE PRAJAKTA DILIP		09/02/2019
B12	GODASE SHRUTI NAGESH		
B13	INDI SHIVGANGA SUBHASH		
B14	JADHAV VRUSHALI ARUN		
B15	JAGTAP SURANJALI BANDU		
			23/02/2019
			15/03/2019
			05/01/2019
			21/01/2019
			10/02/2019
			24/02/2019
			16/03/2019

Handwritten signature

Roll No.	Name of Student	Batch	Date
A16	/PATIL ASHVINI MARUTI	IV	08/01/2019
A17	/PHULARE NIKITA SHAM		
A18	/REPAL SHRADDHA ANIL		
A19	/SHIRAME AMRUTA DHANAJI		
A20	/VHARGAR MONALI VILAS		
B16	JAMAGI YOGINI SIDDHAPPA		
B17	KHATAKE ARPITA VIJAYKUMAR		
B18	KORAPE VAISHNAVI SANJAY		
B19	KUMBHAR SEEMA RAMDAS		
B20	MANE PRIYANKA SATISH		
A21	/WAGAJ PRATIKSHA HANUMANT	V	10/01/2018
A22	/WAGAJ SONALI SHIVAJI		24/01/2019
A23	/WALEKAR SMITA MAHADEV		12/02/2019
A24	/WARE SAROJA SHAMRAO		26/02/2019
A25	BACHUTE BHUSHAN SIDDESHWAR		18/03/2019
B21	MANEPATIL AARTI SHAHAJI		
B22	MOLAK KOMAL TANAJI		
B23	MORE MAYURI ARVIND		
B24	MORE SUHASHINI BALAJI		
B25	MORE VAISHNAVI JAYSING		
A26	CHAVARE BHUSHAN MAHAVIR	VI	11/01/2019
A27	DANURE AMIT GANPATRAO		25/01/2019
A28	DHANWATE UPENDRA NARSINHA		14/02/2019
A29	GURUJI GAURAV DATTATRAY		28/02/2019
			19/03/2019
A30	HODADE RUSHIKESH SOMNATH		
B26	NIRMALE RUTUJA NARAYAN		
B27	PATIL ASHVINI BHAUSAHEB		
B28	PRATIKSHA RAJARAM DHEKALE		
B29	PUJARI SAPANA SIDDHARAM		
B30	RANDIVE ASHWINI BRAMHADEV		
A31	KADAM OMKAR SUNIL	VII	12/01/2019
A32	KOLI SUDARSHAN SOMARAYA		27/01/2019
A33	MORE RISHIKESH MACHINDRA		15/02/2019
A34	MULANI SALMAN SHAHAJAHAN		01/03/2019
A35	PACHAVE NITIN SUBHASH		20/03/2019
B31	SHAIKH SANIYA ABDULLA		
B32	SHELAKA PUJA RAMCHANDRA		
B33	SHINDE JYOTI SANJAY		

amp

Roll No.	Name of Student	Batch	Date
A36	SARWADKAR MANJUNATH SIDRAM	VIII	13/01/2019 28/01/2019 16/02/2019 02/03/2019 22/03/2019
A37	SHAIKH IMRAN HAJISAB		
A38	ALDAR SUSHANT TANAJI		
A39	DARSHANALE SWAPNIL PRAKASH		
A40	KULKARNI PRATHIMESH PRAKASH		
B36	THENGAL PALLAVI VISHWAS		
B37	VANAVE SUCHITA BIBHISHAN		
B38	VIDHATE DNYANESHWARI GORAKH		
B39	WADTILE VAISHNAVI JANARDAN		
B40	WALUGADE PRATIKSHA ANKUSH		
A41	MORE VIKRAM ANKUSH	IX	14/01/2019 29/01/2019 17/02/2019 03/03/2019 23/03/2019
A42	NANDAWATE SUJIT SUDHAKAR		
A43	SALUNKHE OMKAR ARUN		
A44	PATHAN SAMEER KHAJODDIN		
A45	PAWAR SANJAY SHANKAR		
B41	YADAV PRAJAKTA DHARMARAJ		
B42	DESHMUKH ABHISHEK VILAS		
B43	DESHPANDE RUSHIKESH SUHAS		
B44	GHODAKE SHUBHAM TUKARAM		
B45	JADHAV MAHESH SHIVAJI		
A46	UBALE SANTOSH DATATRAYA	X	16/01/2019 30/01/2019 18/02/2019 11/03/2019 24/03/2019
A47	/KORAKE SAMIKSHA KAILAS		
A48	/MAGADE ANJALI NAMDEV		
A49	/MHAMANE SONALI MAHASIDHA		
A50	/MHAMANE AISHWARYA SANJAY		
B46	KATAKAMAWAR SHREENIVAS DATTATRAY		
B47	MASKE AKSHAY RAJENDRA		
B48	MOGAL IMRAN IKBAL		
B 49	MUKHARE VAIBHAV SURYAKANT		
B50	PATHAN JAMEER SALIM		
A51	/MULE SOUJANYA SUBHASH	XI	17/01/2019 31/01/2019 19/02/2019 12/03/2019 25/03/2019
A52	/NAMADE MAYURI RAJKUMAR		
A53	/NIKTE GEETA PRASHANT		
A55	/PAWAR RUPALI RAJARAM		
A56	/RAJMANE MANALI SUNIL		
B51	SALUNKHE TUSHAR TUKARAM		
B52	SHAIKH SHOYEB AYUB		
B53	SURYA WANSHI CHANDRASHEKHAR NANASAHEB		
B54	THORAT ASHUTOSH RAMESH		
B55	VHASALE SAGAR APPASO		

[Handwritten Signature]

A57	/SHEMBADE JANHAVI DILIP	XII	18/01/2019
A58	/WAGHMODE ASHWINI RAMCHANDRA		07/02/2019
A59	JAGTAP SANKET PRAMOD		21/02/2019
A60	PATIL VISHAL VIJAYKUMAR		13/03/2019
A62	SHINDE KARAN AUDUMBAR		26/03/2019
B57	PANDHARE NITIN VASUDEO		
B58	GHDAGE SHIVANI GANESH		
B59	MASAL AKSHAY GOVINDA		

M. Biswas

(Ms. Mohua Biswas)

ENTC Coordinator

Dr. A.S. Vibhute

(Prof. Dr. A.S. Vibhute)

HOD ENTC

Dept. of Electronics & Telecom. Engg.
C. Q. E. Pandharpur

MOCK INTERVIEW-ATTENDANCE SHEET



Shri Vithal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR
 P.B. No. 54, Gopalpur -Ranjani Road, Gopalpur, Pandharpur- 413 304, District: Solapur (Maharashtra) Tel.: 02186-6063, 9503103757, Toll Free No.: 1800-3000-4131, E-mail: coe@sveri.ac.in, Web: www.sveri.ac.in (Approved by I.C.T.E., New Delhi and Affiliated to Solapur University, Solapur NBA Accredited all eligible UG Programmes, AAC Accredited Institute, Accredited by The Institution of Engineers (India), Kolkata and TCS, Pune. ISO 9001-2015 certified Institute)



ATTENDANCE SHEET

CLASS: SE BATCH-I ACADEMIC YEAR: 2018-19
 SEMESTER-II

Sr. No.	Div. & Roll No.	Name of the Student	03/01/2019	19/01/2019	08/02/2019	22/02/2019	14/03/2019
1	A1	/AVADHUT RENUKA AUDUMBAR	Ref	Ref	Ref	Ref	Ref
2	A2	/CHAVAN RUTUJA SHIVAJI	Chavan	Chavan	AB	Chavan	Chavan
3	A3	/DUCHAL SNEHAL BALASAHEB	Duchal	Duchal	Duchal	AB	Duchal
4	A4	/GUGE ASHWINI DATTATRAY	Ashwini	AB	Ashwini	Ashwini	Ashwini
5	A5	/GUJARE PUJA CHANDRAKANT					
6	B1	BAGAL MADHURI NAVANATH	Bagal	Bagal	AB	Bagal	Bagal
7	B2	BENNESUR LAXMI IRANNA	L.I.Bagal	L.I.Bagal	L.I.Bagal	L.I.Bagal	L.I.Bagal
8	B3	BHAGANAGARE AISHWARYA RAJESH	Aishwarya	Aishwarya	AB	Aishwarya	Aishwarya
9	B4	BHARMA SWATI SHIVALINGAPPA	Bharm	Bharm	AB	Bharm	Bharm
10	B5	BHOSALE UTKARSHA BHARAT	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale

HEAD
 Dept of Electronics & Telecom: ENH.
 C.O.E. Pandharpur

SAMPLE ATTENDANCE SHEET



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ISO 9001:2015



ATTENDANCE SHEET

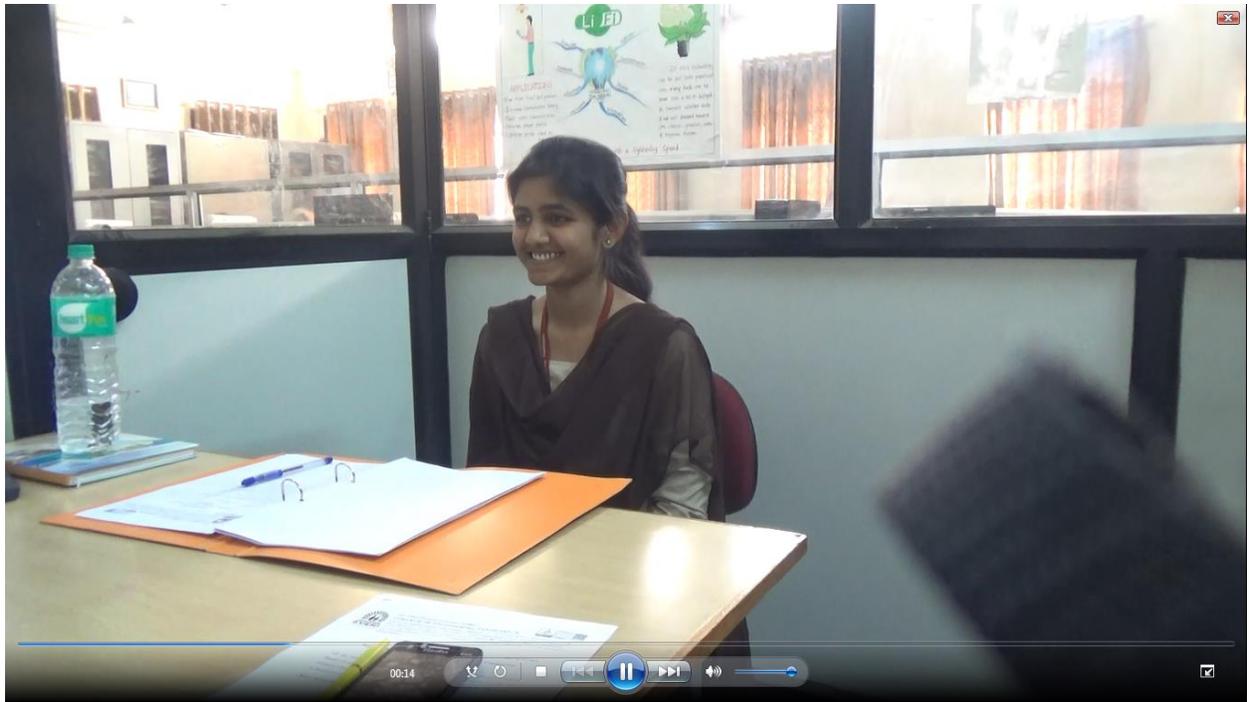
CLASS: SE BATCH-II ACADEMIC YEAR: 2018-19

SEMESTER-II

Sr. No.	Div. & Roll No.	Name of the Student	04/01/2019	20/01/2019	09/02/2019	23/02/2019	15/03/2019
1	A6	/GUNJAL SUREKHA VILAS	<i>Sw</i>	<i>Sw</i>	<i>Sw</i>	<i>Sw</i>	<i>Sw</i>
2	A7	/HARANE SANJIVANI RAJU	<i>AB</i>	<i>SRHarane</i>	<i>AB</i>	<i>SRHarane</i>	<i>SRHarane</i>
3	A8	/KALE ABHILASHA AVINASH	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>
4	A9	/KALE KOMAL KIRAN	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>
5	A10	/KHADEKAR NISHA SOUDAGAR	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>
6	B6	DEVAKATE GAYATRI CHICHALAPPA	<i>Devakate</i>	<i>Devakate</i>	<i>Devakate</i>	<i>Devakate</i>	<i>AB</i>
7	B7	DEVKAR NAMRATA DATTATRAY	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>
8	B8	DUDHAL RUTUJA SURESH	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>
9	B9	GAIKWAD AMRUTA BALASAHEB	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>
10	B10	GAWALI RENUKA SAHADEV	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>	<i>AB</i>

[Signature]

HEAD
Dept of Electronics & Telecom. Engg.
C. O. E. Pandharpur



Experiential Learning through Usage of Visualization

- **Use Modern Engineering Tools**
- **Apply the basic engineering knowledge**
- **Life Long Learning**

NOTICE FOR USE OF SIMULATION SOFTWARES



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COLLEGE OF ENGINEERING, PANDHARPUR
B. No. 54, Gopalpur -Ranjani Road, Gopalpur, Tal.- Pandharpur- 413 304.Dist.- Solapur (Maharashtra)
Tel.: 02186-216063, 9503103757, E-mail : coe@sveri.ac.in. Website: www.sveri.ac.in
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Date: 01/08/2017

DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

NOTICE

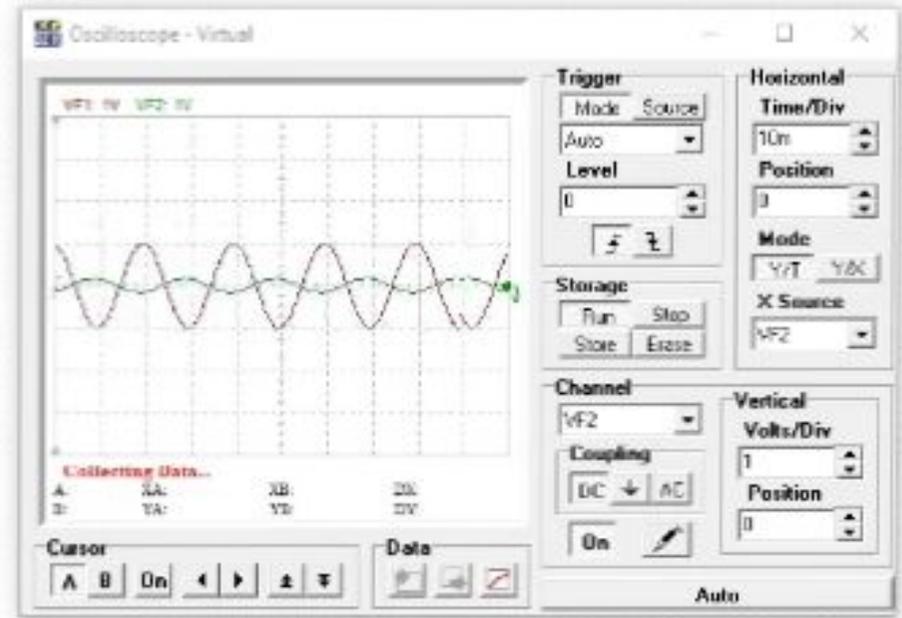
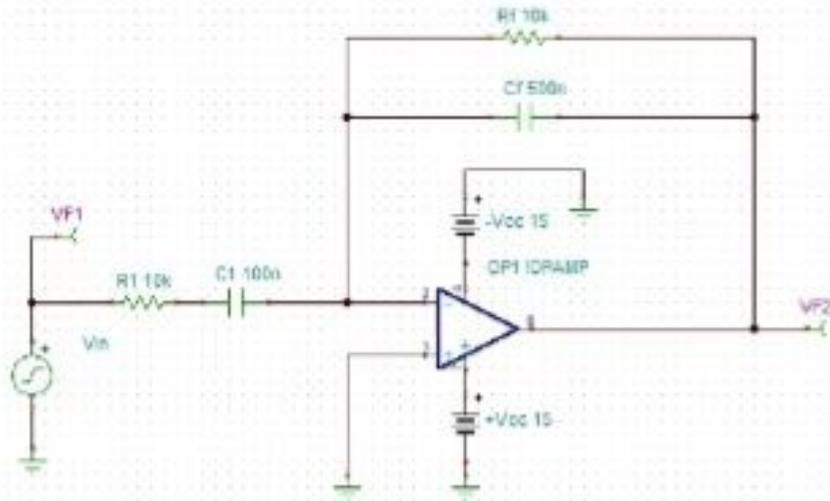
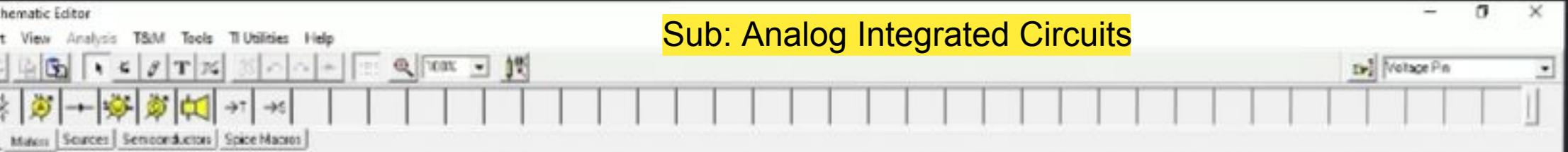
All faculty members are informed that following Simulation Softwares can be used for given subjects listed below:

Sr. No.	Class	Name of the Subject	Name of the Software
1	SY	NTA	TINA, MULTISIM
2	SY	AIC	TINA, MULTISIM
3	SY	ECAD	TINA, MULTISIM
4	TY	DSP	MATLAB
5	TY	MIC	PROTEUS, KEIL, MPLAB
6	LY	IVP	MATLAB
7	LY	VLSI	XLINK


HOD ENTC

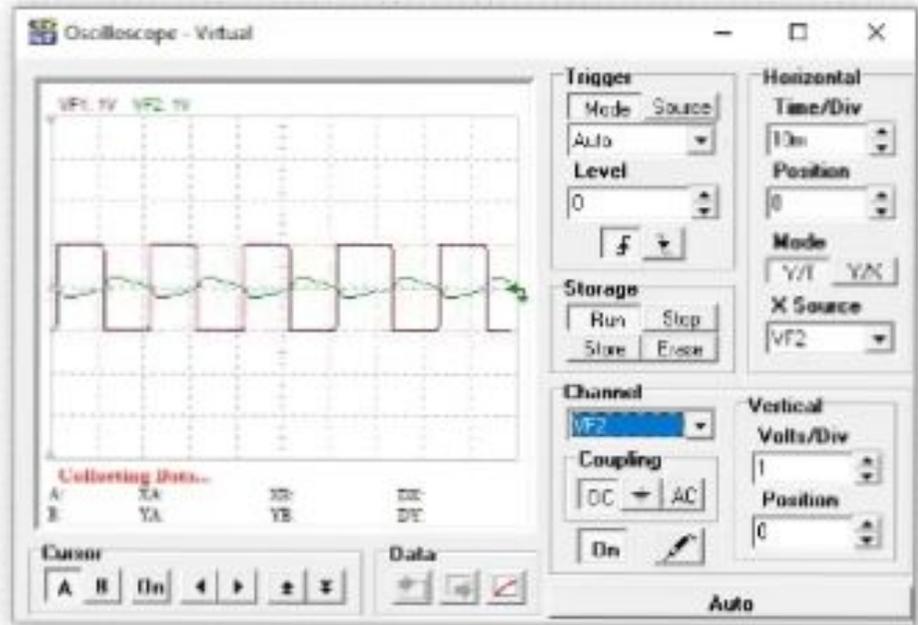
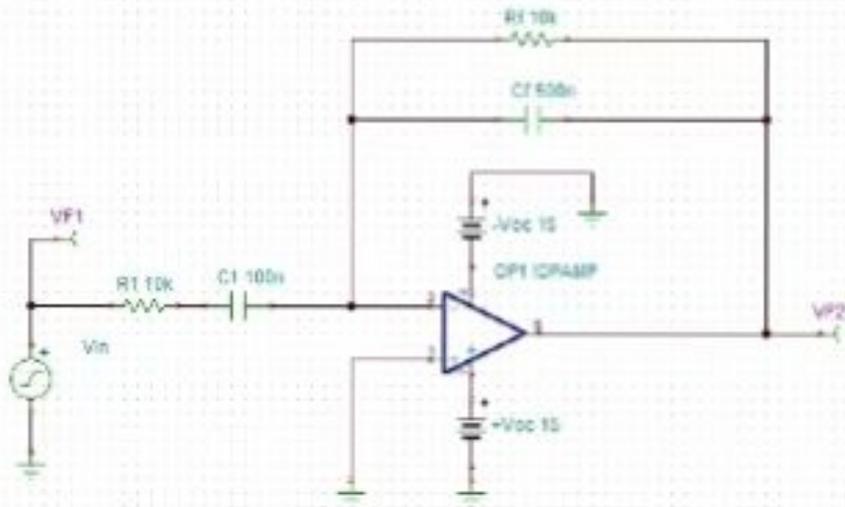
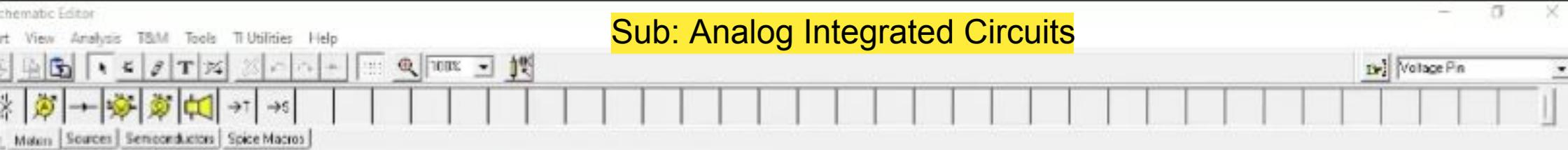
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Sub: Analog Integrated Circuits



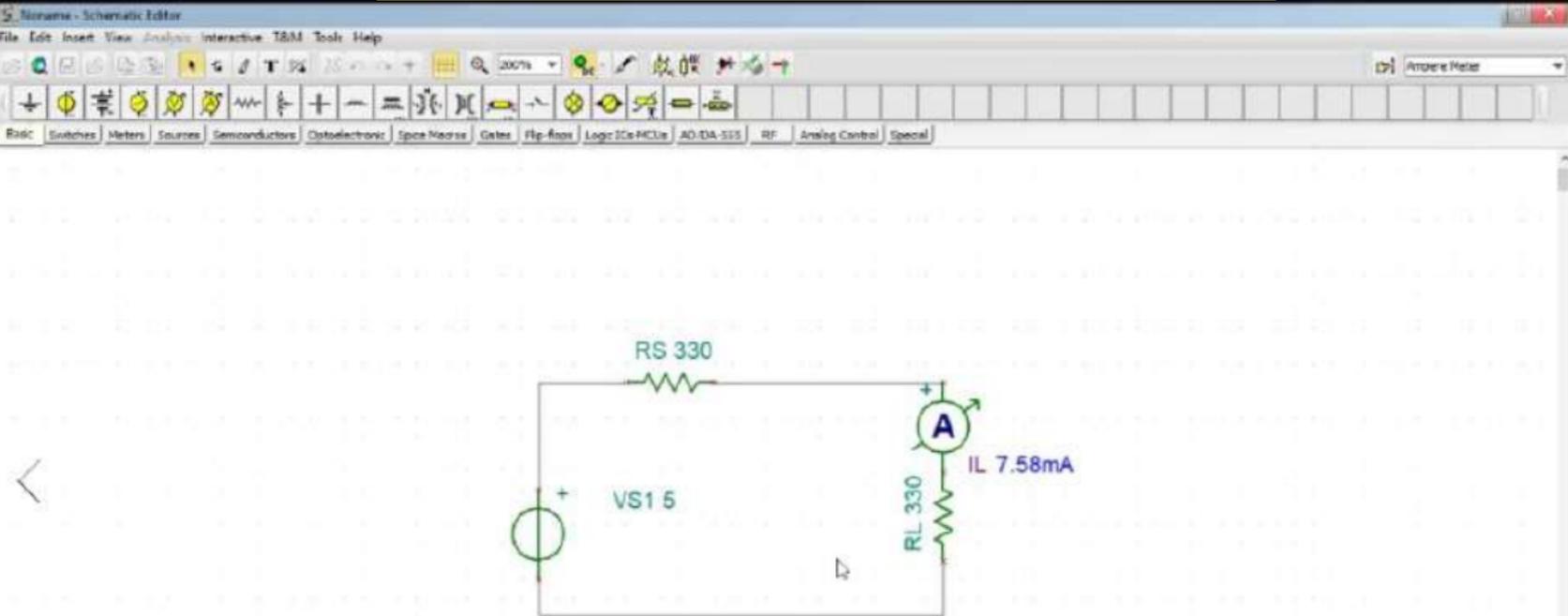
Expt: OPAMP as an Integrator using TINA Simulation Software

Sub: Analog Integrated Circuits



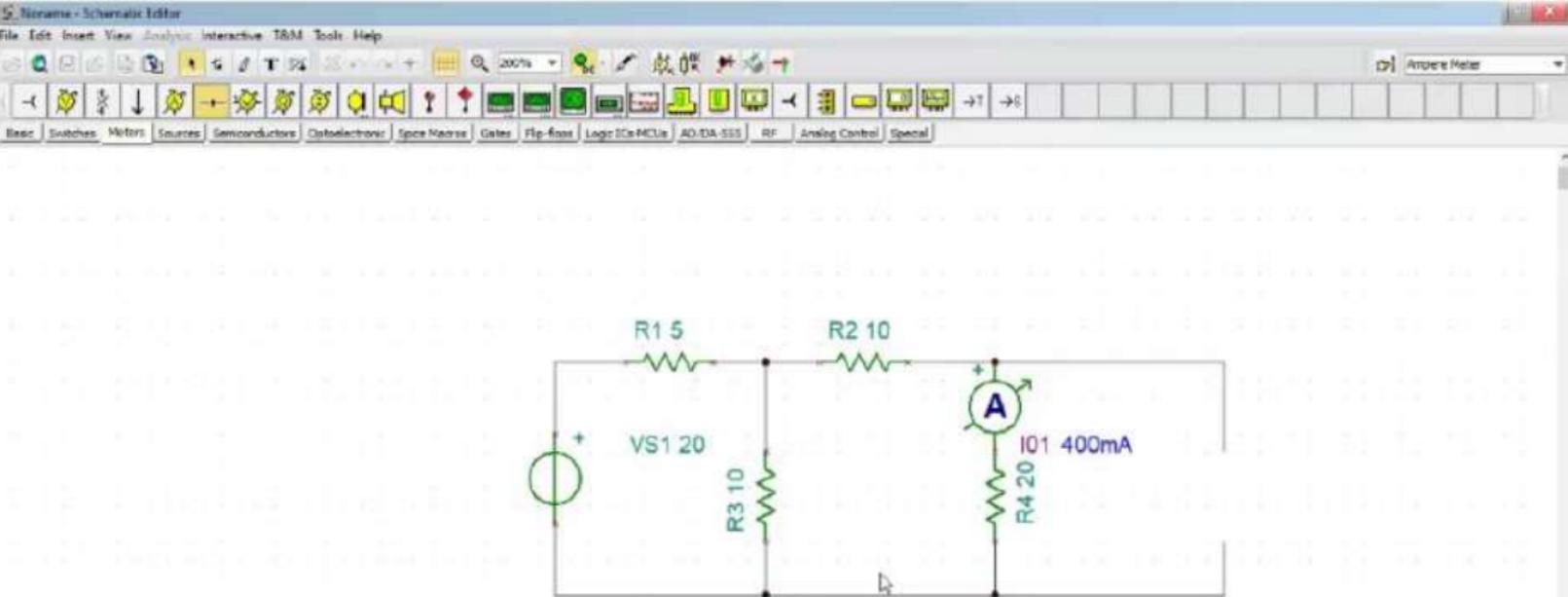
Expt: OPAMP as Integrator(Square wave as Input)

Sub: Network Theory and Analysis



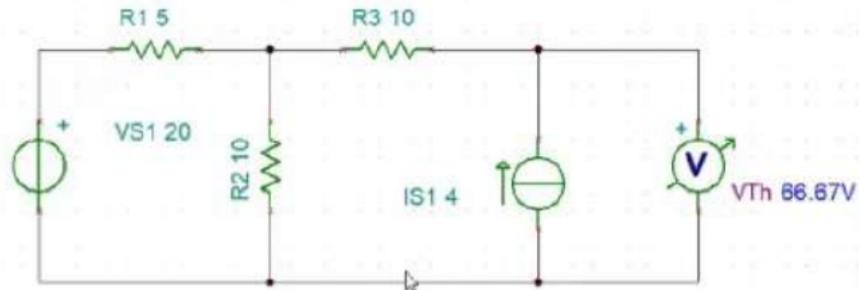
Expt: Maximum Power Transfer Theorem using TINA Simulation Software

Sub: Network Theory and Analysis



Expt: Superposition Theorem using TINA Simulation Software

Sub: Network Theory and Analysis



Expt: Thevenins Theorem using TINA Simulation Software

Experiential Learning through Research Oriented Equipment

- **Use Modern Engineering Tools**
- **Design/development of solutions**
- **Conduct investigations of complex problems**
- **Life Long Learning**



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www.tuv.com
ID 9100249196

Department of Mechanical Engineering

Research Orientated Lab

Sr. No.	Name of Lab	Lab Investment
1.	Advanced Manufacturing Lab	Rs. 50,91,317/-

(Dr. S. S. Wangikar)

H.O.D.

HEAD,

Dept. of Mechanical Engg
C.O.E. Pandharpur.



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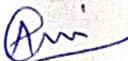


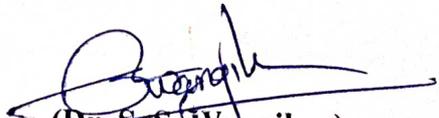
www.tuv.com
ID 2105248108

Department of Mechanical Engineering

Name of Lab: Advanced Manufacturing Lab

Sr. No.	Lab Equipments	Qty.	Rate in Rs.	Total in Rs.
1.	Both sided UV Exposure	01	54,956/-	54,956/-
2.	Dynamic Mechanical Analyzer (Rheometer)	01	12,51,712/-	12,51,712/-
3.	Spray Etching Machine	01	1,01,250/-	1,01,250/-
4.	Vision measuring system Rapid-I V2015J LX	01	6,04,149/-	6,04,149/-
5.	LED Screen	01	18,250/-	18,250/-
6.	Peristaltic Pump	01	30,938/-	30,938/-
7.	Twin Syringe Pump	02	90,000/-	90,000/-
8.	3D printing machine	01	3,40,000/-	3,40,000/-
9.	Pressure Sensor	03	28,350/-	28,350/-
10.	Pressure Data Logger (4 Channel)	01	25,200/-	25,200/-
11.	LASER Engraving machine	01	2,63,250/-	2,63,250/-
12.	CNC Micromachining station	01	6,00,000/-	6,00,000/-
13.	Hot Plate with Magnetic Stirrier	01	52,762/-	52,762/-
14.	Chemical Wet Bench	01	4,30,500/-	4,30,500/-
15.	3D Exposure & 3D Etching Machine	01	12,00,000/-	12,00,000/-
Total in Rs.				50,91,317/-


(Mr. A. K. Parkhe)
Lab In-charge


(Dr. S. S. Wangikar)
H.O.D.,
Dept. of Mechanical Engg
C.O.E. Pandharpur.



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Department of Mechanical Engineering

No. of Students Utilized Research Orientated Lab

Sr. No.	Name of Students	Class	Title of Project	Name of Guide	Academic Year
1.	Mr. A. D. Sapkal	M.Tech	An Experiment Analysis and Simulation of 3D PCM Technology	Dr. A. A. Utpat	2019-20
2.	Mr. Dattatray Waghmare	M.Tech	Process Optimization of PCM on 3D Surfaces	Dr. N. D. Misal	2019-20
3.	Mr. Bandu A. Kambale	M.Tech	Process Optimization of 3D Photo Chemical Machining on an Internal & External Surfaces	Dr. A. A. Utpat	2018-19
4.	Mr. Akash Pawar	M.Tech	An Experiment Analysis of Photo Chemical Marching using different Etchants	Dr. N. D. Misal	2020-21
5.	Bile Rajkumar Prakash	B.E.	Design and development of microchannels by CO2 laser machine and their experimentation using soft lithography approach	Mr. A. K. Parkhe	2018-19
6.	Burande Somesh Haribhau				
7.	Bawale Aakash Lakshmikant				
8.	Jagtap Akash				
9.	Kumbhare Sachin V.	B.E.	Design and manufacturing of microgripper for compliant mechanism	Dr. N. D. Misal	2018-19
10.	Bandgar Rupesh Balasaheb				
11.	Bagewadi Sagar Mallikarjun				
12.	Kachare Pravin Ramchandra				

(Mr. A. K. Parkhe)
Lab In-charge

(Dr. S. S. Wangikar)
H.O.D,
HEAD,
Dept. of Mechanical Engg
C.O.E. Pandharpur.

Sr. No.	Name of Students	Class	Title of Project	Name of Guide	Academic Year
13.	Patil Pankaj Vitthal	B.E.	Design and development of miniature pump	Prof. S. V. Jadhav	2018-19
14.	Pawar Digambar Sukhadev				
15.	Deshmukh Ashutosh Bhagwat				
16.	Mote Chetan Sukhadev				
17.	Mr. Nikhil V. Chavan	B.E.	Parametric Analysis for photochemical Machining of Aluminium Copper	Dr. S. S. Wangikar	2019-20
18.	Mr. Rushikesh M. Bhagwat				
19.	Mr. Suraj S. Gaikwad				
20.	Mr. Shivam S. Shete				
21.	Mr. Shrinath Deshmukh	B.E.	Design and Fabrication of tree type micromixer with circular baffles	Prof. S.R.Gavali	2019-20
22.	Mr. Kiran Dune				
23.	Mr. Onkar Waghmode				
24.	Mr. Shriram Masal				
25.	/Makar Supriya	B.E.	Effect of Rectangular Obstacle Size Variation on The Performance of the Microchannel	Prof. S. V. Jadhav	2019-20
26.	/Kame Mansi				
27.	/Namde Pooja				
28.	/Sarvagod Manali				
29.	/Abhangrao Komal B.	B.E.	Design, Fabrication and Analysis of micro-mixer With circular baffles used in micro-fluidics application	Dr. R. R. Gidde	2019-20
30.	/Kale Pallavi Rajkumar				
31.	/Lamgunde Pooja S.				
32.	/Pujari Aruna G.				
33.	Shubham Anil Raut	B.E.	Design & Development of Micro-channels using LASER Machining and its Experimental & Numerical study on mixing length	Mr. A. K. Parkhe	2020-21
34.	Sachin Kisan Devkate				
35.	Saurabh Mahadev Shinde				
36.	Mahesh Gunvant Mane				


 (Mr. A. K. Parkhe)
 Lab In-charge


 (Dr. S. S. Wangikar)
 H.O.D.
 HEAD,
 Dept. of Mechanical Engg
 C.O.E. Pandharpur.

Sr. No.	Name of Students	Class	Title of Project	Name of Guide	Academic Year
37.	/Ashture Chandraprabha Balaji	B.E.	Study the Material Removal Rate for Aluminium metal by using Photochemical	Dr. A. A. Utpat	2020-21
38.	/Kambale Pooja Dilip				
39.	/Ashture Chandraprabha Balaji				
40.	/Kambale Pooja Dilip				
41.	/Bhumkar Manasi Dinesh	B.E.	Manufacturing and characterization of the master moulds used to fabricate	Dr. R. R. Gidde	2020-21
42.	/Ghogale Mansi Sanjay				
43.	/Muskan Muktar Attar				
44.	/Chavan Sonali Umesh				
45.	/Shivani Sanjay Kothawale	B.E.	Parametric Optimization for CO2 Laser Machining of different types of wood.	Dr. S. S. Wangikar	2020-21
46.	/Anjali Pandurang Gavali				
47.	/Gauri Ramchandra Gore				
48.	/Bhosale Pranoti Ramchandra				



(Mr. A. K. Parkhe)
Lab In-charge



(Dr. S. S. Wangikar)
H.O.D.
HEAD,
Dept. of Mechanical Engg
C.O.E. Pandharpur.

Photos of Facilities under R & D

1. Advanced Manufacturing Lab



2. LASER Cutting & Engraving Machine



3. 3D Printing Machine & Micro Milling



4. Rapid-I Vision System & Rheometer



5. 3D PCM Machine



6. Chemical Wet Bench



Experiential Learning through Learning Summary Chart

- **Engineering knowledge**
- **Effective presentations**
- **Life Long Learning**

SUCCESSIVE DIFFERENTIATION

ROLLE'S THEOREM

- 1) $F(x)$ is continuous in (a, b)
- 2) $F(x)$ is differentiable function in (a, b)
- 3) $F(a) = F(b)$ then there exist one point $x = c \in (a, b)$ such that $F'(c) = 0$

LANGRANGES MEAN VALUE THEOREM

- $F'(x)$ exist in (a, b) there exist one point $x = c \in (a, b)$ then
- $$F'(c) = \frac{F(b) - F(a)}{b - a}$$

CAUCHY MV THM

- $F(x)$ & $g(x)$ be real valued function in $[a, b]$.
- 1) $f(x)$ and $g(x)$ are continuous function in $[a, b]$
 - 2) $f(x)$ and $g'(x)$ exist in (a, b)
 - 3) $g'(x) \neq 0$, then there exist one point $x = c \in (a, b)$ such that
- $$\frac{F'(c)}{g'(c)} = \frac{F(b) - F(a)}{g(b) - g(a)}$$

SET-I

Result's -:

- 1) $y = e^{ax} \Rightarrow y_n = a^n e^{ax}$
- 2) $y = a^{mx} \Rightarrow y_n = (\log a)^n m^n a^{mx}$
- 3) $y = \sin(ax+b) \Rightarrow y_n = a^n \sin(ax+b + n\pi/2)$
- 4) $y = \cos(ax+b) \Rightarrow y_n = a^n \cos(ax+b + n\pi/2)$
- 5) $y = k^x \sin(ax+b) \Rightarrow y_n = k^x r^n \sin(ax+b + n\phi)$
 $r = \sqrt{(\log k)^2 + a^2}$
 $\phi = \tan^{-1}(a/\log k)$
- 6) $y = k^x \cos(ax+b) \Rightarrow y_n = k^x r^n \cos(ax+b + n\phi)$
 $\phi = \tan^{-1}(a/\log k)$
- 7) $y = e^{ax} \sin(bx+c) \Rightarrow y_n = e^{ax} r^n \sin(bx+c + n\phi)$ $r = \sqrt{a^2 + b^2}$
 $\phi = \tan^{-1}(b/a)$
- 8) $y = e^{ax} \cos(bx+c) \Rightarrow y_n = e^{ax} r^n \cos(bx+c + n\phi)$ $r = \sqrt{a^2 + b^2}$
 $\phi = \tan^{-1}(b/a)$
- 9) $y = \frac{1}{(ax+b)^m} \Rightarrow y_n = \frac{(-1)^n (m+n-1)! a^n}{(ax+b)^{m+n} (m-1)!}$
- 10) $y = \log(ax+b) \Rightarrow y_n = \frac{(-1)^{n-1} (m+n-2)! a^n}{(m-1)! (ax+b)^{m+n-1}}$

- 11) $y = (ax+b)^m$ then,
 $y_n = m(m-1)(m-2)\dots(m-n+1) a^n (ax+b)^{m-n}$
 If $n = m$
 $y_n = n!$
 If $n > m$
 $y_n = 0$

Set II

Results -

- 1) $2 \sin A \cos B = \sin(A+B) + \sin(A-B)$
- 2) $2 \cos A \sin B = \sin(A+B) - \sin(A-B)$
- 3) $2 \cos A \cos B = \cos(A+B) + \cos(A-B)$
- 4) $2 \sin A \sin B = \cos(A-B) - \cos(A+B)$
- 5) $\sin^2 A = \frac{1 - \cos 2A}{2}$
- 6) $\cos^2 A = \frac{1 + \cos 2A}{2}$
- 7) $\cos^3 A = \frac{\cos 3A + 3 \cos A}{4}$
- 8) $\sin^3 A = \frac{3 \sin A - \sin 3A}{4}$

SET III

LEIBNITZ Theorem

If $y = u \cdot v$ - u, v differentiable function of n^{th} order derivative of y is given by,
 If $y = u \cdot v$ then,
 $y_n = u_n v + n u_{n-1} v_1 + \frac{n(n-1)}{2!} u_{n-2} v_2 + \dots + u v_n$



Successive Differentiation



n^{th} derivative of standard functions :-

- 1) IF $y = e^{ax}$ $y_n = a^n \cdot e^{ax}$
- 2) IF $y = a^{mx}$ $y_n = m^n a^{mx} (\log a)^n$
- 3) $y = (ax+b)^m$ $y_n = a^n \cdot m! \frac{(m-n)!}{(m-n)!} a^n$
- 4) $y = \frac{1}{(ax+b)^m}$ $y_n = \frac{(-1)^n (m+n-1)! a^n}{(m-1)! (ax+b)^{m+n}}$
- 5) $y = \frac{1}{(ax+b)^n}$ $y_n = \frac{(-1)^n n! a^n}{(ax+b)^{n+1}}$
- 6) $y = \log(ax+b)$ $y_n = \frac{(-1)^{n-1} (n-1)! a^n}{(ax+b)^n}$

Partial Fraction :-

1. $\frac{Px+q}{(x+a)(x+b)} = \frac{A}{(x+a)} + \frac{B}{(x+b)}$
2. $\frac{Px^2+q+c}{(x+a)(x+b)^2} = \frac{A}{(x+a)} + \frac{B}{(x+b)} + \frac{C}{(x+b)^2}$

• IF Deg. of N^{r} > Deg. of D^{r}
Then go For actual division.

n^{th} derivative of Trigonometric Function

- 1) $y = \sin(ax+b)$ $y_n = a^n \sin(ax+b+n\pi/2)$
- 2) $y = \cos(ax+b)$ $y_n = a^n \cos(ax+b+n\pi/2)$
- 3) $y = e^{ax} \sin(bx+c)$ $y_n = r^n e^{ax} \sin(bx+c+n\phi)$
- 4) $y = e^{ax} \cos(bx+c)$ $y_n = r^n e^{ax} \cos(bx+c+n\phi)$

Formulae :-

- 1) $2 \sin A \cdot \sin B = \cos(A-B) - \cos(A+B)$
- 2) $2 \sin A \cdot \cos B = \sin(A+B) + \sin(A-B)$
- 3) $2 \cos A \cdot \cos B = \cos(A+B) + \cos(A-B)$
- 4) $2 \cos A \cdot \sin B = \sin(A+B) - \sin(A-B)$
- 5) $\cos^2 A = \frac{1+\cos 2A}{2}$ 6) $\sin^2 A = \frac{1-\cos 2A}{2}$
- 7) $\sin 2A = 2 \sin A \cdot \cos A$
- 8) $\cos 2A = \cos^2 A - \sin^2 A$
 $= 2 \cos^2 A - 1$
 $= 1 - 2 \sin^2 A$

Leibnitz th^m :-

If $y = u \cdot v$ where u, v are the Functions of x then,

$$y_n = u_n v + n \cdot u_{n-1} v_1 + \frac{n(n-1)}{2!} u_{n-2} v_2 + \frac{n(n-1)(n-2)}{3!} u_{n-3} v_3 + \dots + u v_n$$

Second type of Leibnitz th^m :-

In this type we generally proceed according to following steps :-

- 1) First express y in terms of x
- 2) DIFF. both sides w.r.to. x & simplify.
- 3) Again diff. both sides and simplify it is require.
- 4) Then apply Leibnitz th^m term by terms to get required result with simplification.

Experiential Learning through Industry Expert/ Researchers

- **Engineering knowledge**
- **Effective presentations**
- **Life Long Learning**

SUMMARY SHEET



SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
DEPARTMENT OF ELECTRONIC & TELECOMMUNICATION ENGINEERING
SUMMARY OF INDUSTRY EXPERT/RESERACHERS LECTURES

Sr. No.	Academic Year	Class	No. of Sessions	Total
1.	2017-18	SE	07	35
		TE	09	
		BE	16	
		For ALL	03	
2.	2018-19	SE	08	24
		TE	10	
		BE	06	
3.	2019-20	SE	10	28
		TE	12	
		BE	06	

HOD ENTC

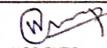
HEAD
Dept of Electronics & Telecom. Engg.
S V E R I Pandharpur

DETAILS OF GUEST LECTURE (2017-18)

SVERI's College of Engineering Pandharpur.
Dept-Electronics & Telecommunication Engineering

Guest Lecture Data For Academic Year 2017-18

Sr.No	Date	Name of Expert	Industry/Institute	Contact no.	E-mail	Class	No. of Students	Topic	No. of Hours
1	14/15-07-2017	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	BE ENTIC	80	SatCom	5
2	7/26/2017	Mr. Sagar Joshi	Schneider Electric Bangalore	9850674675	joshi.sagar@gmail.com	BE ENTIC	62	Product design	2
3	8/4/2017	Dr. S.N. Kore	WCE, sangli	9970175105	snkore@yahoo.com	SE ENTIC	42	Self Learning Approach	2
4	8/5/2017	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	BE ENTIC	75	Product development activity based learning	4
5	11/12-08-2017	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	BE ENTIC	80	SatCom	5
6	8/21/2017	Mr. Samudra Gupta Talukdar	Tutelminds, Mumbai	9930560586	samudragupta.talukdar@gmail.com	BE ENTIC	88	Industry Employability	2
7	8/27/2017	Mr. Makarand Jogalekar	TIBCO Software Inc			ENTC students		Industry Expectations	2
8	8/29/2017	Mr. Rajendrakumar Saraf	Viraj Envirozing India Pvt. Ltd Pune			SE A	53	Development of Listening ability in Engg. Students	5
9	9/1/2017	Mr. G.K. Satyanarayana	Electronics corp of India, HYD	9440418545	gks@ecil.co.in	ENTC students		Development in Telecom Sector	2
10	9/3/2017	Mr. Jadhav Vijay Kundan	Chatrapati Academy pandharpur	9960572133	vjaykjadhav@gmail.com	BE ENTIC	75	Carrier through competitive exams	1
11	9/9/2017	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	BE ENTIC	80	CCN	4
12	18/19-09-2017	Mr. S.B. Joglekar	Kannad Services, sangli	9422040871	sanjayjoglekar@rediffmail.com	TE	60	Microprocessor	13
13	22/23-09-2017	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	BE ENTIC	80	SatCom	4
14	9/23/2017	Dr. B.G. Patil	WCE, sangli	9860918576	babasaheb.patil@gmail.com	SE(B)	72	Analog Comm	5
15	10/6/2017	Mr. Milind Sohani	IIT Powai, Mumbai			TE ENTIC	100	Role of Engineers in societal development	2
16	10/7/2017	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	TE ENTIC	104	Product Manufacturing	2
17	7.8-10-2017	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	SE ENTIC	70	Robotics, PA System	4
18	9 to 11-10-2017	Mr. S.B. Joglekar	Kannad Services, sangli	9422040871	sanjayjoglekar@rediffmail.com	SE(B), TE(A), BE(A)	150	Microprocessor, DT	18
19	12/26/2017	Mr. Manuti Yadav	Philips, Pune	9822731155	online_sanju@yahoo.co.in	TE ENTIC	120	Trends in electronic industry	2
20	1/1/2018	Dr. Madhuri A Joshi	COEP, Pune	9822013631	punemajoshi@gmail.com	BE ENTIC	90	Machine learning for Image Processing	2
21	1/2/2018	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	BE ENTIC	90	MCT	2
22	1/7/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	BE ENTIC	75	Cloud Computing	2
23	2/2/2018	Rohan Kelkar	Consultant, Mumbai	9767107291	rohankelkar99@gmail.com	BE ENTIC	80	campus to corporate & beyond	2
24	2/2/2018	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	BE ENTIC	62	MCT	2
25	2/3/2018	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	TE ENTIC	120	How to formulate problem statement for project	2
26	2/25/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	BE ENTIC	75	Industrial Revolution 4	2.5
27	2/25/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	TE ENTIC	90	Importance of Industrial Visit	1
28	3/5/2018	Mr. Sajeed S. Mulla	SSPM, Kankawali	8087831306	sajeedsm@gmail.com	TE ENTIC	96	RME	4
29	3/30/2018	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	BE B	45	MCT	2
30	3/31/2018	Dr. S.K. Dixit	WIT Solapur	9850077012	dixitskl@yahoo.com	BE A	46	MCT	2
31	3/31/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	TE ENTIC	105	Basics of product design, conceptualization of Idea and component analysis	2
32	4/1/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	SE ENTIC	118	Product design basics	2
33	4/2/2018	Mr. S.B. Joglekar	Kannad Services, sangli	9422040871	sanjayjoglekar@rediffmail.com	TE (B) ENTIC	52	MCA	4
34	6/15/2018	Dr. S.K. Dixit	WIT Solapur	9850077011	dixitskl@yahoo.com	SE	80	Communication Engineering	2
35	6/23/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	SE	80	Artificial Intelligence	2


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A. Q. E. Pandharpur

SAMPLE OF GUEST LECTURE RECORD E&TC

SVERI's College of Engineering Pandharpur.

Electronics & Telecommunication Engineering

Dept.

Guest Lecture Data For Academic Year 2018-19

Sr.No.	Date	Name of Expert	Industry/Institute	Contact no.	E-mail	Class	No. of Students	Topic	No. of Hours
1	7/8/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	BE	110	Problem identification & project Implementation	4
2	7/15/2018	Dr. S K. Dixit	WIT Solapur	9850077011	dixitsk1@yahoo.com	BE	98	SatCom	4
3	8/24/2018	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	SE	110	Opportunities in Telecomm sector	2
4	21,22-09-2018	Dr. S K. Dixit	WIT Solapur	9850077011	dixitsk1@yahoo.com	BE	45	SatCom	4
5	9/21/2018	Dr. Satishkumar S Chavan	Don Bosco Institute, Mumbai	022-25040508	satish@dbit.in	SE	55	Become expert in writing a journal paper	1
6	9/22/2019	Rakesh A Dhasade	TCS, Pune	9766924951	radhasade@gmail.com	TE	45	project Management and applications	2
7	9/27/2018	Virendra Pawar	Vodafone Mobile Services Limited, Mumbai	9890863930	virendrapawar@live.in	BE	90	Opportunities in Telecomm sector	2
8	9/28/2018	Rahul Y Jagtap	General Industrial Controller, Mumbai	8850138300	jagtap.rahul@yahoo.co.in	TE	111	microcontroller & Embedded	1
9	9/30/2018	Rahul Chaudhari	Alight Solution, Mumbai	9271874442	rahulchaudhari@life@gmail.com	TE	105	Software project management	3
10	9/30/2018	Mr. S B Jogalekar	Kannad Services, sangli	9422040871	sanjayjoglekar@rediffmail.com	BE	98	VLSI	6
11	10/1/2018	Mr. S B Jogalekar	Kannad Services, sangli	9422040871	sanjayjoglekar@rediffmail.com	SE	115	DT	4
12	10/1/2018	Mr. S B Jogalekar	Kannad Services, sangli	9422040871	sanjayjoglekar@rediffmail.com	TE	105	Microcontroller	2
13	10/2/2018	Mr. Sudhir Mateti	Syntel smart teleterurns	9922962162	smateti@synteltelecom.com	SE,TE	163	Exposure to: ENTC Engg	2
14	10/6/2018	Mr. Renukanandan Aurangabadkar	Digitas, Mumbai	8861812727	nandan007a@gmail.com	TE	117	Career opportunities in data analyst	2
15	1/6/2019	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	BE		Campus recruitment	5
16	1/27/2019	Mr. Prabhudev Tiwari	TATA Motors, Pune	9990446564	prabhudevatiwari@gmail.com	SE	112	Emerging trends in Industry	1
17	1/27/2019	Dr. S N Talbar	SGGS, Nanded	9850978050	sntalbar@sggs.ac.in	TE	80	Opportunities in the field of IoT & Embedded sys	4
18	1/31/2019	Mr. Vinod S. Mali	Sai consultancy, Pune		malivinod1007@gmail.com	TE	112	Industrial Approach for Interview	2
19	2/23/2019	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	SE ENTC & CSE	98	5G Incubation centre	4
20	9,10-03-2019	Mr. S B Jogalekar	Kannad Services, sangli	9422040871	sanjayjoglekar@rediffmail.com	SE	117	Operational Amplifier	13
21	3/10/2019	Sachin M. Misal	Avlon Technology, Pune	8698382624	sachin.misal@gmail.com	TE	64	application of EASD in Embedded area	2
22	3/30/2019	Sagar D. Pise	Arcelor neel tailored pvt ltd	9096253028	sagar.pise@jbmgroup.com	TE A	52	Industry expectations from freshers	1
23	3/30/2019	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	SE ENTC	51	Design Fobia	5

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Dept. of Electronics & Telecom. Engg.
P. Q. E. Pandharpur

GUEST LECTURE DETAILS (2019-20)

SVERI's College of Engineering Pandharpur.
Dept-Electronics & Telecommunication Engineering

Guest Lecture Data For Academic Year 2019-20

Sr.No.	Date	Name of Expert	Industry/Institute	Contact no.	E-mail	Class	No. of Students	Topic	No. of Hours
1	7/20/2019	Dr. Munir Sayyad	JIO, Mumbai	7738189979	munirsayyad@gmail.com	SE ENTC	65	Smart City Vision	2
2	7/21/2019	Dr. S.N. Kore	WCE, sangli	9970175105	snkore@yahoo.com	SE ENTC	63	Digital Techniques	2
3	8/24/2019	Pramod B. Sanghai	UBI	9422587765	praomodsanghai108@gmail.com	SE	32	Carrer guidance	2
4	8/27/2019	Vivek Deshpande	Director	9880763070	vivek_v_deshpande@yahoo.com	BE	110	Research based projects	2
5	8/27/2019	P.W. Kelkar	Emeritus Professor	8308821108	padmakar_kelkar@gmail.com	BE	110	Research based projects	1
6	8/28/2019	Sudarshan Natu	Emeritus Professor	9822068430		BE	105	Research based projects	2
7	9/8/2019	Pramod B. Sanghai	UBI	9422587765	praomodsanghai108@gmail.com	TE	102	Carrer guidance	2
8	9/27/2019	Dr. P.W. Kelkar	Emeritus Professor	8308821108	padmakar_kelkar@gmail.com	BE	109	Innovative approach in projects	4
9	10/5/2019	Aniruddha Kulkarni	Industry	9421357264	rflabsolutions2019@gmail.com	TE	105	Antenna	2
10	10/6/2019	Mrs Alaknanda S. Patil	JSPM, Narhe	9423391331	aspatil.pvpt@gmail.com	BE	110	Image and video processing	4
11	12/28/2019	Dr. Narayankhedkar	MGM college, Mumbai			TE	50	effect of wireless communication on human	3
12	04/05-01-2020	Dr. Munir Sayyad	Adjunct Prof.	7738189980	munirsayyad@gmail.com	SE, TE			3
13	1/5/2020	Narayan T. Khushnure	Atos Pvt Ltd	9028107062	nkhushnure@gmail.com	TE(A)	42	Recent trends in Industry	1
14	1/10/2020	Nishant Tendulkar	Infosys Ltd	9970891812	nishant_tendulkar@infosys.com	TE(B)	43	Guidance	3
15	1/12/2020	Sharad R. Yadav	TATA Tech. Pune	9096121379	sharadtyl@tatamotors.com	TE(A)	45	GAP between Academic & Industry	4
16	1/13/2020	Ramesh H. Adavi	Emeritus Professor	9673010222	ramesh.adavi@gmail.com	SE	90	Life skill- critical thinking	2
17	1/14/2020	Sudarshan Natu	Emeritus Professor	9822068430		TE	85	IoT	3
18	1/28/2020	Dr. Anant V. Patki	Scientist, ISRO			SE, TE	185	career Guidance	2
19	2/2/2020	Dr. Munir Sayyad	Adjunct Prof.	7738189979	munirsayyad@gmail.com	SY Students	45	IOT architecture	3
20	2/9/2020	Dheeraj C. Muttin	Kmeen Agro Pvt. Ltd	9595758532		TE	20	PLC in Automation	1
21	2/9/2020	Dheeraj C. Muttin	Kmeen Agro Pvt. Ltd	9595758533		BE	53	IoT & applications	1
22	2/17/2020	Nisarg R. Dongare		8698800448		TE	50	Emerging Trends in ENTC	2
23	24,25-02-2020	Ramesh H. Adavi	Emeritus Professor	9673010222	ramesh.adavi@gmail.com	SY, TE	120	critical thinking	6
24	24,25-02-2020	Dr. P.W. Kelkar	Emeritus Professor	8308821108	padmakar_kelkar@gmail.com	SY	55	Project discussion	2
25	12_28-05-2020	Dr. P.W. Kelkar	Emeritus Professor	8308821108	padmakar_kelkar@gmail.com			IIC meeting, Project discussion, Lean Canvas	11
26	29,30-05-2020	Dr. Munir Sayyad	Adjunct Prof.	7738189979	munirsayyad@gmail.com	SE	50	Block chain	6

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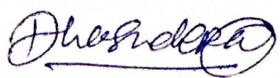
SVVERIS's College of Engineering, Pandharpur

Electronics and Telecommunication Department

Guest/ Expert Lecture Report

Date: 22/09/18

1	Name of Expert Faculty	Mr. Rakesh A. Dhasade / Dhasade ;	
2	Affiliation	Adjunct Professor/ Emeritus Professor - Academics/ Industry	
3	Correspondence	Team leader - Tata Consultancy Services Pune. 10+ years experience.	
4	E-mail & Contact no	9766924951	radhasade@gmail.com
5	Date & Time	22/9/18 at 2.15 PM	
6	Beneficiary	Students/ Faculty students: Class- <u>TE</u> Div- <u>B</u>	
7	Content Covered	<input checked="" type="checkbox"/> Curriculum <input type="checkbox"/> Curriculum gap <input type="checkbox"/> Content beyond syllabus	
8	Topic of Lecture	Project management & Engg. App'n.	
9	Details of Lecture	<ul style="list-style-type: none"> - Need of communication. - Application of communication. - Requirement of Industry - C, C++, Java, - project management - Application of Electronics. - why to search for job. - How to start small scale industry 	
10	COs (if applicable)	-	
11	POs mapped	4, 5, 8, 10, 12	


Sign of Expert


Sign of CC


Sign of HOD

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Dept of Electronics & Telecom. Engg.
C.O.E Pandharpur



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S

COLLEGE OF ENGINEERING, PANDHARPUR.

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Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.

(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)

E-mail :- coe@sveri.ac.in

Date: 22/9/18

Department of Electronics and Telecommunication Engineering

To,
The Principal,
SVERI's COE,
Pandharpur

Subject: Report Regarding Guest Expert Lecture

Respected Sir,

I the undersigned H. K. Bhaldar working in ENTC

Department, submitting following report of guest lecture conduction.

Name of the Guest faculty : Mr. Rakesh A. Dasade
Class : TE(CB)
Topic of Guest Lecture : Project management and appli. of Engg.
Total No. of Hours : 2 Hrs
Total No. of Students : 45
Date of Guest Lecture Conducted : 22/9/18

Thanking You.


Subject Teacher


HOD ENTC
HEAU

Dept. of Electronics & Telecom. Engg.
C. E. Pandharpur

Department of Electronics & Telecommunication Engineering
Academic Year 2018-19

TE B

Guest Lecture by: Mr. Pankesh Dasake

Topic: Project management & Applications of Engineering

Roll.No.	Name of the Student	Sign
1.	Asabe Pratima Navanath	<u>Asabe Pratima</u>
2.	Baba Bhagyashri Shivshankar	<u>Bababha</u>
3.	Bagal Mohini Tanaji	<u>Bagal</u>
4.	Bangi Alfiya A Hamid	<u>Bangi</u>
5.	Bhosale Aishwarya Gopal	<u>Bhosale</u>
6.	Bhosale Kavita Ganpat	<u>Bhosale</u>
7.	Bhosale Ruchita Vilas	<u>Bhosale</u>
8.	Bodake Sonali Baban	
9.	Chavare Shubhangi Sambhaji	
10.	Devkate Pooja Sham	<u>P.S.D</u>
11.	Dhotre Rohini Shivaji	<u>Dhotre</u>
12.	Gajakosh Monika Harishchandra	<u>Gajakosh</u>
13.	Ghadyalji Aishwarya Chandrakant	
14.	Ghodke Pooja Ganpati	<u>Ghodke</u>
15.	Gore Janabai Balasaheb	<u>Gore</u>
16.	Gumaste Ketaki Sunil	<u>Gumaste</u>
17.	Jadhav Mayuri Tippanna	<u>Jadhav</u>
18.	Jagtap Janhavi Nagnath	<u>Jagtap</u>
19.	Kakade Puja Vikas	<u>Kakade</u>
20.	Kale Kranti Hanumant	
21.	Kamble Anandi Ramhari	<u>Kamble</u>
22.	Karande Jayashri Dattatraya	<u>Karande</u>
23.	Katkar Anjali Pandurang	
24.	Anjali Sudhakar Mane	<u>Mane AS</u>
25.	Khandare Darshana Rajesh	
26.	Khankal Vrushali Ramchandra	<u>Khankal</u>
27.	Khilari Nilambika Rudrappa	<u>Khilari</u>
28.	Koli Jyoti Naganath	<u>Koli</u>
29.	Mahadik Kajal Hanumant	<u>Mahadik</u>
30.	Maske Yogita Suresh	
31.	More Kirti Ashok	<u>More</u>

Roll.No.	Name of the Student	Sign
32.	Myakal Samita Balaji	
33.	Navalai Seema Laxman	
34.	Navgire Pragati Purushottam	
35.	Patil Dhanshree Sanjay	
36.	Patil Nishigandha Santosh	
37.	Patil Punam Laxman	
38.	Potdar Gunjan Sarang	Ab
39.	Salge Varsha Rajendra	
40.	Shahane Manasi Mahesh	Ab
41.	Survase Tejaswini Vishnu	
42.	Vakase Jyoti Dattatray	
43.	Vansale Rutuja Anurath	
44.	Wagh Kanchan Sudhakar	
45.	Yadav Anuja Dnyaneshwar	
46.	Hindule Madhavi Shashikant	
47.	Sawant Mayuri Balkrishna	
48.	Pawar Trupti Maruti	
49.	Yelasange Anjali Mahadev	
50.	Gondawale Sanjay Rajaram	
51.	Gurav Umesh Bateshwar	
52.	Hindule Ravikant Shashikant	
53.	Mane Harshadip Shailesh	
54.	More Swapnil Pandharinath	
55.	Naiknavare Rajkumar Chokha	
56.	Parakhe Vallabh Sanjay	
57.	Ranaware Rohit Suhas	
58.	Sayyad Tanjim Mahammad	Ab
59.	Shinde Balkrushna Shivaji	Ab
60.	Sonar Abhishek Rajkumar	Ab
61.	Sonawane Sharad Magan	
62.	Tate Deshmukh Krishna Rajendra	
63.	Vyawahare Sachin Dattatreya	
64.	Omkar Anil Molak	

Dipalje Pujari
Class Coordinator

Dr. A. S. Vibhute
HOD

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Department of Electronics & Telecom. Engg.
C. O. Panchavati



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Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.
(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)
E-mail :- coc@sveri.ac.in

Date: 15/09/2018

Department of Electronics and Telecommunication Engineering

To,

Mr. Rakesh A. Dasade

Team Leader,

TCS, Pune

Subject: Invitation for Guest session on "Project management and Applications of engineering"

Respected sir,

We are happy to invite as an expert guest for our Third Year Electronics and Telecommunication Engineering Department students of SVERI'S COE, Pandharpur for Conducting Guest/Expert session on "Project management and Applications of engineering" on 22nd Sept. 2018.

You are requested to accept our invitation and please give your consent for the same.

Thank You,

Yours faithfully,

Received

Dhase-dasade


(Dr. A. S. Vibhute)

H. O. D ENTTC
HEAD

Dept. of Electronics & Telecom. Engg.
C. O. C. Pandharpur



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Gopalpur -Ranjani Road, Gopalpur, P.B. No. 54, Tal - Pandharpur- 413 304,
Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.
(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)
E-mail :- coe@sveri.ac.in

Date: 22/09/2018

Department of Electronics and Telecommunication Engineering

To,

Mr. Rakesh A. Dasade

Team Leader,

TCS, Pune

Subject: Thanks Letter

Respected sir,

This is to express our heartfelt gratitude towards you for accepting invitation as Expert Guest for conducting a session on "Project management and Applications of engineering" for TE students on 22nd Sept. 2018.

Your valuable guidance will always keep the students inspiring & motivating.

I request the same kind of co-operation in future also.

Thankyou,

Yours faithfully,


(Dr. A. S. Vibhute)

HOD ENTC
HEAU

Dept of Electronics & Telecom. Engg.
P. O. C Pandharpur

Received

Dhasade



PARTICIPATIVE LEARNING

Participative learning is focused on encouraging students to become actively involved in their learning process through following activities:





Sr. No.	Name of the Activity	Purpose of Activity
1	Technical Competitions like Smart India Hackathon (SIH), Project Competitions and IIC Projects	The purpose for conducting such a competition for sharing their projects ideas with the world.
2	Participation in Paper Presentation Competition / Publications / Conferences	Participation in Conferences helps to exchange knowledge also helps students to gain deeper insights after meeting people and make meaningful connections, and bring back valuable ideas and strategies.
3	Extra and Co-curricular Activities	Co-curricular activities improve the learning experiences of students, help them identify and develop their inner talents like creative & public-speaking skills, leadership qualities, etc.
4	Quiz Solving and Group discussion	It encourages active participation, exchange of ideas and boosts confidence of students when they are able to provide the solutions by themselves. It improves their analytical thinking and problem solving skills to a great extent.

Participative learning through IIC Projects

- **Solve Complex Engineering Problems**
- **Professional Ethics and Responsibilities**
- **Life Long Learning**
- **Team work**

Link:

https://drive.google.com/file/d/1hGQ4L_FzLh4Bpmi6cw51YB2MAGkPzVMG/view?usp=sharing

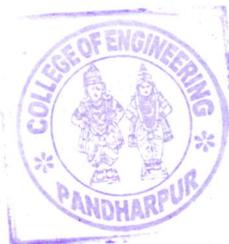
Ref:- COEPR / 2020 - 2021 / 0.0. / 03

Date:- 30/06/2020

OFFICE ORDER

As per resolution made in Board of Governors Meeting dated 29/06/2020, Institution's Innovation Cell is constituted in our college as per the details given below:

Sr. No.	Name of Faculty	Designation	Nature	Experience/Positions
1.	Dr. N. B. Pasalkar	Chairman	External	Ex- Director of Directorate Technical Education, Government of Maharashtra, India; MPSC member and Prof. in Electronics Engineering.
2.	Dr. B. P. Ronge	Co-Chairman	Internal	Founder Secretary, SVERI and Principal, SVERI's COE, Pandharpur
3.	Mr. Ashok Ranade	Member	External	B.Tech. from IIT with 45+ years of industry experience and faculty of Toronto University, Canada.
4.	Mr. Ashok Saraf	Member	External	B.Tech. from IIT with 45+ years of industry experience; Founder of Syslab Pune; Trustee Science & Technology Park Pune University.
5.	Prof. Suhas Deshpande	Member	External	M.Tech. from IIT with 40+ years of experience in HVAC & R, Renewable & Conventional Energy, Cold Storages, Training and Teaching; ASHRAE Fellow [USA] ; Ex-President of ISHRAE Pune and Western India Chapter.
6.	Mr. Sudarshan Natu	Member	External	M.Tech. from IIT with 35+ years of industry experience; Ex Vice President of Harman Connected Services; Cofounder and Managing Director of NitAI Computers, Pune and product development experience in cutting edge technologies, IOT, Embedded Products for various domains, etc.
7.	Dr. Padmakar Kelkar	Member	External	Founder & CEO of Bright Stars Electronics; Former consultant to World Bank; Consultant to WAPCOS for Ghana and Indonesia projects; 45+ Years industrial experience in various domain and embedded products; Two Granted Patents and Four Published Patents and Award winner of National Award for commercializable Patents by DST, Delhi.



B. Ronge

Sr. No.	Name of Faculty	Designation	Nature	Experience/Positions
8.	Mr. Atul Marathe	Member	External	B.Tech from IIT with 30+ years of industry experience, Ex Vice President at Persistent, worked with IBM and expert in software product development, ERP, Consulting, Training, etc.
9.	Mr. Vishal Chandrakant Khatal	Member	External	Co-Founder; CMO; DBM Infotech Pvt Ltd. Pune
10.	Mr. Balmukund Hirwe	Member	External	Bachelor of Engineering from COEP; Ex CTO Honeywell HK; 45+ years of experience in Electronic product Design, Lean innovative Product Design & Stage gate product Development, Refrigeration and Air Conditioning Systems Design, Customer Support Management, APQP, Quality Systems design, Product Reliability design and Management, Safety Certifications, Outsourcing Management OEM/ODM, Vendor Development PPAP, Commercial Ovens , Coffee Machines ,Deep Freezers, Visi Coolers, Reverse Engineering and Value Engineering.
11.	Mr. Ramesh Adavi	Member	External	B.Tech from IIT; PGDM from IIM, Bangalore with 35+ years of Industry Experience with Multinational group, startup company and Expert in Data Science, Machine learning, AI, etc.
12.	Mr. Kamlesh Pande	Member	External	M Tech from IIT with 40+ years of experience; Currently, Founder MAITRI (Making Academia Innovative and Technically Relevant to Industry); Adjunct Professor, School of Management (SOM), IIT Bombay; Member, CII Committees on Higher Technical Education and Industry-Institute Interaction.
13.	Mr. Vivek Deshpande	Member	External	M.Tech. from IIT with 30+ years of experience in multinational companies and Extensive product development experience in IOT, Embedded, Software, etc.
14.	Dr. Ms. V. S. Khirsagar	Coordinator	Internal	Associate Professor, SVERI's College of Engineering, Pandharpur

The Institution's Innovation Cell is formed to create and inculcate 'Innovative culture' among the students and faculty members of the Institute. The external members will be available in the campus or through email/phone/conference and interact with the faculty and students of the college. The external members of Institution's Innovation Cell will extend the guidance to our faculty members and students for making innovative products and research projects. They will further extend the help in the consultancy project work undertaken by the college. Based on the analysis and needs, these members will help to conduct FDPs for the development of faculty in upcoming trends and technologies and guidance sessions for our students. The external members



B. Sange

of the Institution's Innovation Cell shall be entitled for a sitting allowance of Rs. 5000/-per meeting in addition to travelling, lodging and boarding expenses, at actual.
If the external members of Institution's Innovation Cell conduct separate FDP/STTP/Workshop, Guiding Sessions, etc., they will be entitled for separate honorarium for the same as per the mutual agreement between them and the institute, in addition to travelling, lodging and boarding expenses, at actual.



B. P. Ronge
(Dr. B. P. Ronge)
PRINCIPAL

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4. Website
5. Office Copy
6. Campus In-Charge
7. Vice Principal

IIC Establishment Certificate (2020-21)



Ministry of
Education
Government of India



MoE's
INNOVATION CELL
(GOVERNMENT OF INDIA)



INSTITUTION'S
INNOVATION
COUNCIL
(Ministry of Education Initiative)



CERTIFICATE

Institution's Innovation Council (IIC) established at

COLLEGE OF ENGINEERING , Pandharpur

had undertaken various activities prescribed by Innovation Cell, Ministry of Education, Govt. of India to promote Innovation and Start-up in campus during the IIC calendar year 2020-21.

Prof. Anil D.Sahasrabudhe
Chairman
AICTE

Dr. Abhay Jere
Chief Innovation Officer
MOE, Innovation Cell

Mr. Dipan Sahu
Assistant Innovation Director
MOE, Innovation Cell

Certificate No :
1762

Issued On : 2022-01-03

Sample Report of IIC Product-Automatic Sanitizer Dispenser

SVERI's College of Engineering, Pandharpur

Department of Electronics & Telecommunication Engineering

Academic Year 2019-20 (Sem-II)

Product Development

Name of The Product:- Automatic Sanitizer Dispenser

Name of The Guide: Dr. A. S. Vibhute

Name of Students:

1. Mr. Gopal Govind Kamble
2. Mr. Onkar Vilas Nagashetti
3. Mr. Onkar Mahadev Yalesage
4. Mr. Jayesh Satish Ingle

Objective:

To dispense sanitizer without touching dispenser.

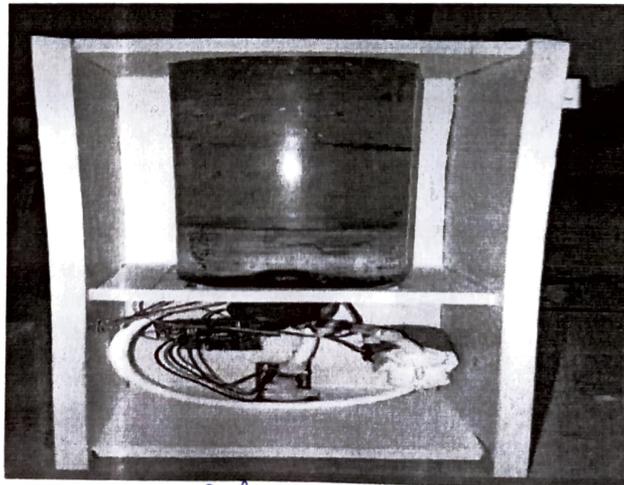
Working:

This project is based on ultrasonic sensor, which detects the presence of hands and consequently activates the motor pump to dispense sanitizer.

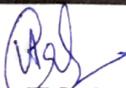
The concept is that when the Sensor, which is attached to the holder, gets activated, by simply putting your hand a few centimeters below it, the presser goes down a set distance, (pressing the dispenser) and dispenses sanitizer.

Outcome:

It is contactless sanitizer dispenser so spreading of infectious virus.




Sign of guide


Dept. IIC Coordinator


HOD E&TC

HEAD

Dept. of Electronics & Telecom. Engg.
Q. E. Pandharpur

Sample Report of IIC Product-Smart Dustbin

SVERI's College of Engineering, Pandharpur
Department of Electronics & Telecommunication Engineering
Academic Year 2019-20 (Sem-II)

Product Development

Name of The Product:- Smart Dustbin

Name of The Guide: Mr. A. M. Kasture

Name of Students:

1. Mr. Gridhar Shettigar
2. Mr. Jayesh Khadde
3. Mr. Mayur Jadhavar

Objective: Automatically open the lid when it detects the people who want to throw out their trash.

Working:

When person comes in front of smart dustbin it will open automatically with the help of a servo motor. Sensor is used to sense if someone comes closer to dustbin.

Outcome:

The lid of the dustbin stays closed, so that waste is not exposed (to avoid flies and mosquitos) and when person wants dispose any waste, it will automatically open the lid.



Kasture
Sign of guide

Raj
Dept. IIC Coordinator

bm
HOD E&TC

HEAD

Dept. of Electronics & Telecom. Engrg.
S. V. E. Pandharpur

Participative learning through ROBOT Making Competition

- **Solve Complex Engineering Problems**
- **Professional Ethics and Responsibilities**
- **Life Long Learning**
- **Team work**

ROBOT MAKING COMPETITION CONDUCTED BY DEPARTMENT OF MECHANICAL ENGINEERING



ROBOT MAKING COMPETITION CONDUCTED BY DEPARTMENT OF MECHANICAL ENGINEERING



Participative Learning through Student Publication

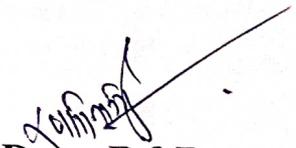
- **Complex Engineering Problems Solving**
- **Professional Ethics and Responsibilities**
- **Life Long Learning**

Summary of Student Publications/Conferences for the Academic Year 2018-19



SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR SUMMARY OF PAPER PUBLICATIONS/ CONFERENCES

Academic Year	Class	No. of Papers
2018-19	BE	71


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List of Student Publications/Conferences (2018-19)



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S
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SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR STUDENT PAPER PUBLICATIONS DETAILS ACADEMIC YEAR: 2018-19

Sr. no.	Student Name	Title of Paper	Journal / Conference
1	Thite Ankita Arjun	Utilization Of Waste Plastic As Partial Replacement Of Fine Aggregate In Concrete	International Conference on Mechanical, Manufacturing, Industrial and Civil Engineering (ICMMIC), Bengaluru
	Itkapalle Pooja Ramesh		
	Jadhavar N R		
	Chandanshive K. S.		
	Jadhav Sarita Narayan		
2	Katkar Namrata Ramkrishna	Infiltration Studies Of Black Cotton Soils Under Different Soil Condition And Comparison Of Infiltration Model With Field Data	International Conference on Mechanical, Manufacturing, Industrial and Civil Engineering (ICMMIC), Bengaluru
	Korake Swapnali Kailas		
	Thite Trupti Somnath		
	Waghmode Tejasvi Dhondiba		
3	Mangire Adesh Sunil	Best Input Variable Combinations For Reservoir Capacity Analysis	International Conference on Mechanical, Manufacturing, Industrial and Civil Engineering (ICMMIC), Bengaluru
	Pawar Balu Sidram		
	Gade Dipak Shivaji		
	Puri Anil Arjun		
	Ajure Shubham Dilip		
4	Honmote Kundan Ganpat	Experimental Behavior Of Neutralized Red Mud In Concrete By Replacing Cement Percentage	International Conference on Mechanical, Manufacturing, Industrial and Civil Engineering (ICMMIC), Bengaluru
	Nirmal Sandip Bhausahab		
	Kadam Yogeshwar Prabhakar		
	Ghadage Ganesh Sahebrao		
5	Kambale Akshada Avinash	Development Of Smart Traffic System For Pandharpur City	International Conference on Mechanical, Manufacturing, Industrial and Civil Engineering (ICMMIC), Bengaluru
	Madke Bhakti Sambhaji		
	Godase Yashashri Sadhu		
	Lengare Amruta Laxman		
6	Lokhande Anil Laxman	Optimization Techniques For A Cantilever Beam	International Conference on Mechanical, Manufacturing, Industrial and Civil Engineering (ICMMIC), Kolkata
	Pore Nilesh Raghunath		
	Velapurkar Pravin Shyam		
	Shinde Devidas Tanaji		
	More Kiran Nana		
	Shinde Nitin Bharat		
7	Saumya Nashikkar,	Road Pit Notifier	International Journal of Management, Technology And Engineering, Volume 8, Issue XI, NOVEMBER/2018
	Nikita Unholi,		
	Preeti Karki,		
	Sonali Chavan		
8	Sharyu U. Kamble,	Heart Disease Prediction using Machine Learning Techniques	International Journal on Emerging Trends in Technology, Volume 6, Issue 1, April 2019
	Vaishnavi S. Jawanjale,		
	Pooja P. Velapure,		
	Priya K. Jadhav		

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Sr. no.	Student Name	Title of Paper	Journal / Conference
9	Kanchan I. Chouhan,	Smart Voting through UID Verification by using Face Recognition	International Journal on Emerging Trends in Technology, Volume 6, Issue 1, April 2019
	Vidya B. Maskar		
10	S. C. Tendulkar,	Website Development for E-commerce Platform	International Journal on Emerging Trends in Technology, Volume 6, Issue 1, April 2019
	A. P. Raut,		
	S. B. Varape,		
	R. P. Bansode		
11	Dipanwita Deb,	Stock Market Prediction using Twitter Sentimental Analysis	International Journal on Emerging Trends in Technology, Volume 6, Issue 1, April 2019
	Parvati Dagade,		
	Varsha Deokar,		
	Manasi Waghmare		
12	Chandraprabha P. Kale,	Design, Feature Extraction and Prediction of Food Grains	International Journal on Emerging Trends in Technology, Volume 6, Issue 1, April 2019
	Ashwini S. Jadhav,		
	Yashoda S. Pingale,		
	Priyanka L. Telgaon,		
13	Sukeshani Jagannath Kokare,	RFID Based Attendance System	International Journal for Scientific Research & Development (IJSRD), Volume : 7, Issue : 2, May 2019
	Kiran Ramchandra Gudd,		
	Shaheen Anwar Patel,		
	Poonam Balaso Sawant,		
14	Mane Shubham S.	Enhancement of Damping Force of Classical Hydraulic Damper into Semi Active Damper using MR Approach	International Journal of New Technology and Research
	Abhangrao Chaitanya R.		
	Kothawale Rajdeep R.		
	Mete Akash R.		
15	Ankita A. Kashid	Analysis of Weld Joint for SS 316 Material Using Taguchi Technique	International Journal of New Technology and Research
	Pallavi M. Patil		
	Monika R. Olekar		
	Priyadarshani V. Deshmane		
	Sonali S. Jadkar		
16	Vishal M. Dhumal	Improving Accuracy of Manual Crimping Operation through the Automation of Crimping Machine	International Journal of New Technology and Research
	Shivam R. Kanade		
	Samadhan U. Bandagar		
	Kiran S. Ghule		
17	Ashish Shahane	Enhancement of Heat Transfer Coefficient through Forced Convection Apparatus by Using Circular and Elliptical Pipe	International Journal of New Technology and Research
	Lakhan Ghodake		
18	Laxmikant D. Joshi	Experimental Investigation of Natural Fiber with Epoxy Resin	International Journal of New Technology and Research
	Amar A. Rajgole		
	Rahul Hiremath		
19	A.M. Khandekar	Study, Manufacturing and Analysis of Conveyor Chain Pin by using Composite Material	International Journal of New Technology and Research
	G.R. Mote		
	N.S. Vastre		
	S.A. Mosalgi		


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Sr. no.	Student Name	Title of Paper	Journal / Conference
20	Rohit D. Bankar	Computational Analysis of a Piezoelectrically Actuated Valve-less Micropump for Micro-fluidic Applications	International Journal of New Technology and Research
	Ajay L. Godase		
	Ashok B. Mule		
	Nikhil N. Gaikwad		
21	Siddharam S. Warad	Design and Development of a Pneumatic Car	International Journal of New Technology and Research
	Sonal R. Swami		
	Akash V. Reshame		
	Rahul A. Hadapad		
	Virendra V. Mahajan		
22	Hrushikesh N. Paricharak	Analysis of Crack on Aeroplane Wing at Different Positions using ANSYS Software	International Journal of New Technology and Research
	Aditya A. Lotake		
	Sudhakar V. Mane		
	Darshan R. Gaikwad		
	Rushikesh H. Vastre		
23	Priyadarshani Gaikwad	Deformation Analysis of Wood Cutting Setup using ANSYS	International Journal of New Technology and Research
	Komal Gund		
	Kulsum Kazi		
	Bhairavi Fund		
24	Sumit S. Khajepawar	Study of depth of etching in Photo Chemical Machining by colored Phototool	International Journal of New Technology and Research
	Guruprasad V. Badave		
	Shubham S. Bhosale		
	Dnyanraj S. Telang		
25	Mayuri A. Raut	Fabrication of Micro Channel Heat Sink by using Photo Chemical Machining	International Journal of New Technology and Research
	Snehal S. Kale		
	Prajakta V. Pangavkar		
26	Mayur M. Jokare	Fabrication of Micro Channel Mold by using CO2 Laser Machining	International Journal of New Technology and Research
	Abhishek H. Vedpathak		
	Rajendra D. Pawar		
27	Aditya A. Lotake	Comparative Stress Analysis of Connecting rod using ANSYS for Different Materials	International Journal of New Technology and Research
	Shakir M. Mulani		
	Sohel M. Mulani		
	Rajratna D. Meshram		
28	Sunil S. Miskin	Review on Solar Air Conditioning with Desiccant Wheel	International Journal of New Technology and Research
	Onkar P. Dhudhane		
	Abhishek H. Vedpathak		
	Yogesh R. Barkul		
29	Kshitij Moholkar	Experimental Analysis of Solar Dryer for Agricultural and Food Products	International Journal of New Technology and Research
	Akshay Jadhao		
	Rohit Chavan		
	Ravindra Bhosale		
30	Pankaj V. Patil	Design, Fabrication, and Analysis of Miniature Centrifugal Pump	International Journal of New Technology and Research
	Digambar S. Pawar		
	Chetan S. Mote		
	Ashutosh B. Deshmukh		

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Sr. no.	Student Name	Title of Paper	Journal / Conference
31	Jadhav Saurabh M	Etching Depth variation of Brass Material for Different Operating Conditions	International Journal of New Technology and Research
	Karatkar Onkar V.		
	Bangale Kamesh N.		
	Choudhari Deepak B.		
32	Sachin Waghmare	Design and Fabrication of Bench Top Injection Moulding Machine	Global Journal of Engineering Science and Researchers
	Dadasaheb Maske		
	Pratik Waghmare		
	Vishal Bhosale		
33	Nikhil V. Chavan	Fabrication & Characterization of Micro features on PMMA Using CO2 Laser Machining	International Conference on Budding Trends in Engineering and Technology
	Rushikesh M. Bhagwat		
	Suraj S. Gaikwad		
	Shivam S. Shete		
34	Rahul C Kambale	Design Development of Parabolic Trough Solar Concentrator for Water Heating	International Conference on Budding Trends in Engineering and Technology
	Shubham Shahane		
	Shriyash Patange		
	Makarand Burud		
35	Hrushikesh Dhananjay Kulkarni	Fabrication of Micro-Textures on Conical Shape Hydrodynamic Journal Bearing	International Conference on Budding Trends in Engineering and Technology
	Ashish Bhaskar Rasal		
	Onkar Hemant Bidkar		
36	Rupesh Bandgar	Fabrication of Compliant Mechanism for Micro Gripper using Photo Chemical Machining	International Conference on Budding Trends in Engineering and Technology
	Sagar Bagewadi		
	Sachin Kumbhare		
	Pravin Kachare		
37	Rakash Bawale	Fabrication and Characterization of Micro Channel Mold using CO2 LASER Machining	International Conference on Budding Trends in Engineering and Technology
	Akash Jagtap		
	Somesh Burande		
	Rajkumar Bile		
38	Rohan D. Gaikwad	Fabrication of Gear Lever Locker for Side Stand	International Conference on Budding Trends in Engineering and Technology
	Prashant N. Pawar		
	Kiran G. Gaikwad		
39	Upase Sidharth Ravindra	Cost effective E-rickshaw using Battery and Paddle	ISETE International Conference, Bengaluru
	Panpude Ajay Balak		
	Kandi Nikhil Mallikarjun		
40	Anantpure Mokshada Ramling	Gas leakage detection and accident prevention system using IoT	ISETE International Conference, Bengaluru
	Kambale Prajakta Narayan		
	Kore Bhagawati Prakash		
41	Waghmare Varsha Ashok	Water Purifier using Peltier Module	International Research Journal of Engineering and Technology (IRJET)
	Walujkar Shubhangi Sunil		
	Patil Komal Kamalakar		
42	Atar Shahista Iqbal	Voice controlled Machineries in Agricultural Field using Raspberry Pi	International Research Journal of Engineering and Technology (IRJET)
	Jadhav Diksha Vitthal		
	Chavan Banubai Dattatray		
43	Bhosale Swapnali Sudhakar	Design of Smart Blind Stick using Arduino	International Journal for Scientific Research & Development (IJSRD)
	Ghongade Sneha Raja		
	Shinde Seema Sadashiv		

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Sr. no.	Student Name	Title of Paper	Journal / Conference
44	Kamble Bhagwati Krushna	Heart Rate Monitoring By using Pulse Sensor	International Research Journal of Engineering and Technology (IRJET)
	Khune Rupali Satish		
	Raut Priyanka Bhimrao		
	Shinde Sunita Prakash		
45	Awatade Vaishnavi Vitthal	GPS based vehicle tracking and monitoring system - A solution for transportation	International Research Journal of Engineering and Technology (IRJET)
	Gaikwad Pratiksha Arun		
	Javanjal Gayatri Sanjay		
46	Yelale Priti Sitaram	Design and implementation of Wheelchair controlled using Eye movement	International Research Journal of Engineering and Technology (IRJET)
	Paparkar Sonali Pandurang		
	Waghmare Diksha		
47	Waghmare Ashanta Laxman	Raspberry Pi based Reader for Blind People	International Research Journal of Engineering and Technology (IRJET)
	Pangare Mohini Madhukar		
	Sawale Bhagyashri Chandrakant		
	Shinde Urmila Deepak		
48	Bhosale Punam Shrirang	Automatic Seed Sowing Robot	International Research Journal of Engineering and Technology (IRJET)
	Yedave Vidya Dattatraya		
	Shinde Jyoti Bhairavnath		
49	More Mayuri Mahadeo	Design of Micro-Strip Patch Array Antenna at 2.45 GHz Frequency for wireless application	International Journal for Scientific Research & Development (IJSRD)
	Shinde Shilpa Ravindra		
	Rangar Swagata Jaivant		
50	Yelme Mitali Devidas	Solar Powered Arduino based Wireless Grass Cutter System	International Journal for Scientific Research & Development (IJSRD)
	Biradar Abhishakta		
	Salunkhe Shital Dhanaji		
51	Dingare Krishna	Voice controlled Water Control System using Arduino	International Research Journal of Engineering and Technology (IRJET)
	Raj shivaji Palase		
	Shahane Ajinkya Abhaykumar		
	Prakash Chittapure		
52	Rajput Amruta Narayansing	Virtual Eye for Visually Blind People	International Research Journal of Engineering and Technology (IRJET)
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53	Jadhav Nilesh Dnyaneshwar	Design of Small Scale Electronic Trolley with 500 KG Load carrying capacity	ISETE International Conference, Bengaluru
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57	Deshpande Kranti Damaji	Sugarcane Disease Detection and Controlling using Image Processing	International Research Journal of Engineering and Technology (IRJET)
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61	Adhvalkar Mayureshwar Hanmant	Electronic System to Reduce Setup Ttime of Tube Mill Machine	International Journal for Scientific Research & Development (IJSRD)
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65	More Priyanka Arjun	IOT based Notice Board	International Journal for Scientific Research & Development (IJSRD)
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Sr. no.	Student Name	Title of Paper	Journal / Conference
70	Kamble Ananda Nagnath	Thumb Impression Operated Locking System for Multiple User	International Journal for Scientific Research & Development (IJSRD)
	Dhaware Ganesh Bhimarao		
	Kadam Shrikant Uttamrao		
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71	Lokhande Trupti Pandurang	Counting of RBC's & WBC's using image processing Technique	International Journal of Engineering Science and Computing (IJESC)
	Salunke Punam Balasaheb		
	Shinde Prajakta Tanaji		
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ICMN-2K19

Comparative CFD Analysis of Mini Impeller Using Different Materials

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Abstract

In this present era there is continuously increasing the use of centrifugal pump which is required to pump the various fluids like water, fuel, etc. from lower level to higher level. And in the field of research and development there is use of miniature centrifugal pump for different applications. So, there is need to design the miniature pump impeller by standard design procedure. The model is developed with the help of CATIA v5 R21 software. Then an analysis is carried out in the ANSYS Fluent for different materials and various parameters like wall shear stress and static pressure are analyzed.

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Keywords: centrifugal pump; mini impeller design; ANSYS Fluent; CFD; CATIA v5 R21

1. Introduction

The centrifugal pump is the device which lifts the water from lower level to higher level by utilizing centrifugal force. In this centrifugal pump the impeller is used to increase pressure and flow of fluid. It converts the mechanical energy into kinetic and pressure energy. An impeller is rotating component of pump which transfer energy from motor which pumps the fluid to outwards from the centre of rotation. An impeller is nothing but a small cylinder with an open inlet called as eye which accepts the incoming fluid. At the centre of impeller it produces the negative pressure at the inlet vanes to pushes the fluid radically. The prediction of performance of impeller with conventional

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trial and error method is very difficult and time consuming as well as costly. Using CFD approach one can easily predict the complex flow inside the pump. Hence CFD analysis is efficient method for analysis of impeller. As very few researchers have made attempt in this area so the study is made for the analysis of mini impeller. Pierret and Braembussche [1] studied for satisfying the aerodynamic and mechanical requirements and shows the Navier - stokes computations is important. By using optimized algorithms depend upon simulating annealing will not trap in local minimum. Miguel Asuaje et al. [2] studied that design of centrifugal pump and optimization depends mainly on the 3D quasi-unsteady flow simulation using two methods which is CFX-TAS flow and CFX 5.5 codes. It causes the unsymmetrical flow distribution and cavitations appear on blades. Shang-liangchen and wen-Tsai Wang [3] studied the various computerized manufacturing processes for impeller. From this it states that the rough milling using cavity mill with three axis milling machine gives or improves the manufacturing efficiencies. Kim et al. [4] studied the CFD analysis of the volute of the impeller of centrifugal pump. And suggested that stepanoff theory is better for design of impeller and efficiency is decreases as there is increase of head. Gurupranesh et al. [5] studied the various parameters of impeller as static pressure and wall stress and it states that CFD analysis is so much important for analysis. Zhang et al. [6] studied the fatigue -failure analysis of impeller and founds that mistuning is the main causes of the fracture of the open impeller. The Vibration Stress of semi open impeller at the working speed is only 15.8 Mpa. Gamal et al. [7] studied the effect of number of impeller blades on pump performance. They took three different impellers with 5,7,9 blades and did numerical analysis and found that the optimum blade number at 2800 rpm and also found that the losses decreases by increasing blade number by numerical investigation were carried out to making reduction of secondary flow. Ragoth et al. [8] analyze the flow field in a pump impeller and got efficiency 58.53% for circular method and 57.31% for the point method and circular method is much efficient for higher efficiency. Anagnostopouls [9] studied flow in a centrifugal pump impeller by using Cartesian Grid. In this the numerical model is developed with the help of RANS Equation for finding the solution for impeller. Hazeri [10] studied the design of impeller for increasing the performance of pump and also optimized the design to give reduced energy consumption and prolonged component life. Zhou et al. [11] studied the wall shear stress and pressure distribution on the impeller of various models and he got uniform BVF distribution on the blade surface. Very less work has been reported on the analysis of mini centrifugal pump open impeller. Hence, an attempt is made to analyze the performance of a mini centrifugal pump by studying the different parameters like wall shear stress and static pressure for different materials like ABS, Steel and Aluminum. By comparing the results obtained after the analysis, the most suitable material for impeller is predicted.

2. Methodology

The methodology includes the design procedure of impeller which give the parameters and dimensions of the of impeller. The second part is the computational analysis. In computational analysis, the model is created in CATIA V5 software and then imported to ANSYS FLUENT software. Further, the mesh independence test is carried out and then the required simulations are performed in order to analyze the effect of speed and fluid flow direction on the wall shear stress, static pressure.

2.1 Design Procedure of Impeller:

In this impeller design, the discharge of 30 ml per sec and rpm of impeller is 5500 rpm with head of 30 cm is considered.

Specific speed :

$$N_s = N * \frac{\sqrt{Q}}{H^{\frac{3}{4}}}$$

Selection of vane number and discharge angle Assuming number of vanes is 6 and angle of discharge is 20°

Calculation of impeller dimension:

Head constant= ku=1.18

$$D_2 = \frac{1840 \cdot k_u \cdot \sqrt{H}}{(N_s)}$$

Calculation of impeller width:

$$B_2 = 0.78 (N_s/100)^{(1/2)} * (Q/N)^{(1/3)}$$

Eye Diameter of Impeller:

$$D_0 = K_0 * \sqrt[3]{Q/N}$$

Inlet Blade angle of the inlet:

$$\tan \beta = \frac{u_1}{V_{m1}}$$

Tangential velocity at inlet of impeller:

$$U_2 = \frac{\pi D_2 N}{60}$$

Inlet area of impeller:

$$A = [(\pi/4) * D_2^2]$$

Table 1. Parameters used for analysis

Specific speed	3700 rpm
Outer diameter of impeller	2cm
Width of impeller	0.6cm
Inlet angle	12°
Outlet angle	20°
Discharge	30ml/sec
Inlet velocity	3.87cm/sec
Area of impeller	3.14cm ²
Number of vanes	6

Table 2. Density of materials

Material	Steel	Aluminium	ABS
Density(kg/m ³)	7700	2700	1060

The parameters of impeller used for analysis and the densities of materials are presented in Table 1 and Table 2, respectively.

After design, the next stage is modelling using a suitable software. CATIA is widely used for modelling different kinds of 3D models. Therefore, for modelling of the mini impeller, the CATIA v5 R21 software is preferred and the prepared model is presented in Fig. 1.

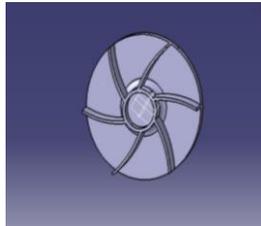


Fig.1. CATIA Model of impeller

There are softwares COMSOL Multiphysics, ANSYS Fluent, NASTRAN, etc. used by various researchers for analysing the performance of different devices like wind turbine, microchannels, micropumps, hydrodynamic bearings, etc. [12-14]. The computational analysis of mini impeller is carried out with the problems help of ANSYS

Fluent. This works on the CFD theory. The ANSYS Fluent has ability to solve flow by providing complete mesh flexibility. The interactive interface of ANSYS Fluent displays the results which are easily accessible. This impeller design CATIA file is converted in to .igs file. This file is imported into the ANSYS (fluent) software. After this, the mesh with coarse, medium and fine sizing and 100 relevance is generated. The volume of fluid is divided into three numbers of volumes such as rotating fluid volume, inlet fluid volume and inlet and outlet duct volume. The impeller wheel has given a constant rotating speed and setup referred as frozen rotor. Navier-Stokes equations is used for incompressible fluid. The details of input conditions and boundary condition are given below:

Input Material: ABS, Steel, Aluminium

Hydraulic Region: Water

Boundary Conditions: Specific speed =3700 rpm and Inlet velocity of 1.89 m/s

2.3 Mesh Independence Analysis:

In order to avoid the effect of enhanced meshing condition on the performance of mini impeller, the mesh or grid independence test is required to be performed. For Analysis of mini impeller, the unstructured mesh is used. The simulation is carried out for different mesh to improve computational the results. The different meshing conditions like coarse, medium, fine, and extra fine are applied to mini impeller and are depicted in Fig. 2. The result of the different meshing on the wall shear stress of the steel material is given below table 3. It has been observed that the results obtained for fine and extra fine be numbered with Arabic numerals. Every table should have a caption. Headings should be placed above tables, left justified. Only horizontal lines should be used within a table, to distinguish the column headings from the body of the table, and immediately above and below the table. Tables must be embedded into the text and not supplied separately. Below is an example which the authors may find useful. meshing for the wall shear stress pressure distribution are observed to be independent of the mesh (Fig. 3) beyond the fine meshing, therefore the extra fine meshing with meshing element 265706 has been found suitable to use for further computational analysis.

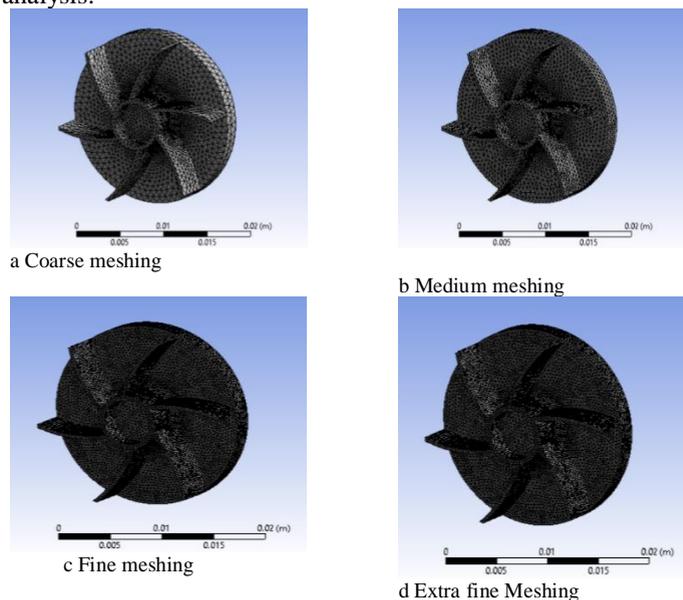


Fig.2. Different meshing conditions for mini impeller

Table 3. Mesh Independence Analysis

	Coarse	Medium	Fine	Extra fine
Nodes	25114	20771	51925	51945
Elements	130285	146249	264706	265706
Wall shear stress(Mpa)	4.31	3.34	2.97	2.97

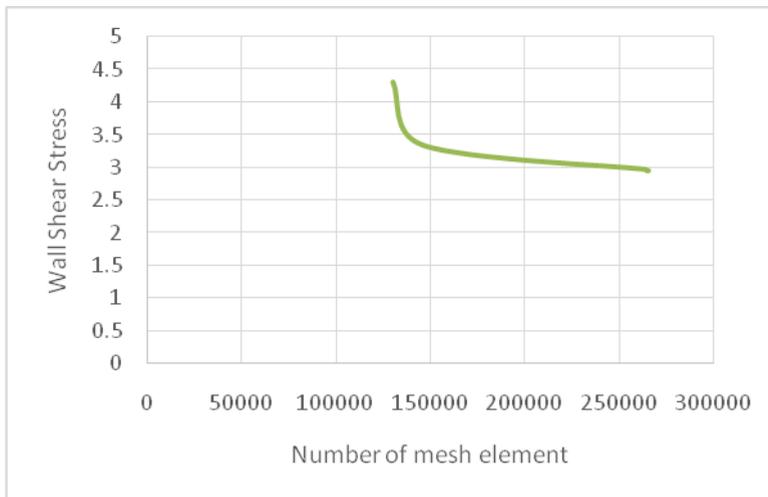


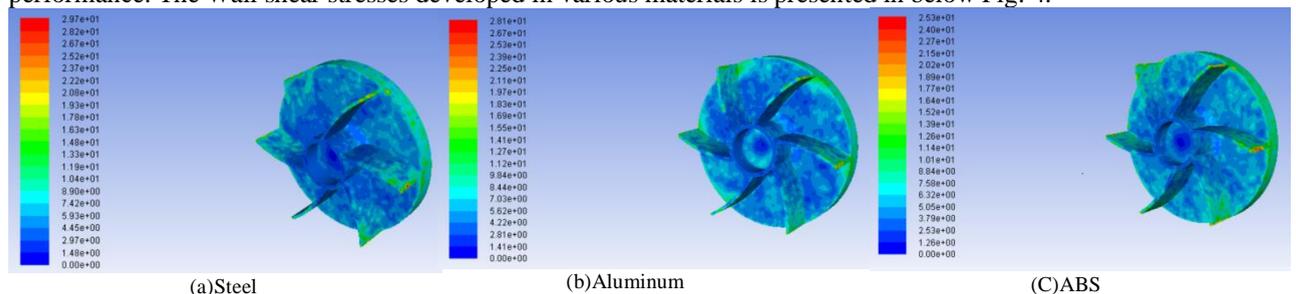
Fig. 3. Mesh independence test for wall shear stress

3. Results and Discussion:

The analysis has been carried out for studying the performance of mini impeller. The results are recorded for wall shear stress and static pressure. The results are taken when the convergence is obtained for solution where the numbers of iteration are 200.

3.1 Wall Shear Stress:

Wall shear stress is the shear stress in the layer of fluid next to the wall. Wall shear stress develops from the vector component parallel to the cross section of the material. Generally, the wall shear stress should be less for better performance. The Wall shear stresses developed in various materials is presented in below Fig. 4.



(a)Steel

(b)Aluminum

(c)ABS

Fig. 4. Wall shear stresses for different materials

By performing numerical analysis on each material, the observed results are displayed in Table 4.

Table 4. Result of wall shear stress

Material	Wall shear stress (Mpa)
Steel	0.297
aluminium	0.281
ABS	0.253

From the results, it can be concluded that ABS material is good because it gives less wall shear stress which is of 0.253 MPa and maximum wall shear stress developed in steel material is 0.297 Mpa which is higher. The results states that the wall shear stress is increases gradually from all directions from leading edge of blade toward the trailing edge of blade. And the pressure gradient in axial direction is lesser than the radial direction and this is due to the centrifugal force acts on the trailing edges of the impeller blades. At the hub or centre low pressure is developed due negative suction pressure. So, the wall shear stress developed in ABS is less so it is preferable material for mini impeller. Due to this the low-pressure zone created at the hub side and gas blockage may be caused.

3.2 Static Pressure:

Static pressure is the pressure of fluid on a body when the latter is at rest relative to it. Static pressure developed on the impeller blades is negative at middle and increases toward the outside. Higher Static pressure will cause failure to the impeller. Static pressure contour of different material are shown Fig 5.

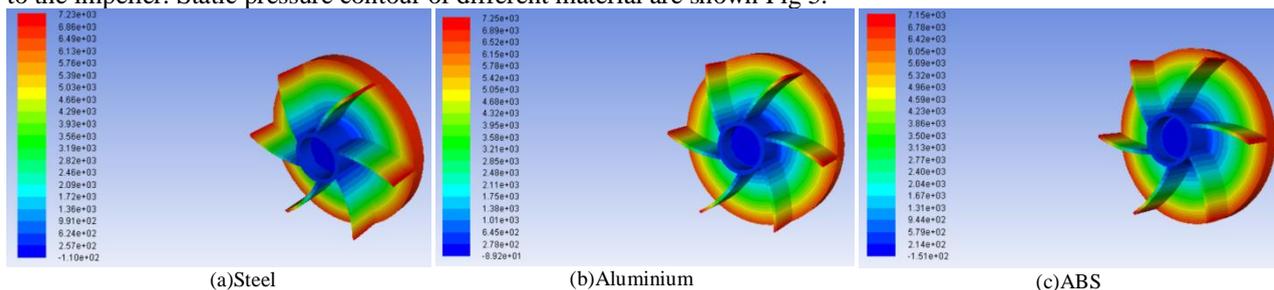


Fig. 5. Static pressure distribution for different materials

By performing the numerical analysis we have got the following results

Table 5. Result of static pressure

Material	Static Pressure(Mpa)
Steel	7.25
Aluminium	7.23
ABS	7.15

From the above the static pressure developed in various material like Steel, Aluminum and ABS in fig 5 (a), (b), and (c). In these materials the lowest static pressure is developed in ABS Material which is 7.15Mpa and highest pressure developed in steel which is 7.25 Mpa. The result says that the static pressure is increases gradually from all directions from leading edge of blade toward the trailing edge of blade. The pressure gradient in axial direction are

lesser than the radial direction. and this is due to the centrifugal force acts on the trailing edges of the impeller blades. At the hub or centre the low pressure is developed due negative suction pressure. The static pressure should be less as increase in static pressure velocity flow decreases So Static pressure developed is less in ABS material.

3.3) Validation:

Zhou et al. [5] studied the static pressure developed on various position of blades of impeller. The graph of pressure distribution vs. position on the blades is plotted and it shows similar trend as compared to the results of Xin Zhou et al. as demonstrated in Fig. 6.

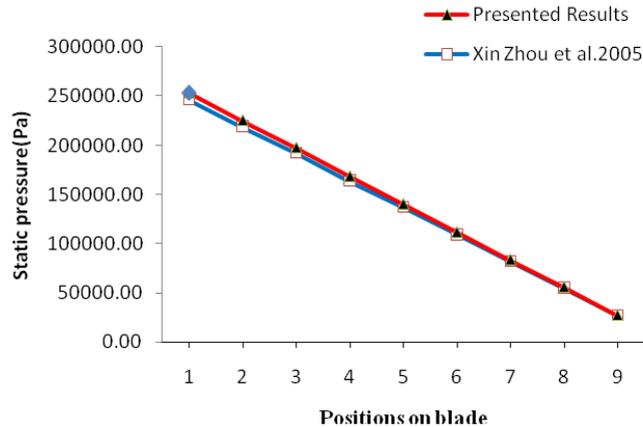


Fig. 6. Validation of Computational Results

4. Conclusion:

The computational analysis of mini impeller is performed using ANSYS Fluent Software in order to study the effect of speed and fluid flow condition on the wall shear stress and static pressure. The study has been carried out computationally on three different materials as steel, Aluminium and ABS. From the analysis of computational results, the static pressure and wall shear stress produced on impeller for ABS material are less as compared to steel and aluminum. So, it can be concluded that ABS material is most suitable for this type of impeller within the considered materials.

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Materials on a Diet: Study and Investigation of Aluminium – Fly Ash Metal Matrix Composite

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Abstract

Metal Matrix Composite (MMC) have wide applications in industry as they have lightweight and various properties. Composite materials are widely used in industry as they have less weight with high strength. In this study, we have used the Aluminium which is the most common material used in engineering applications. One of the cheapest industrial waste materials is Fly Ash, which can be successfully turned as industrial wealth by adding in the Aluminium to form Al-Fly Ash as Metal Matrix Composite with lesser weight and higher strength. Aluminium with varying percentage of fly ash (5%, 10% and 15%) were successfully added by using the Stir Casting method to form Metal Matrix Composite. In this investigation, we have studied the different properties of the Aluminium - Fly Ash as Metal Matrix Composite. From our study, we found that this Metal Matrix Composite which contains Fly Ash can be used in Automobile, Aerospace and other applications in Engineering where lesser weight with higher strength is expected.

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Keywords: Aluminium; Fly Ash; Industrial waste as wealth; Stir Casting;

1. Introduction

Metal Matrix Composite (MMC) is grabbing engineers' attention as it is having various properties like durability and high strength to weight ratio. In MMCs the metal matrix is used with the reinforcement to achieve the desired property with the lesser weight and cost. Aluminium is one of the common metals which are used in various

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engineering applications. As Aluminium is having less weight, it comes with lesser strength. Fly Ash is the industrial waste with low density produced by the thermal power plants as well as many industries. In India 1100 lacks ton Fly Ash per year is produced by the burning of 2500 lacks tons of coal per year for power generation. [1] It is one of the cheapest reinforcements we can use. Also, this can convert industrial waste into industrial wealth. Aluminium and Fly Ash Metal Matrix Composite is a composite material with higher strength as soft and ductile Aluminium is mixed with brittle and hard particles of Fly Ash. Use of Fly Ash in various materials can reduce pollution as well as increase strength and reduce the weight of the material. To form the Al-Fly Ash as MMC, the Stir Casting method is used. For investigation of the performance of MMCs we have added Fly Ash in different proportion (5%, 10%, 15%). This composite has many applications in Automotive and Aerospace sector.

2. Previous Studies

As Metal Matrix Composite (MMC) is having a high scope for research and innovations, many researchers have done work in the development and use of Aluminium – Fly Ash Metal Matrix Composite. We have listed below some of the studies done by the researchers in the field of Aluminium and Fly Ash MMC. Aluminium - Fly Ash Metal Matrix Composite is strengthened composite with good wear resistance used in various applications such as aerospace, automotive and other fields [2]. Aluminium is widely used in industry as it is common material with various useful properties. Using Aluminium fly ash MMC decreases the demand for intensive energy by Aluminium, it results in energy savings [3]. Fly Ash is having low density and available in major quantities as it is a waste product of thermal power plant when coal combustion. It has been successfully added into aluminium to make alloys and composites [4]. Previously Metal Matrix Composite was concentrated along the preparation of only FRC. As the cost of production is high, the use of such useful composite material is less. In current days the MMCs with lighter reinforcement grabbing importance because of less cost and higher strength properties. The strengthen aluminium alloy can have better stiffness as it has high strength and low density [5]. The Aluminium with Fly Ash Metal Matrix Composites are prepared by Stir Casting. Wettability of the particles can increase by the addition of active elements such as Mg into liquid Aluminium. The conventional method of production of composites by casting route is the vortex method, in which the Aluminium with 2% to 4% Mg is added and stirred. Mg helps to reduce the surface tension and avoid the dispersion of particles from casting [6,7]. Machinability is also increased with addition of Fly Ash in Aluminium with effect of lesser weight [8].

3. Materials and Experimental Study

3.1. Materials

In this experiment, we have used pure Aluminium as it is one of the common metals used in the aerospace and automotive industry as well as many other industries. Aluminium is soft in nature and have wide applications in every sector of engineering. Pure Aluminium is used to form the Metal Matrix Composite. For the reinforcement, we have used Fly Ash which is collected from the thermal power plant. As Fly Ash is waste for many industries and thermal power plants, it is beneficial for society and nature to use it in such engineering applications.

3.2. Aluminium

Aluminium is one of the most common materials used in engineering applications. It is highly useful in the automobile and aerospace sector. Aluminium is known as the lighter material which is having wide applications in day to day life which needs to be strengthen and reduction in cost. So we have selected Aluminium for making the metal matrix which can replace the existing Aluminium material for having better results.

In this experiment, we have used the Aluminium A1100 blocks to make Metal Matrix Composite. The composition and properties of A1100 are listed below in table 1 and 2 respectively.

Table 1. Composition of Aluminium

Elements	Weight (%)
Al	99
Si	0.45
Cu	0.15
Mg	0.05
Fe	0.30
Zn	0.05

Table 2. Properties of Aluminium

Properties	Values	Units	Conditions (°C)
Density	2.72	g/cm ³	25
Poisson's Ratio	0.32	-	25
Melting Point	648	°C	25
Tensile Strength	108	MPa	25
Elastic Modulus	75	GPa	25
Yield Strength	106	MPa	25
Elongation	11	%	25
Hardness	30	HB500	25
Fatigue Strength	40	MPa	25
Shear Strength	70	MPa	25
Thermal Conductivity	210	W/m-K	25

3.3. Fly Ash

It is one of the cheapest industrial waste which is produced by thermal power plants and other manufacturing industries. Fly ash is easily available at any power plant or in our daily use. Fly ash is the cheapest industrial waste produced by the industry which can be used as reinforcement in our experiment. Fly Ash has of two classes as Class F and Class C.

We have used Fly Ash of F class as a reinforcement for the MMC. The particle size of Fly Ash is less than 100 μm . Composition and properties of Fly Ash are given below in table 3 and 4 respectively.

Table 3. Composition of Fly Ash

Compounds	Weight (%)
SiO ₂	60.32
Al ₂ O ₃	20.41
Fe ₂ O ₃ + Fe ₃ O ₄	8.14
MgO + CaO + SO ₄	4.11
Other	7.02

Table 4. Properties of Fly Ash

Properties	Values	Units	Conditions (°C)
Density	0.61	g/cm ²	25
Poisson's Ratio	0.17	-	25
Melting Point	>1000	°C	25
Tensile Strength	140	MPa	25
Elastic Limit	145	MPa	25
Young's Modulus	71	GPa	25
Bulk Modulus	34.2	GPa	25
Hardness	6700	MPa	25
Compressive Strength	1300	MPa	25
Shear Modulus	30.2	GPa	25

3.4. Experimental Setup

Stir Casting method was used to form this composite of Aluminium and Fly Ash. Aluminium is in the chips where the Fly Ash is in powder form with size 0.1 to 100 μm . Stir Casting Setup includes the furnace with mild steel turbine stirrer. The furnace can achieve a maximum temperature of 1000°C which is sufficient for melting of Aluminium. Different percentage of Fly Ash is reinforced into the Metal Matrix to form a composite. We have taken Fly Ash at 0%, 5%, 10%, and 15%. Accordingly, we have made each sample with a different percentage of Fly Ash and Aluminium.

4. Methodology

- Form the different materials distribution for different percentage of Fly Ash.
- Heat the furnace up to 720°C i.e. more than melting temperature of Aluminium.
- To remove moisture, preheat the Fly Ash powder at 350°C for two hours.
- Insert chips of Aluminium setup of Stir Casting furnace for melting.
- At 720°C add the particles of Fly Ash in the furnace and start stirring process.
- Stir the melt with mild Steel turbine stirrer at an impeller speed of 250 rpm for 10 to 15 minutes.
- Pour the melt at a maintained temperature of 700°C into the mould.
- Allow melt to solidify in the mould in natural solidification.

5. Results and Discussion

The prepared Aluminium-Fly ash composite specimens were tested for different mechanical properties like hardness and tensile strength. Also it is tested for weight reduction. Hardness test is carried by using Rockwell cum Brinell Hardness Tester (Model-TRB250) and tensile strength is measured using (make-UTK 100E) of 100-ton capacity. Table 5 shows the measured hardness, tensile strength and weight reduction with variation in fly ash percentage.

Table 5. Test results of Aluminium Fly Ash Metal Matrix Composite

Variation of Fly Ash	Hardness (BHN)	Tensile Strength (MPa)	Weight (gm)
Al	55	108.20	810.04
Al + 5 % Fly Ash	62	119.85	791.5
Al + 10 % Fly Ash	68	131.23	773.04
Al + 15 % Fly Ash	66	127.25	754.56

5.1. Hardness Test

Hardness test is carried by using Rockwell cum Brinell Hardness Tester (Model-TRB250) for all the composites. The result of Brinell Hardness Test of each specimen respect to the various amount of Fly Ash is shown in Fig 1.

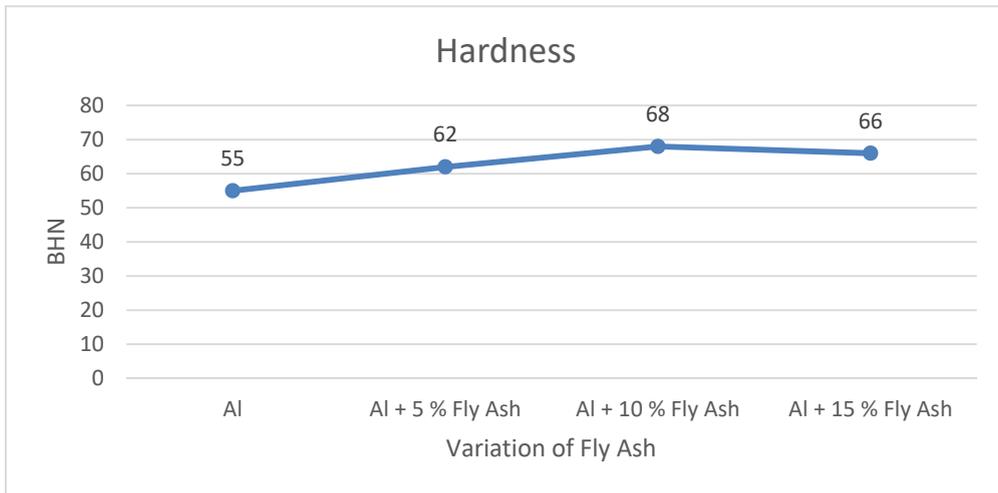


Figure 1. Hardness Test Results

The hardness of Al-Fly ash composite has been found to increase with increased fly ash percentage up to 10%. But further at 15% fly ash, the hardness found to reduce due to less wetting of fly ash particles and improper mixing.

5.2. Tensile Test

The tensile test is carried by using (make-UTK 100E) of 1000 KN capacity for all the composites. Following (Fig.2) is the result of tensile test of each specimen respect to the various percentage of Fly Ash.

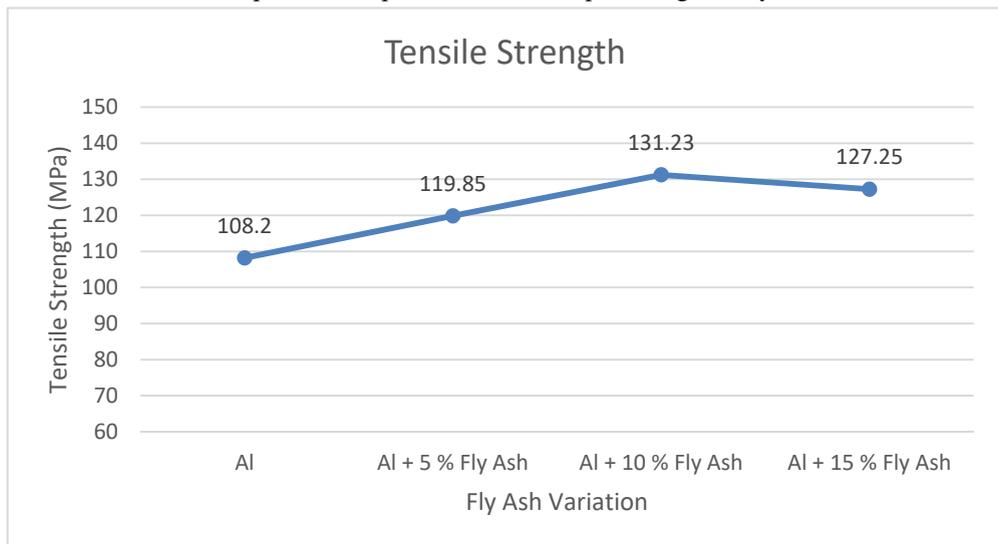


Figure 2. Tensile Test Results

The tensile strength of Aluminium-Fly ash composite has been found to increase with increased fly ash percentage up to 10%. But further at 15% fly ash, the hardness found to reduce due to less wetting of fly ash particles and improper mixing. The maximum tensile strength has been noted as 131.23 MPa at 10% fly ash percentage.

5.3. Weight Reduction Test

Fly Ash is lighter than commercially pure Aluminium hence the prepared composite is lighter than conventional material. For this testing, we have considered blocks of material with dimensions of length, width and thickness of 100 mm, 100 mm, 30 mm respectively.

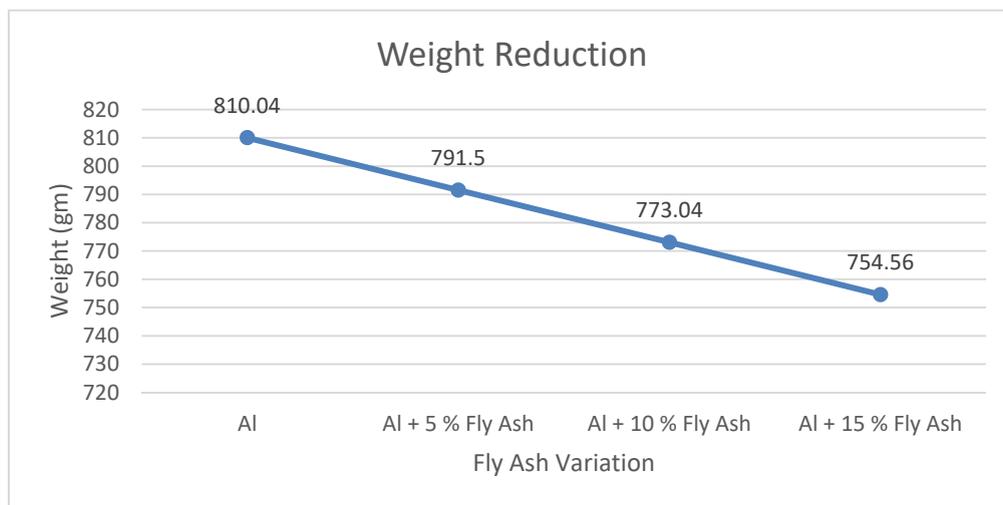


Figure 3. Weight Reduction Test Results

The weight of material gets decreased as the fly ash is added in it. As fly ash is lighter material, weight will be gradually decreased with addition of fly ash. The result is shown in fig 3.

6. Conclusion

- We have successfully added up to 15 % Fly Ash in commercially pure Aluminium to form Metal Matrix Composite which helps to turn industrial waste as industrial wealth.
- We have observed that Hardness and Tensile Strength of Aluminium Fly Ash MMC are more than commercially pure Aluminium.
- Fly Ash can be used in metals to improve strength to weight ratio of materials.
- This prepared composite may be used in Aerospace and Automotive applications instead of conventional materials.

Acknowledgements

The authors of this paper would like to thank Dr. S. G. Kulkarni, SKN COE Korti, for providing the setup of Stir Casting and necessary arrangements. We also thank Dr. N. D. Misal, COE Poly. Engineering, Pandharpur for providing necessary equipment for testing and analysis. Also, authors thanks to readers and investigators of this paper and would happy to receive any comments.

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Participative learning through Cultural Activities

- **Professional Ethics and Responsibilities**
- **Team work**
- **Activity Planning and Management Skills**

Beats 2018



Traditional Day



Engineer's day celebration on 15.09.2018



Participative learning through NSS Activities

- **Professional Ethics and Responsibilities**
- **Team work**
- **Leadership Skills**
- **Solve Societal Issues**

Sample Report of NSS Camp



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NSS Activity Report

- **Name of the Activity:** NSS Special Camp
- **Date:** 22.12.2019 to 29.12.2019
- **No. of Participants:** 170
- **Brief report:** Our college NSS unit has organized NSS special camp at Ranjani from 22.12.2019 to 29.12.2019. This camp was organized jointly by SVERI's College of Engineering Pandharpur and Gram Panchayat Ranjani near Pandharpur. For this event total 170 students were participated from different departments. Students have performed different social activities like swachhata abhiyan, tree plantation, street play act etc. in the Ranjani village during special camp. Through this activity students are aware about the importance of balanced ecosystem, Social connect and contribution towards society.

Snap during swachhata abhiyan activity at Gram Panchayat Ranjani



Group Snap at NSS Camp




NSS Programme Officer




Principal
PRINCIPAL,
College of Engineering,
PANDHARPUR

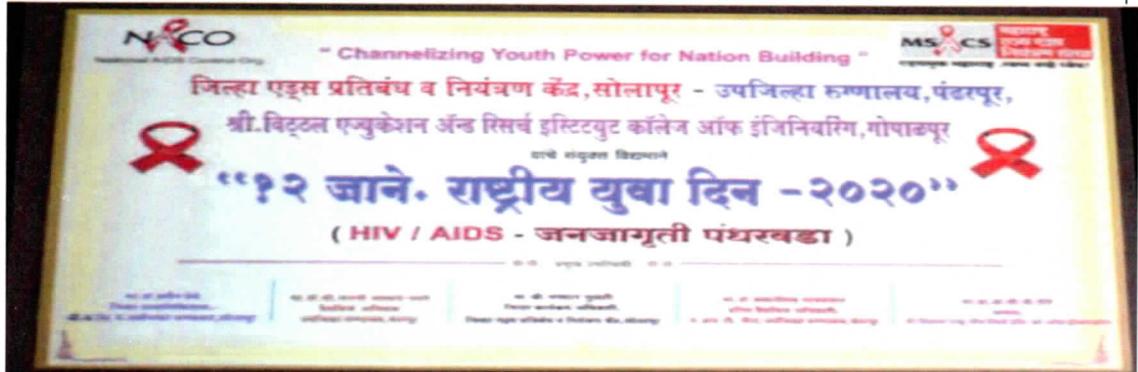
HIV AIDS Awareness Session Under NSS Activity

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NSS Activity Report

- **Name of the Activity:** HIVAIDS Awareness session jointly organized by Red Ribbon Club, Gov. Hospital, Pandharpur.
- **Date:** 21.1.2020
- **No. of Participants:** 150
- **Brief report:** our college has organized jointly with Red Ribbon Club Gov. hospital Pandharpur. In this program important information about HIV disease is given by expert doctors. Through this program students are aware about HIV disease and there precautions.

HIVAIDS Awareness session



Inauguration of HIVAIDS Awareness session




NSS Programme Officer




Principal
PRINCIPAL,
College of Engineering,
PANDHARPUR

Rangoli Competition on Importance of Voting Under NSS



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NSS Activity Report

- **Name of the Activity:** Rangoli Competition on importance of voting
- **Date:** 22.1.2020
- **No. of Participants:** 25
- **Brief report:** Our College has organized a Rangoli completion on the subject importance of voting. A student has shown their creativity through the excellent rangoli art and also gives message on importance of voting. Total 25 students participated in the competition. Through this event students improve their creativity and also aware of importance of voting.

Rangoli Completion on importance of voting




NSS Programme Officer




Principal
College of Engineering,
PANDHARPUR

Mini Marathon Jointly Organized by Pandharpur Tehsil Under NSS

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NSS Activity Report

- **Name of the Activity:** Mini Marathon jointly organized by Pandharpur Tahasil Office, Pandharpur
- **Date:** 23.1.2020
- **No. of Participants:** 500
- **Brief report:** our college has organized jointly with tehsil office Pandharpur “Mini Marathon” on 23.1.2020. In this event total 500 students have participated. We are announced prizes for the winners. Through this event students are aware of importance of health and voter awareness.




NSS Programme Officer




Principal
PRINCIPAL,
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Voter Day Celebration Under NSS



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NSS Activity Report

- **Name of the Activity:** Voter Day Celebration (Voter day rally)
- **Date:** 25.01.2020
- **No. of Participants:** 100
- **Brief report:** Our college NSS unit has organized Voter Day Rally and Mini Marathon on the occasion of Voters Day on 25.01.2020. This event was organized jointly by SVERI's College of Engineering Pandharpur and Pandharpur Tahsil Office Pandharpur. For this event total 100 students were participated from different departments. Through this activity students understand the importance of vote in our democracy.

Snap Before Rally at Pandharpur Tahsil Office Pandharpur



Snap during Rally at Pandharpur




NSS Programme Officer




Principal
College of Engineering,
PANDHARPUR

Blood Donation Camp Under NSS



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Dist. Solapur (Maharashtra) Ph.: (02186) 225083, Fax: (02186) 225082.

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NSS Activity Report

- **Name of the Activity:** Blood Donation Camp
- **Date:** 15.09.2015 and 19.02.2016
- **No. of Participants :** 350
- **Brief report:** Our college NSS unit has organized Blood Donation Camp on the occasion of Engineers Day on 15/09/2015 and Chhatrapati Shivaji Maharaj Jayanti on 19.02.2016. This camp was organized jointly by SVERI's College of Engineering Pandharpur and Pandharpur Blood Bank Pandharpur. For this event total 350 students were participated from different departments and donated blood. Through this activity students understand the importance of donating blood.

Blood Donation Camp Inauguration (Shiv Jayanti)



Blood Donation by students (Engineers Day)



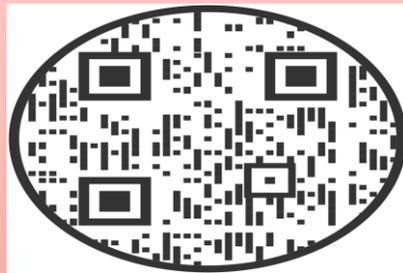
Bansode
NSS Programme Officer



B. Poye
Principal,
College of Engineering
PANDHARPUR

Participative Learning through Mock Parliament and United Nations Security Council (UNSC)

- **Communication Effectively**
- **Team work**



Video Link: <https://youtu.be/SWUtd1vxkkw>



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Date: 22/09/2018

NOTICE

All the students of ENTC Department are here by informed to note. We are going to conduct the 'Mock Parliament 2k19' on 01/10/2018 under ELITE. Attendance is compulsory for all the students. In the view of this please submit the theme (Topic) and interested student names to the undersigned on or before 28/09/2018.

ELITE President: Ms.Vaishanvi Patki. BE B

ELITE Vice President: Ms. Banu Chavan. BE A

ELITE Secretary: Mr.Pandurang Misal. TE A

ELITE Joint Secretary: Mr.Rohit Ranware. TE B

ELITE Coordinator

HOD ENTC

HEAD

Dept. of Electronics & Telecom. Engg

C O E Pandharpur



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Date 22/09/2018

OFFICE ORDER

The following students were deputed for the smooth conduction of MOCK PARLIAMENT 2K19 on 01/10/2018.

Sr.no.	Committee Name	Faculty Name	Student Coordinator
1	Overall Organization	Akshay Jadhav	IMs.Vaishanvi Patki. Mr.Pandurang Misal
2	Decoration and guest felicitation	/ASS /SRP	Ms.Sayli Gadekar
3	PA system	VSJ	Mr.Vishal Gaikwad
4	Discipline	HKB SAI /JSS /MMPr	Mr.Annasaheb Satpute Ms.Banubai Chavan
5	Transportation	DPN	Mr.Rushikesh More
6	Anchoring	NPK	Ms Vaishnavi patki
7	Photography and video	/SDP /SSG	Mr.Sushant Aldar


ELITE Coordinator


HOD ENTC

HEAD

Dept. of Electronics & Telecom. Engg.

C. O. E. Pandharpur



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Date: 01/10/2018

Mock Parliament (Digital India Initiative)

In order to give the Societal and governance exposure to students we have conducted the Mock Parliament. The Theme for the Mock Parliament is **Digital India Initiative**. **Digital India** is an Initiative by the Government of India to ensure that Government services are made available to citizens electronically by improving online infrastructure and by increasing Internet connectivity. It was launched on 1 July 2015 by Prime Minister Narendra Modi. The initiative includes plans to connect rural areas with high speed internet networks. Digital India has three core components. These include:

- The creation of digital infrastructure
- Delivering services digitally
- Digital Literacy

The Inauguration was initiated by Enlighten the lamp by the Dean Students Dr.A.A.Utpat, HOD ENTC Dr.A.S.Vibhute. The anchoring role was played during this activity by Ms Vaishnavi patki. Overall coordination of the Mock Parliament was done By Mr Pandurang Misal and Ms Vaishnavi patki. All the Students from SE TE & BE have participated in this Activity. Some Glimpses of the Mock parliament areas below



ELITE Coordinator

HOD ENTC

HEAD

Dept. of Electronics & Telecom. Ence

^ O U Pandharpur

Participative Learning through Moodle

- **Individual Participation**
- **Subject Based Knowledge on Engineering Fundamentals**

Signed in as cel6eca31 x gate: Test 1 x +

ofs.sveri.edu/moodle/mod/quiz/view.php?id=1384

SVERI

PRIYANKA SHINDE

Grading method: Highest grade

Summary of your previous attempts

Attempt	State	Marks / 9.00	Grade / 10.00	Review
1	Finished Submitted Sunday, 15 July 2018, 1:27 PM	3.00	3.33	Review
2	Finished Submitted Sunday, 19 August 2018, 1:30 PM	5.00	5.56	Review
3	Finished Submitted Sunday, 19 August 2018, 1:32 PM	8.00	8.89	Review

Highest grade: 8.89 / 10.00.

[Re-attempt quiz](#)

gate

Participants

Badges

Competencies

Grades

- General
- 1.Digital Techniques
- 2.Network Theory
- 3.Engineering Mathematics
- 4.COMMUNICATIONS**
- 5. CONTROL SYSTEMS

Dashboard

1:15 PM 8/19/2018

GATE

[Dashboard](#) / [My courses](#) / [gate](#) / [1.Digital Techniques](#) / [Test 2](#)

Test 2

Grading method: Highest grade

Summary of your previous attempts

Attempt	State	Marks / 11.00	Grade / 10.00	Review
1	Finished Submitted Thursday, 19 July 2018, 4:50 PM	6.00	5.45	Review

Highest grade: 5.45 / 10.00.

[Re-attempt quiz](#)

You are logged in as [Lokhande Dhanshree](#) ([Log out](#))
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GATE

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Test 1

[Test 1](#)

Grading method: Highest grade

Summary of your previous attempts

Attempt	State	Grade / 10.00	Review
1	Finished Submitted Thursday, 19 July 2018, 4:45 PM	10.00	Review

Highest grade: 10.00 / 10.00.

[Re-attempt quiz](#)

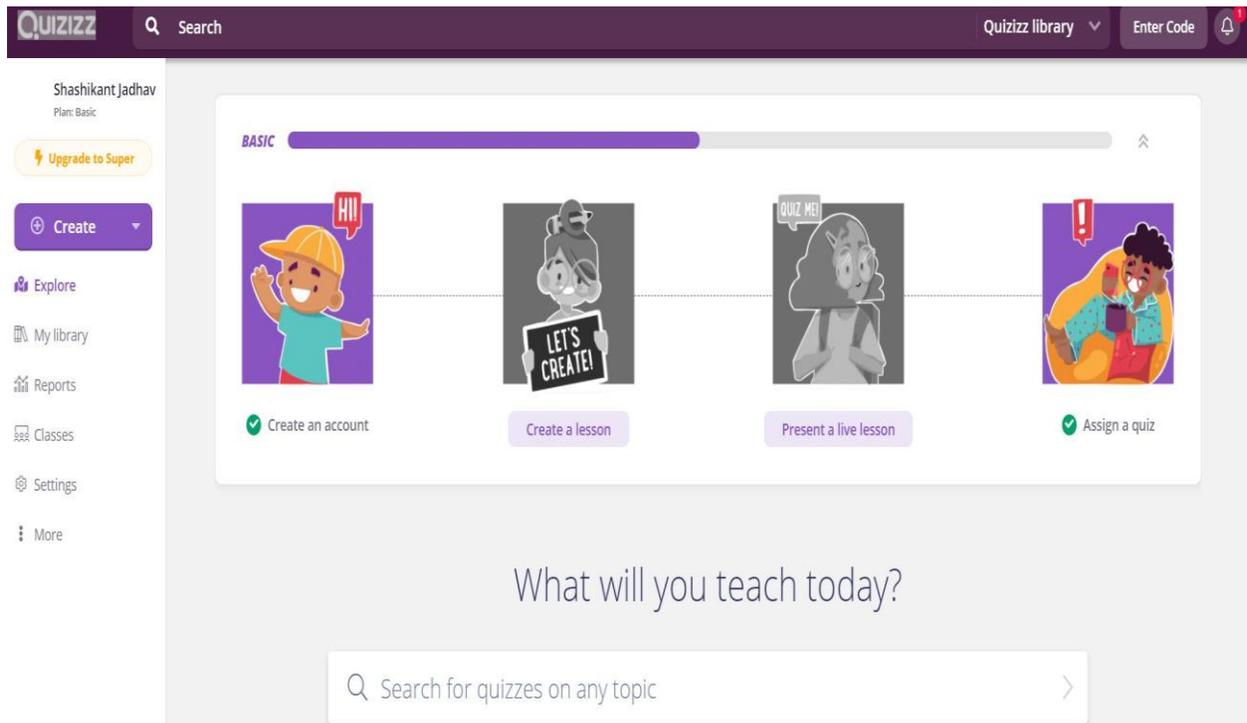
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Participative learning through Quiz

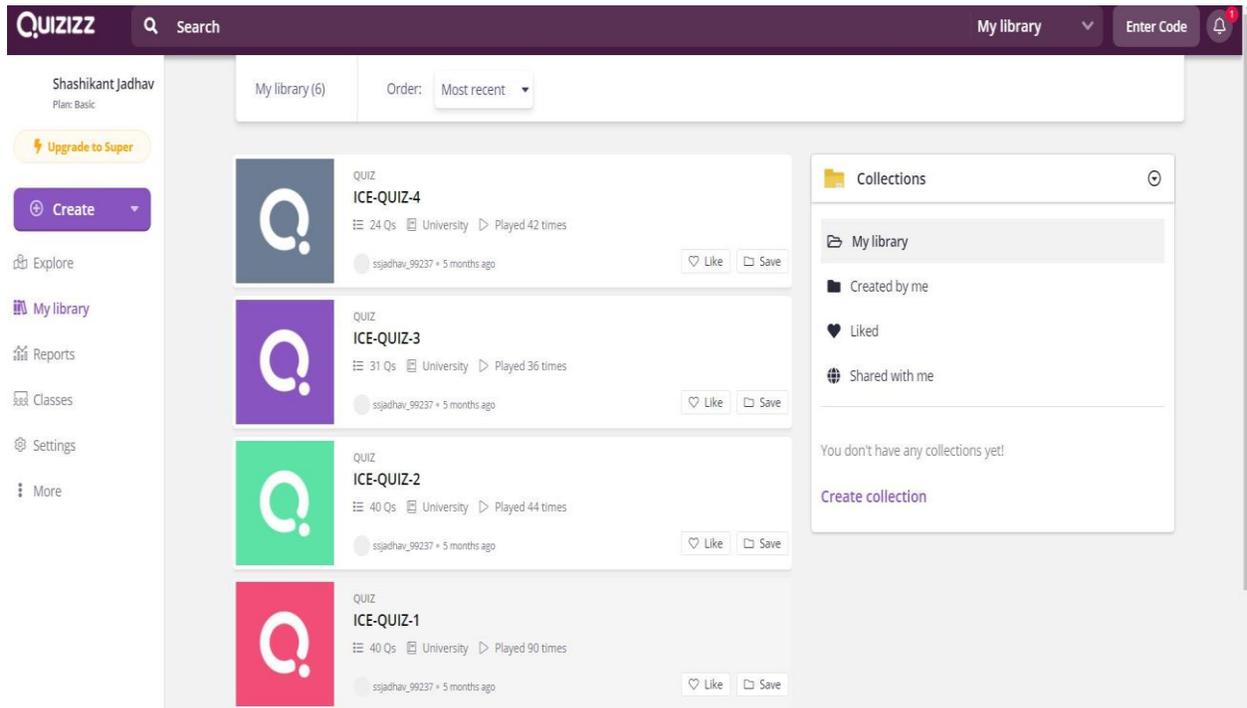
- **Subject Based Knowledge on Engineering Fundamentals**

Sample Quiz Conducted on Join My Quiz Platform

1. Creating QUIZ on platform.



2. Saved MCQ tests on Platform.



3. Reports of MCQ Tests.

The screenshot shows the Quizizz Reports interface for user Shashikant Jadhav. The main content is a table of reports with the following columns: Type, Quiz name, Total participants, Accuracy, and Code. The table lists six reports, all of which are 'Assigned' quizzes. The accuracy percentages are 55%, 52%, 30%, 51%, 26%, and 59% respectively. Each report has a 'Reopen' button and a three-dot menu icon.

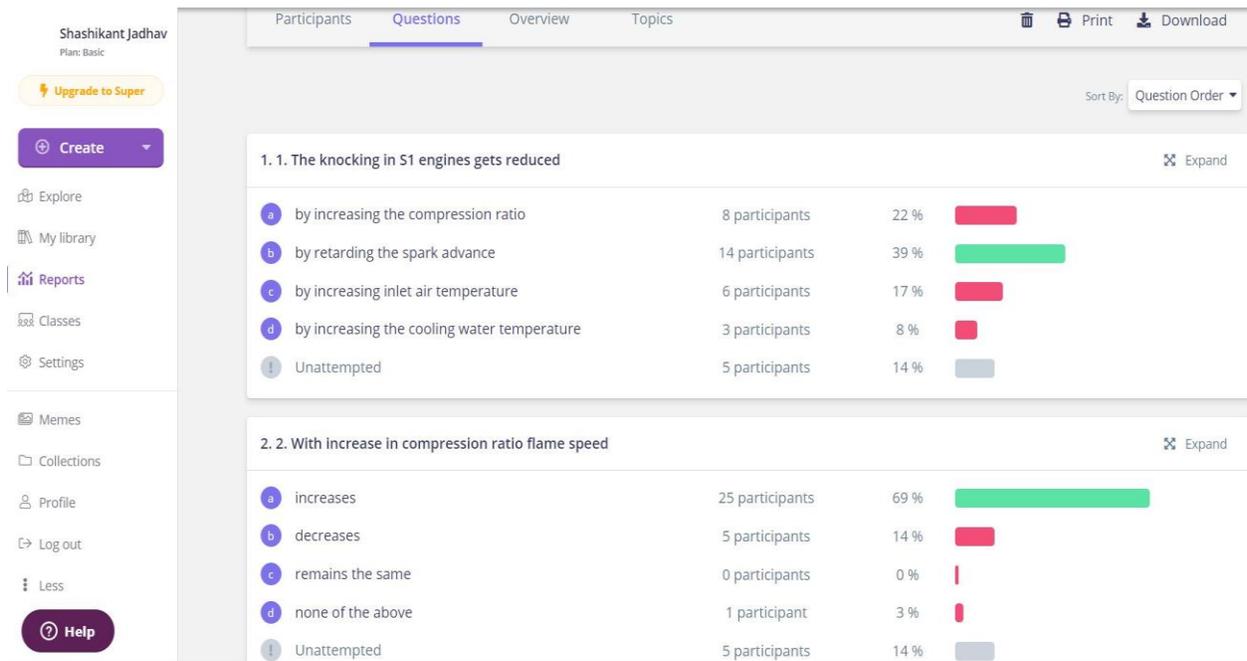
Type	Quiz name	Total participants	Accuracy	Code
Assigned	ICE-QUIZ-3 <small>Completed 4 months ago</small>	36	55%	Reopen ⚡ ...
Assigned	ICE-QUIZ-4 <small>Completed 4 months ago</small>	41	52%	Reopen ⚡ ...
Assigned	ICE-QUIZ-2 <small>Completed 5 months ago</small>	9	30%	Reopen ⚡ ...
Assigned	ICE-QUIZ-2 <small>Completed 5 months ago</small>	34	51%	Reopen ⚡ ...
Assigned	ICE-QUIZ-1 <small>Completed 5 months ago</small>	15	26%	Reopen ⚡ ...
Assigned	ICE-QUIZ-1 <small>Completed 5 months ago</small>	44	59%	Reopen ⚡ ...

4. Result of MCQ test.

The screenshot shows the Quizizz Results page for the 'ICE-QUIZ-3' quiz. The quiz was assigned on November 7th, 2020, at 10:34 AM. The overall statistics are: Accuracy: 55%, Questions: 31, and Participant Attempts: 36. Below the statistics, there are tabs for 'Participants', 'Questions', 'Overview', and 'Topics'. The 'Participants' tab is active, showing a list of participants with their scores and accuracy percentages. Each participant row includes a profile picture, name, a progress bar showing correct (green) and incorrect (red) answers, accuracy percentage, score, and an 'Email to Parent' button.

Participant	Score	Accuracy	Score	Action
SY_18_SACHIN SUTAR (S...)	30	97%	25970	Email to Parent
DIKSHA ADMILE (Sy-45 ...)	31	100%	25280	Email to Parent
GAURAV GHAYTIDAK (G...)	28	90%	24640	Email to Parent
Prashant Avalekar (SY 5...)	27	87%	23790	Email to Parent
ROHAN BHANDARE (RO...)	27	87%	23560	Email to Parent

5. Question wise analysis of student.



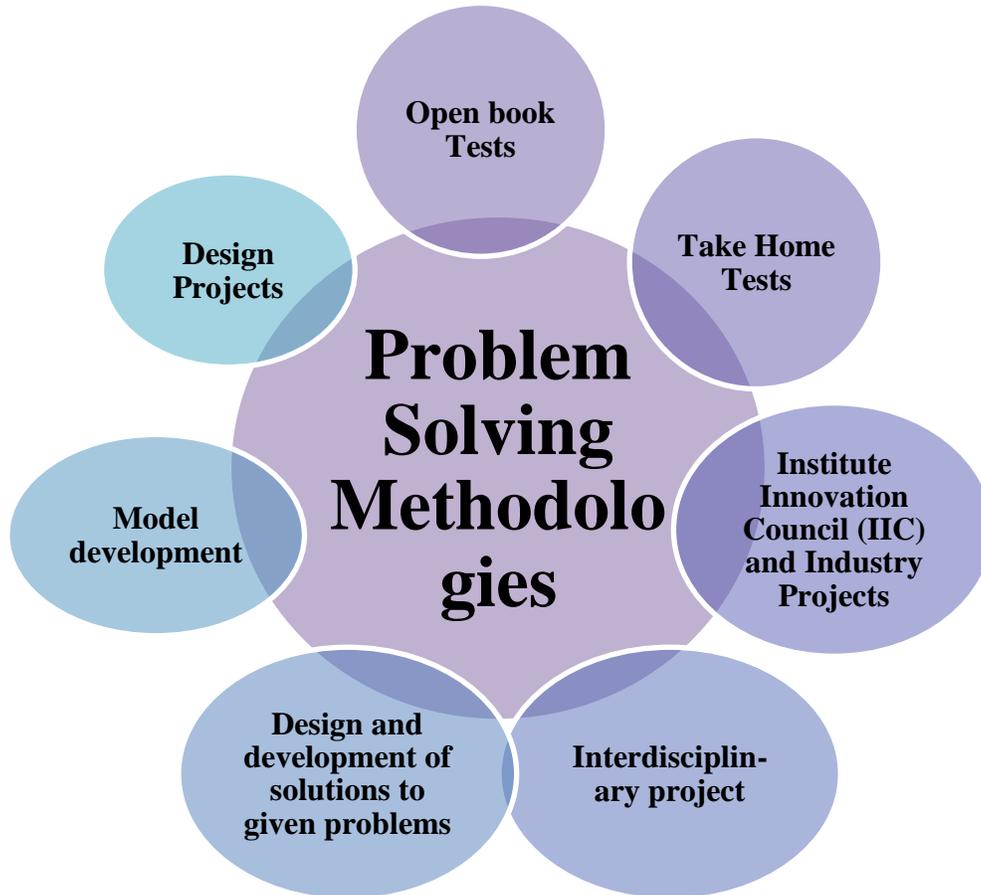


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PROBLEM SOLVING METHODOLOGIES

Following techniques are employed to inculcate problem solving approach among students:





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Sr. No.	Name of the Activity	Purpose of Activity
1	Open Book Tests and Take Home Tests	To test students' ability to quickly find relevant information and then to understand, analyze and apply knowledge.
2	Real Time Projects through IIC and Industries	Real-time projects give knowledge acquisition based on immediate needs.
3	Interdisciplinary Project Activities	Purpose of interdisciplinary activities is to enable students to improve their analysis abilities by using approaches from different disciplines.
4	Programming Contests	programming contest helps students to build problem-solving skills
5	Model Development	Purpose of model development is to help students to visualize a system and make predictions about how systems will behave under given conditions
6	Design Projects	Purpose of design project is to problem solving skills and incorporate creativity into learning

Problem Solving Methodologies through Open Book Test (OBT) & Take Home Test (THT)

- **Solve Complex Engineering Problems**
- **Life Long Learning**
- **Function effectively as an Individual Life Long Learning**

OBT & THT NOTICE



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S
COLLEGE OF ENGINEERING, PANDHARPUR



ISO 9001:2015



P.B. No. 54, Gopalpur -Ranjani Road, Gopalpur, Tal.- Pandharpur- 413 304, Dist.- Solapur (Maharashtra)
Tel.: 02186-216063, 9503103757, E-mail : coe@sveri.ac.in, Website: www.sveri.ac.in
(Approved by A.I.C.T.E., New Delhi and affiliated to Solapur University, Solapur)
NBA Accredited all Eligible UG Programmes and , NAAC, Accredited Institute,
Accredited by the Institute of Engineers (India), Kolkata and TCS, Pune ISO 9001-2015 Certified
Institute

Date: 20/06/2019

Notice

All the subject teachers of all the Departments are hereby informed to note the following guidelines regarding the setting of the Question Papers of Open Book Tests (OBTs) and Take-Home Tests (THTs) for the students of their respective departments:

- 1) The subject teacher should ensure that OBT questions should be from competitive exam papers such as GATE/UPSC/MPSC/SSC etc. Also, for subjects related to software, subject teachers can also include questions from placement examinations like TCS/Wipro/Infosys etc.
- 2) THT papers should involve questions related to real world problems solving, design or development of technical solutions, and open-ended solution-based questions, research paper /patent searching by referring journal papers or patents, etc.
- 3) OBT and THT examination should be of 20 marks, and the marks obtained by each student should be converted into 5 marks, using the percentile system of marking.
- 4) HoDs are informed to ensure the effective implementation of the above policies in their departments.

All the concerned should take note and act accordingly.


(Dr. P. M. Pawar)
Dean Academics

Sample OBT Question Paper

SVERI'S College of Engineering, Pandharpur
Department of Electronics and Telecommunication Engineering
Class: BE(A&B) OBT-I A.Y.: 2019-20 SEM-II
Internet of Things

Day and Date: 13/02/2020

Time-9:30 to 10:30am

Marks - 20

Duration-1 hr

CO	CO STATEMENT
ET421.1	Student can explain different components of an IoT System.

Instructions - 1) ALL Questions are compulsory.

2) Assume Suitable Data If Required.

Q) Solve the following	Marks	(CO)	BL	PI
1. List the components available in Intel based in intelligent gateway for smart home	4	ET421.1	1	2.1.1
2. Show the comparison between OSI layer and ITU-T reference model layers	8	ET421.1	3	3.1.5
3. With a neat diagram illustrate the IoT reference architecture suggested by Oracle.	8	ET421.1	3	9.2.1

Sample OBT Answersheet



Shri Vitthal Education & Research Institute's
COLLEGE OF ENGINEERING, PANDHARPUR

ISE / Unit Test No. OBT-1 Date 17/2/2020

Name of Student Rokade Soniya Sanjay

Class BE (ENTC) Division A

Roll No. 31 Subject IOT

Sign of Supervisor [Signature] Marks 18/20

CO:	BL	PI Code	Q.No.	a	b	c	d	e	f	Total
	1	2.1.1	1							4
	3	3.1.5	2							8
	3	2.2.1	3							6
			4							
			5							
			6							
			7							
			8							
Grand Total										18

1) List the components available in intel based in intelligent gateway for smart Home.

→ smart Home technologies:-

Today there are various different smart Home technologies available from different Iot vendors. Most operates using Wi-Fi, Bluetooth or Zigbee operates using comm and can be connected to most wireless personal area networks (WPANS).

These smart meters, cameras, sensors, & devices are capable of performing virtually any function around the Home from security & surveillance to automation of everyday chores such as vacuuming.

- Smart Home Gateway :-

one of the goals of a smart home is convenience and managing a number of smart devices through multiple apps in your home can become completely the opposite if not for the smart home gateway.

smart home gateway sim are an essential part of smart home automation providing centralized management for the user.

- Smart meter :-

smart meters are an important part of a smart home as energy efficiency is pretty much at the heart of building smarter societies using latest technologies. smart meters are built for near real time two way commⁿ betⁿ energy supplier & the consumer over a wireless network.

smart meters are connected to the neighborhood area network using RF commⁿ protocols.

- ZigBee :-

In order to be able to work efficiently, smart home appliances such as smart thermostats, motion plethora of gadgets & devices available from IoT vendors needs to be able to send & rx data so as to allow them to analyse & process it in order to fⁿ optimally.

- camera based Access control :-

one of the most exciting applications is camera based access control, whereby networked cameras are located outside a property, just above a front door, for example & work together with motion sensors in order to send notifications via apps to the app user when the sensors area of operation is entered.

2) show the comparison betⁿ OSI layer & ITU-T reference model layers.

OSI layer

ITU-T layers

1) OSI modified six layers 1) ITU-T Reference model four-layers capabilities.

2) Data communicate at source end from Applⁿ.

2) Data communicate from device end (layer-1) to Applⁿ end (layer-4)

3) Stack means data part + protocol header bit/words which transfer at one go.

3) stack means data part + protocol header bit/words which interchange betⁿ two layers.

4) data stack create by the process in betⁿ layers from top layer 6 to bottom funⁿ layer 1 for commⁿ.

4) data stack creates by the process in betⁿ layers, betⁿ the top layer 4 & bottom funⁿ layer 1.

5) Data transmits from the device end (layer 1) from an applⁿ service or process end (layer 4).

5) Data also receive at the device layer (layer 1) from an Applⁿ service or process end (layer 4).

6) Data stack process during the commⁿ betⁿ the physical & applⁿ layers.

6) Data stack process bottom device layer to top functional layer.

Q3) With a neat diagram illustrate the JOT ref. arch. suggested by Oracle.

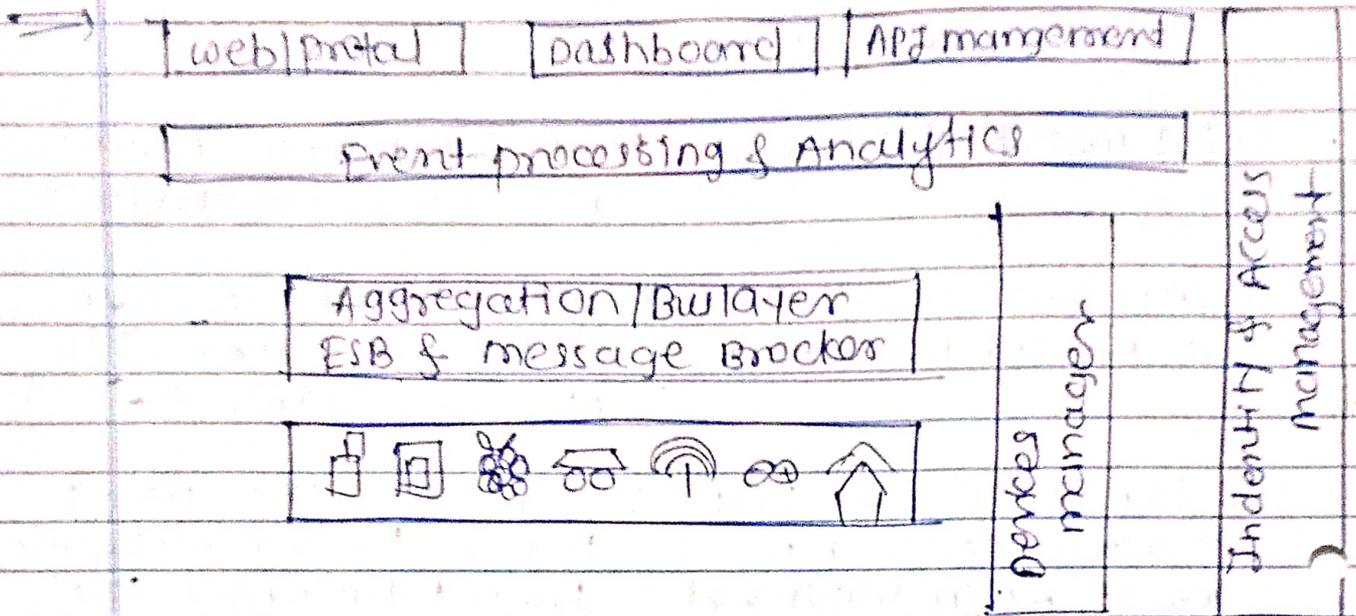


Fig. Ref. arch. for JOT.

The ref. arch. consists of a set of components layers can be realized by means of specific technologies, & we will discuss options for realizing each component.

These are also some cross-cutting/vertical layers such as access/identity management.

The bottom layer of the arch. is the device layer. Devices can be considered as JOT devices, they must have some common that either indirectly or directly attaches to the Internet.

The commⁿ layer supports the connectivity of the devices.

Sample OBT Result



SHRI VITHAL EDUCATION & RESEARCH INSTITUTE'S
COLLEGE OF ENGINEERING, PANDHARPUR
Gopalpur - Ranjari Road, Gopalpur, P. B. No. 54, Tal - Pandharpur - 413 304,
Dist. Solapur (Maharashtra) Ph. (02186) 225083, Fax (02186) 225082
(Approved by AICTE, New Delhi and affiliated to Solapur University, Solapur)

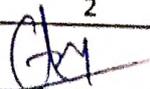
Electronics and Telecommunication Engineering Dept.

OBT-I Marklist 2019-20 Sem-II

Class : BE-A

Roll.No.	Name	IoT
1	ASABE VAISHNAVI TANAJI	18
2	AWAD ASHA RAJABHAU	19
3	BAAD POOJA ARJUN	19
4	BAGAL ANURADHA HARIDAS	16
5	BANSODE USHA SUNIL	12
6	CHAVAN SAYALI DILIP	13
7	DARGUDE PRATIKSHA NAGNATH	19
8	DESHMUKH ASHWINI MADHUKAR	16
9	DEVKAR ARTI CHANDRAKANT	17
10	DUBAL SAMIKSHA NANASO	19
11	GHADAGE POOJA ANIL	18
12	HAKH PRERANA PRAKASH	18
13	JADHAV PRANITA SUNIL	18
14	JAGTAP ANIKETA ASHOK	19
15	KALDHONE AMRUTA SANJAY	19
16	KAMBLE RESHMA HANUMANT	16
17	KAMBALE SNEHAL BHASKAR	19
18	KHARADE PRAGATI DINESH	17
19	KOLI SAYALI SHAMRAO	19
20	KOLI VRUSHALI RAJENDRA	19
21	DHANSHREE LOKHANDE	18
22	MANE PRACHI AVADHUT	18
23	MARADKAR DNYANESHWARI SURYAKANT	14
24	MOHOLKAR MANASI MAHESH	19
25	MORE TANUJA ASHOK	17
26	MUJAWAR SIMRAN HAJISAHEB	16
27	NAGANE PRIYANKA VITTHAL	16
28	PARBAT SUPRIYA SAYAJI	15
29	PATIL SAYALI SURYAKANT	16
30	PATIL SONALI SATISH	20
31	ROKADE SONIYA SANJAY	18
32	RONGE SWAPNJA YUVRAJ	20
33	SALUNKHE ASHWINI KERAPPA	15
34	SANJEKAR PRATIKSHA VIJAY	14
35	SHINDE PRIYANKA SUBHASH	15
36	SHINGADE VARSHA BALVANT	15
37	TAMBOLI ANISA KADAR	15
38	TARANGE RESHMA SHAM	15
39	VHANMANE SONALI KANHAIYALAL	16
40	WAGHMODE YAMINI VILAS	19

41	WAKADE PRAJAKTA KASHINATH	16
42	WAYKULE PALLAVI DATTATRAY	10
43	YADAV CHHAYA APPA	17
44	YADAV KAJAL ANIL	15
45	YELMAR SUCHETA BHARAT	17
46	KATKAR POOJA APPASAHEB	17
47	PATHAK PRAJAKTA PARMOD	18
48	KEWATE SNEHAL DILIP	16
49	BHUSE AJINKYA CHANDRAKANT	5
50	DANURE SIDHARAM GANPATRAO	11
51	GAIKWAD VISHAL ASHOK	8
52	GHAYAL MANOJ BALIRAM	6
53	KALUBARME PRASHANT DATTATRAYA	16
54	KAMBLE MAHESH BIBHISHAN	11
55	KATTE VIJAY DHANAPPA	11
56	MISAL PANDURANG DHONDIRAM	15
57	MORE SANKET HANUMANT	0
58	NAVADKAR GANESH MACHINDRA	19
59	SATPUTE ANNASAHEB SAHEBRAO	0
60	SHIRAM AMOL VITTHAL	18
61	UPASE SANGMESH VIKAS	9
62	PATIL MUKUL MADHUSUDAN	11
63	TAWARE DADASAHEB	16

Result Analysis	
	M-III
Total no of students	63
No. of Students appeared for the TEST	61
No. of absent Students	2
No. of Passed Students	59
No. of Students failed	4
No. of students scored marks between 40% to 50%	2
No. of students scored marks between 50% to 60%	5
No. of students scored marks between 60% to 70%	2
No. of students scored marks between 70% to 80%	10
No. of students scored marks between 80% to 100%	38
No. of students scored marks= 100%	2
Sign of Subject Teacher	


HEAD
 Dept. of Electronics & Telecom. Engg.
 S.O.R. Pandharpur

Sample THT Question Paper

SVERIP'S College of Engineering, Pandharpur

Department of Electronics and Telecommunication Engineering

B.E.-A&B (ENTC) THT-I Academic Year -2019-20

Internet of Things

Day and Date-13/02/2020
Time-

Marks - 20 M
Duration-1 hr

CO	CO STATEMENT
ET421.1	Student can explain different component of an IoT system

Instructions - 1) All Questions are compulsory.
2) Assume Suitable Data If Required.

Q. No.	Question	Marks	CO	BL	PI
1.	Design and draw IoT based smart irrigation system	10	ET421.1	3	9.2.1
2.	Write in detail different component of IoT	10	ET421.1	1	2.1.1



ISE / Unit Test No.: Take Home Test Date: _____

Name of Student: Pranjana Pramod Patil

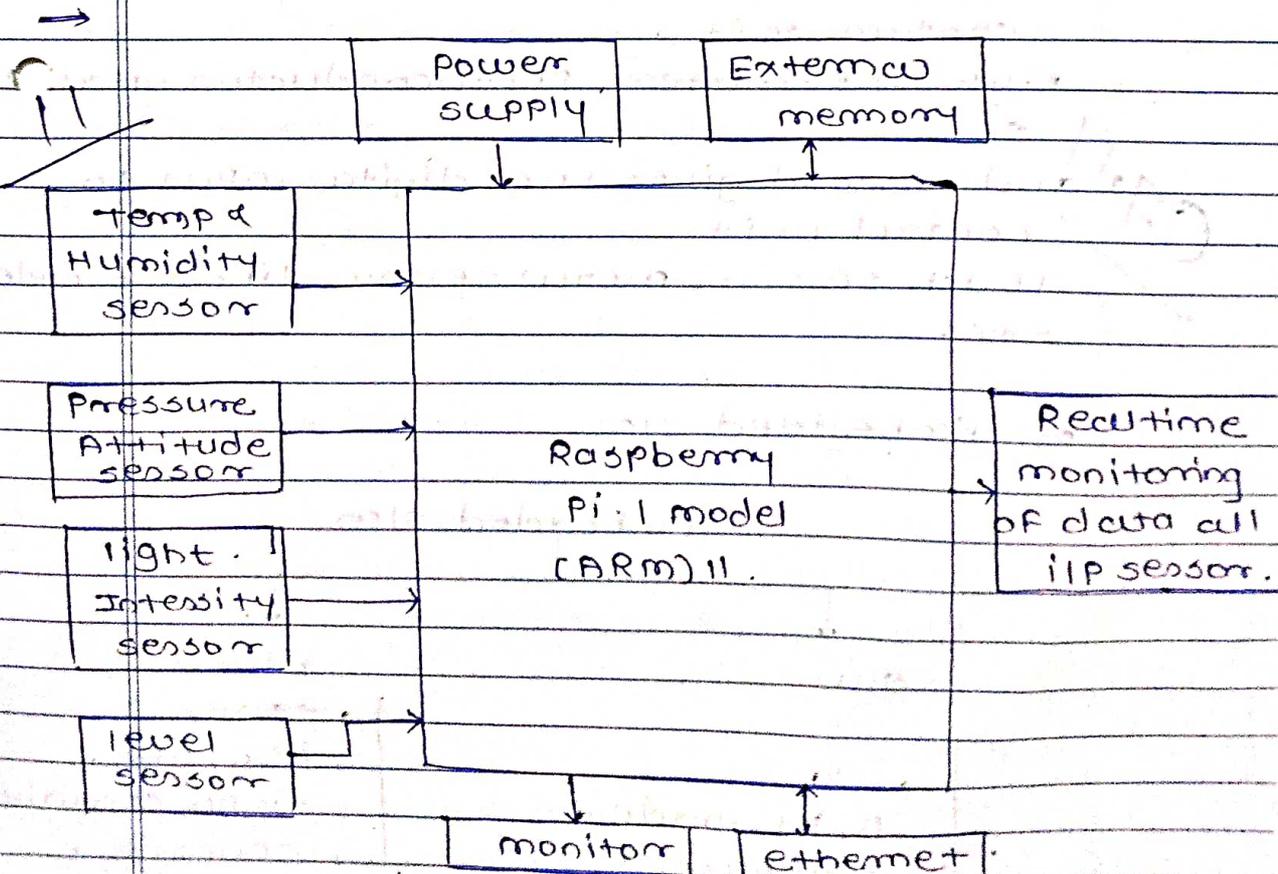
Class: BE Division: A

Roll No.: A-47 Subject: IOT

Sign of Supervisor: [Signature] Marks: 18 / 20

CO:	BL	PI Code	Q.No.	a	b	c	d	e	f	Total
1	3	9.2.1	1	11						11
1	1	2.1.1	2	8						8
			3							
			4							
			5							
			6							
			7							
			8							
									18	
Grand Total									20	

que.] To design and draw IOT based Humidity and temp. monitoring.



2)
→

diff. component of IOT.

- 1) sensor.
- 2) Embedded sim.
- 3) communication sim.
- 4) cloud.

1) sensor :-

- sensors are the electronics devices that sense physical environment and industrial automation sim.
- A smart sensors includes computing and communication facility.
- In Internet of the street light each light has sensors for measuring surrounding light intensity and surrounding traffic.

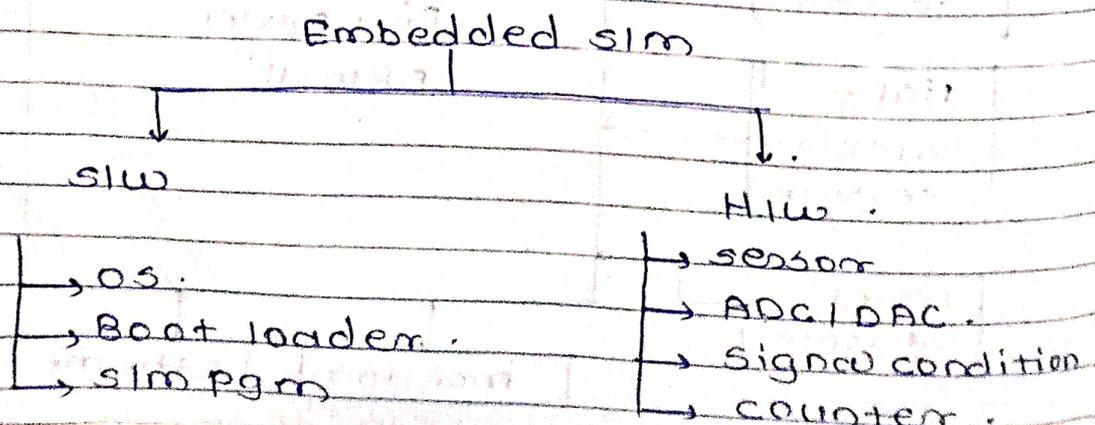
- There are the two types of the sensor. It gives the analog input & control unit.

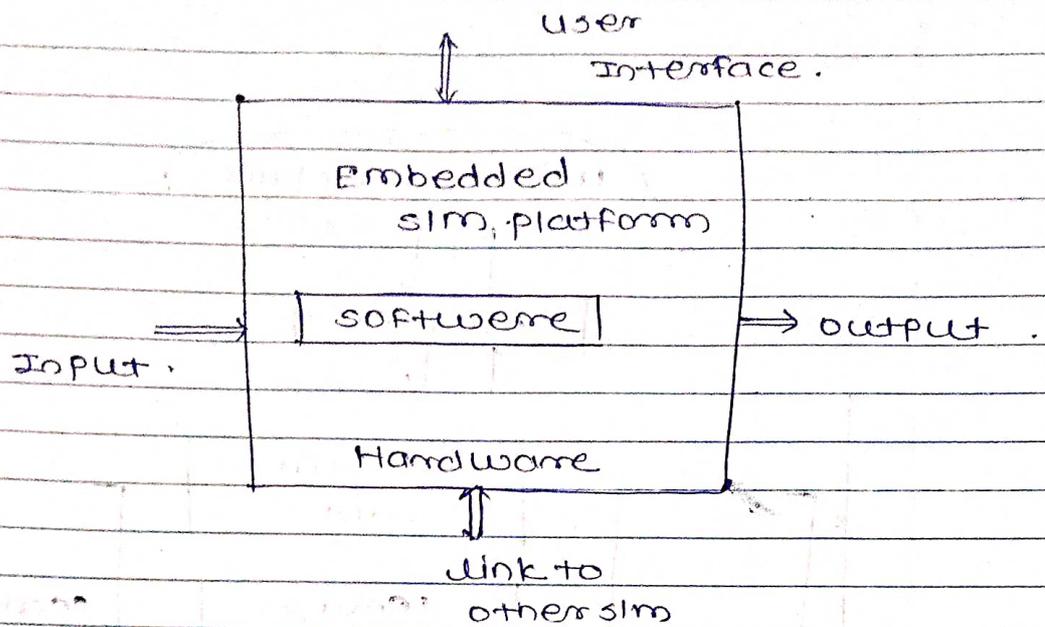
e.g:- Thermister, photoconductor, Hall sensor.

~~07~~ and second gives the digital input to control unit.

Touch sensor, metal sensor, linear encoder etc.

2) Embedded sim





3) communication sim:-

commⁿ means reliable exchange of info. between the source & destination

- The commⁿ link used in IoT may be wire or wireless.
- The commⁿ are the two types
 - 1) serial commⁿ
 - 2) parallel commⁿ
- A device message queue insert message in queue and delete message from queue FIFO manner.

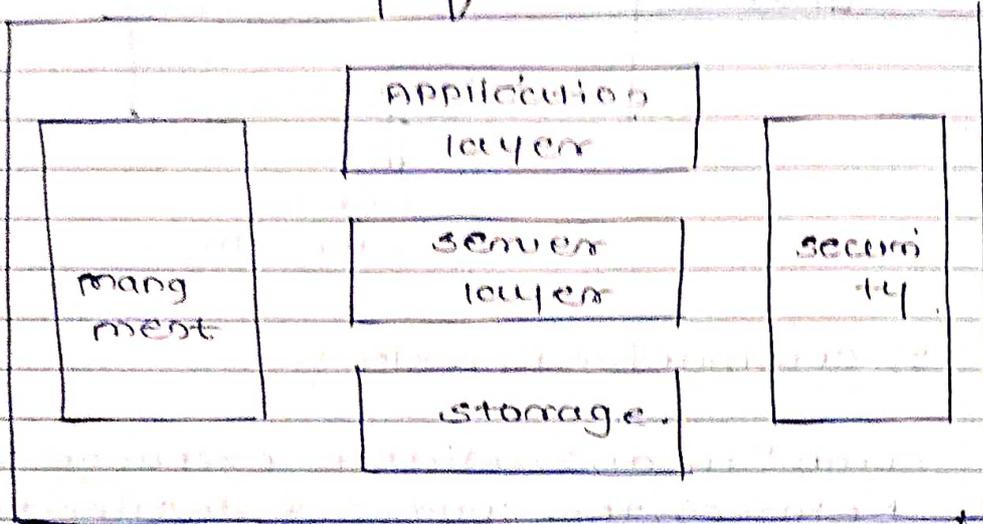
4) cloud

- It is the model computer data storage in which data is stored in local pools.
- The physical storage spans multiple server and physical environment is managed by Hosting component.
- The cloud storage service may be accessed through web services, API or by application that uses API such as cloud desktop.

Fig. cloud architecture.

User Interface

Internet



Sample THT Result



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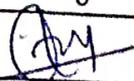
Electronics and Telecommunication Engineering Dept.

THT-I Marklist 2019-20 Sem-II

Class : BE-A

Roll.No.	Name	IoT
1	ASABE VAISHNAVI TANAJI	18
2	AWAD ASHA RAJABHAU	15
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6	CHAVAN SAYALI DILIP	17
7	DARGUDE PRATIKSHA NAGNATH	18
8	DESHMUKH ASHWINI MADHUKAR	9
9	DEVKAR ARTI CHANDRAKANT	14
10	DUBAL SAMIKSHA NANASO	18
11	GHADAGE POOJA ANIL	16
12	HAKKE PRERANA PRAKASH	0
13	JADHAV PRANITA SUNIL	19
14	JAGTAP ANIKETA ASHOK	17
15	KALDHONE AMRUTA SANJAY	15
16	KAMBLE RESHMA HANUMANT	11
17	KAMBALE SNEHAL BHASKAR	9
18	KHARADE PRAGATI DINESH	18
19	KOLI SAYALI SHAMRAO	18
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27	NAGANE PRIYANKA VITTHAL	17
28	PARBAT SUPRIYA SAYAJI	0
29	PATIL SAYALI SURYAKANT	17
30	PATIL SONALI SATISH	0
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46	KATKAR POOJA APPASAHEB	0
47	PATHAK PRAJAKTA PARMOD	19
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52	GHAYAL MANOJ BALIRAM	0
53	KALUBARME PRASHANT DATTATRAYA	15
54	KAMBLE MAHESH BIBHISHAN	17
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57	MORE SANKET HANUMANT	16
58	NAVADKAR GANESH MACHINDRA	18
59	SATPUTE ANNASAHEB SAHEBRAO	0
60	SHIRAM AMOL VITTHAL	19
61	UPASE SANGMESH VIKAS	0
62	PATIL MUKUL MADHUSUDAN	0
63	TAWARE DADASAHEB	18

Result Analysis	
	IoT
Total no of students	63
No. of Students appeared for the TEST	54
No. of absent Students	9
No. of Passed Students	54
No. of Students failed	9
No. of students scored marks between 40% to 50%	2
No. of students scored marks between 50% to 60%	3
No. of students scored marks between 60% to 70%	1
No. of students scored marks between 70% to 80%	11
No. of students scored marks between 80% to 100%	37
No. of students scored marks= 100%	0
Sign of Subject Teacher	

HEAD

Dept. of Electronics & Telecom. Engg.
Ende
- 01 Bandhaur

Problem Solving Methodologies through Industry Collaborative Projects

- **Solving Complex Engineering Problems**
- **Team Work**
- **Use of Modern Tools**
- **Professional Ethics and Responsibilities**
- **Communication**

LIST OF INDUSTRY COLLABORATIVE PROJECTS

SVERI's College of Engineering, Pandharpur
Department of E& TC Engineering

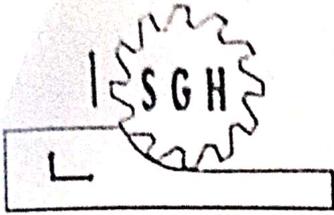
Sponsored Project List 2018-19

Sr. No.	Class & Div	Name of Students	Title of Project	Name of Guide	Sponsored by
1	BE B	Kamblé Ananda Nagnath	Thumb Impression operated locking system for multiple user	Dr. A S Vibhute	Shri Samarth Industries, Aurangabad
		Dhaware Ganesh Bhimarao			
		Kadam Shrikant Uttamrao			
		Khadbade Akash			
2	BE A	Upase Sidharth Ravindra	Cost effective E-rickshaw using Battery and Paddle	Mr. D A Kumbhar	S.G.Hightech, Aurangabad
		Panpude Ajay Balak			
		Kandi Nikhil Mallikarjun			
3	BE B	Adhvalkar Mayureshwar Hanmant	Electronic system to reduce setup time of Tube Mill Machine	Mr. J N Mohite	Shree Tube Mfg. Co. Pvt. Ltd., Aurangabad
		Kumthe Kutubodhin H			
		Patil Mahesh Jivan			
		Naiknavare Tushar A			
4	BE A	Jadhav Nilesh Dnyaneshwar	Electronic Trolley for 50 KG	Mr. H K Bhaldar	S.G.Hightech, Aurangabad
		Patil Gaurav Dnyandev			
		Adhatrav Madhav Prakash			
5	TE A&B	Ranaware Rohit Suhas	Universal test rig for multiple harnesses using Arduino.	Mr. D A Kumbhar	Coretech Aurangabad Pvt.Ltd.
		Misal Pandurang Dhondiram			
		Tate-Deshmukh Krishna Rajendra			
6	TE B	Yelsange Anjali Mahadeo	LDR based light ON/OFF with accuracy	Mr. D A Kumbhar	Coretech Aurangabad Pvt.Ltd.
		Myakal Samita Balaji			
		Katkar Anjali Pandurang			



HEAD

Dept. of Electronics & Telecom. Engg.
C O E Pandharpur



S. G. Hightech

(TOOL ROOM WORK & SS. MS. FABRICATION.)

Off. : 0240-2551121
Mob. : 9373710967
9822010967

Add. : Plot No. 23-A, Gut No.23, Near Cosmo Flim, MIDC, Waluj Aurangabad. 431 136. India
E-mail : sghitech@rediffmail.com / sghitech@yahoo.co.in / sghitech1096@gmail.com

Ref .

Date :

Date: 11.04.2019

The Principal,

SVERI's COE,

Pandharpur

Subject: Sponsored Project completion Certificate

Respected Sir,

With reference industry visit of Mr. Kumbhar D A and team on 08.08.2018, a sponsored project "Electronic trolley for 50 KG (Prototype)" was offered under Students Innovation Projects by MSME and MASSIA.

Following students have worked on the project and successfully completed the project as per our requirements.

1. Mr. MadhavAdhatrao (BE ENTC)
2. Mr. Gaurav Patil (BE ENTC)
3. Mr. NileshJadhav (BE ENTC)

The student's performance during project completion found satisfactory and we wish them all the best for their future.

Thanking you.

Regards,

Mr. Nikesh

Director



Sample 2 Project Completion Certificate from Industry

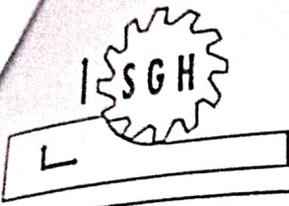
S. G. Hightech

Off. : 0240-2551121

Mob. : 9373710967

9822010967

(TOOL ROOM WORK & SS. MS. FABRICATION.)



Add. : Plot No. 23-A, Gut No.23, Near Cosmo Flim, MIDC, Waluj Aurangabad. 431 136. India
E-mail : sghitech@rediffmail.com / sghitech@yahoo.co.in / sghitech1096@gmail.com

Ref. _____

Date : _____

Date: 11.04.2019

The Principal,

SVERI's COE,

Pandharpur

Subject: Sponsored Project completion Certificate

Respected Sir,

With reference industry visit of Mr. Kumbhar D A and team on 08.08.2018, a sponsored project "Cost Effective E-Rickshaw Using Battery & Paddle" was offered under Students Innovation Projects by MSME and MASSIA.

Following students have worked on the project and **successfully completed** the project as per our requirements.

1. Mr. Nikhil Kandi (BE ENTC)
2. Mr. Ajay Panpude (BE ENTC)
3. Mr. SidharthUpase (BE ENTC)

The student's performance during project completion found satisfactory and we wish them all the best for their future.

Thanking you.

Regards,

Mr. Nikesh M. Gajbhiye

Director



Sample 3 Project Completion Certificate from Industry

Core Tech Aurangabad Pvt. Ltd.

Gut No. 23, Plot No. 16
Kamlapur, Jogeshwari, Behind Cosmo Films
Tal. Gangapur, Dist. Aurangabad.
Email : coretechaurangabad@gmail.com

Date: 19.11.2018

The Principal,
SVRI's COE,
Pandharpur

Subject: Sponsored Project completion status

Respected Sir,

With reference industry visit of Mr. Kumbhar D A and team on 08.08.2018, three sponsored projects were offered under Students Innovation Projects by MSME and MASSIA. Out of 3 projects following two projects reviewed today i.e. 19.11.2018.

1. Universal test rig for multiple harness using Arduino
2. LDR based light ON/OFF with accuracy

Both the projects are found working satisfactorily as per our requirement. We request you to submit the codes and design of the project up to 15.12.2018.

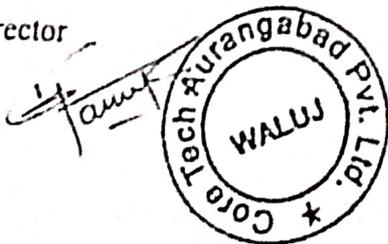
We extend a warm thank you towards your organization for quick response and completion of our requirements. I expect such endeavor in future from your end.

Thanking you.

Regards,

Mr. Manoj Shewale

Director



Core Tech Aurangabad Pvt. Ltd.

Gut No. 23, Plot No. 16
Kamlapur, Jogeshwari, Behind Cosmo Films
Tal. Gangapur, Dist. Aurangabad.
Email. : coretechaurangabad@gmail.com

Date: 19.11.2018

The Principal,
SVERI's COE,
Pandharpur

Subject: Sponsored Project completion Certificate

Respected Sir,

With reference industry visit of Mr. Kumbhar D A and team on 08.08.2018, a sponsored project "LDR based light ON/OFF with accuracy" was offered under Students Innovation Projects by MSME and MASSIA.

Following students have worked on the project and successfully completed the project as per our requirements.

1. Ms. Anjali Pandurang Katkar (TE ENTC)
2. Ms. Samita Balaji Myakal (TE ENTC)
3. Ms. Anjali Mahadeo Yelsange (TE ENTC)

The student's performance during project completion found satisfactory and we wish them all the best for their future.

Thanking you.

Regards,

Mr. Manoj Shewale

Director



Core Tech Aurangabad Pvt. Ltd.

Gut No. 23, Plot No. 16
Kamlapur, Jogeshwari, Behind Cosmo Films
Tal. Gangapur, Dist. Aurangabad.
Email. : coretechaurangabad@gmail.com

Date: 19.11.2018

The Principal,
SVERI's COE,
Pandharpur

Subject: Sponsored Project completion Certificate

Respected Sir,

With reference industry visit of Mr. Kumbhar D A and team on 08.08.2018, a sponsored project "Universal test rig for multiple harnesses using Arduino" was offered under Students Innovation Projects by MSME and MASSIA.

Following students have worked on the project and successfully completed the project as per our requirements.

1. Mr. Rohit Suhas Ranaware (TE ENTC)
2. Mr. Pandurang Dhondiram Misal (TE ENTC)
3. Mr. Krisha Rajendra Tate-Deshmukh (TE ENTC)

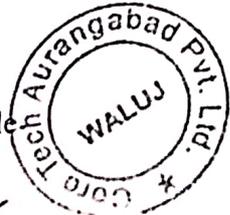
The student's performance during project completion found satisfactory and we wish them all the best for their future.

Thanking you.

Regards,

Mr. Manoj Shewale

Director



Amount Received by Student

Sl. No	Name		Email-Id	Amount	Signature (I have received this amount for working on MSME Project)
1	Mayureshwar Adhvalkar	8208109248	mayuradhvalkar@gmail.com	5000	
2	Jokare MayurManik	8999846623	Jokaremi@gmail.com	5000	
3	Ms. Shraddha P. Danave	8485022994	shradhdadanave3010@gmail.com	5000	
4	Tupe Shashikant Tanaji	9156835247	shashikanttupe1@gmail.com	5000	
5	Pise Jagdish Milind	9130379209	jagdishmpise@coep.sveri.ac.in	5000	
6	Kadam Nitin Kisan	7387419153	nitinkradam@coepsveri.ac.in	5000	
7	Moholkar Kshitij	8855080750	kshilgdmoholkar@coep.sveri.ac.in	5000	
8	Siddharth R. Upase	9730974956	siddharthupase@coep.sveri.ac.in	5000	
9	Adhtrao Madhav P.	9804788786	madhavpachkar@coep.sveri.ac.in	5000	
10	Dubewar Ganesh Vinodrao	8600372623	ganeshvubekar@coep.sveri.ac.in	5000	
11	Akash Khadbade	9698252922	akashkhadbade@coep.sveri.ac.in	5000	
12	Krishna Tate-Deshmukh	8308200832	krishnatate@coep.sveri.ac.in	5000	
13	Samita Myakal	7020262761	sumitabmyakal@coep.sveri.ac.in	5000	
14	Bhosale Vishal Shahaji	7057740477	vishalsbhosale@coep.sveri.ac.in	5000	

Coordinator Sign



Principal (Director)
College of Engineering
PATIL INSTITUTE

INVOICE

124231/1-2

PPP034110

Invoice from Appraiser or Consultant and confirmation of furnishing of services by the officer responsible for the contract and cooperation

INVOICE (2 pages)

to GIZ Office, New Delhi
B 5/1 Safdarjung Enclave, New Delhi- 110029

25 OCT 2018

Invoice Date : 28/09/2018

Invoice No.006/2018/SME INNO

Appraiser/Consultant (name and full address)
Dr. B. P. Ronge, Principal, Shree Vithal
Education and Research Institute's, College of
Engineering, Pandharpur-413304

Email: bpronge@sveri.ac.in,
: jnmohite@coe.sveri.ac.in

Payment Mode

- Bank Draft
- Cheque (Delhi only)
- Transfer to Bank Account

Bank Details:

IndusInd Bank, IndusInd bank
Limited, Pandharpur Branch.
Account No: 100049823054 ✓
IFSC: INDB0000892
GST Registration No :
27AAHTS3090B1ZK
PAN No : AAHTS3090B

Bank details are complete only if accompanied by account title, name & address of bank, with account number.

- Request for an advance payment (please only fill lines 1, 4, 10 & 13)
- Partial Invoice
- Final invoice

Period invoiced: to

Mandatory information! Available on your contract !! (First three bits of information on the contract document !!!)

Contract no.	Project :	Project Number:
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If this is a request for Advance Payment then please fill only rows 1, 10 & 13)

#	Particulars	Amount (Rs.)	Reserved for GIZ
1	Advance payment		
1.1	Fees	87,500	70,000.
1.2	Travel (indicate amount / Nil if there is no claim)		
2	Lump sum according to contract		
3	Fees Dates:		
	Number of days:.....x daily fee-rate		
4	GST (as applicable)		

5	Daily allowances (Lumpsum) Dates:		
	Number of days:.....x daily rate		
	Number of days:.....x reduced daily rate		
6	Accommodation allowances (Lumpsum) Dates:	GIZ-Office (99.9245.4-00)	(.00)
	Number of nights:.....x rate/ night	Date	
	or	11/10/18	
	Actual cost according to attached hotel invoices (room charges + taxes)	22-10-18	
7	Air / train ticket (please supply documentary evidence)	22-10-18	
8	Travel cost (airport tax, taxi etc.) (if not lump sum, please supply documentary evidence)	13/11/18	
9	Other reimbursement according to contract (if not lump sum, please supply documentary evidence)		
10	Gross Total	87,500	70,000
11	Tax Deducted at source (as applicable)		7,000
12	Deduction of advance payment (if any, formerly received under this contract)	87,500	63,000
13	Net Payment		

Mandatory fields		
28/09/18	Pandharpur	<i>[Signature]</i>
Date	Place	Consultant's Signature

Confirmation of Services
(Not applicable to advance payments at signing of contracts)

To be filled by the officer responsible for commission

Services have been delivered/ results provided according to the contract

in full

only partially (please comment) *Advance*

no (please comment)

Comments:
FOR CITAMAL LA 22-10-18

AVIAP name Date

[Signature]
Signature

* Over D.C
70,000 * x
.10 * x
7,000 * *
63,000 * *

Problem Solving Methodologies through Interdisciplinary Project Activities

- **Solving Complex Engineering Problems**
- **Team Work**
- **Manage Project in Multidisciplinary
Environments**
- **Professional Ethics and Responsibilities**
- **Communication**

Experimental Estimation of Material Uncertainty of Composite Beam Using Hall Effect Sensor



Avinash K. Parkhe, Anil B. Shinde, Navnath S. Sawant, Prashant M. Pawar, and Pradip Haridas

Keywords Composite box beam · Deflection · Hall Effect Sensor · Arduino

1 Introduction

Composite material's use has increased in different industries like civil engineering, mechanical engineering and aerospace engineering due to their advantageous characteristics and properties. One of the most remarkable properties that structure of composites possesses is their very large stiffness to weight ratio. During the manufacturing of composite material or beams, the uncertainties have been formed due to some manufacturing defects, and it has been analyzed by the different parameters like deflection, stress, strain, natural frequency etc.

The experimental study has been carried on a composite box beam to measure its deflection at the free end to analyze the uncertainties present in the material. The composite box beam is like a cantilever beam, where one end is fixed, and the load is applied at the free end. Due to this load, deflection takes place at the free end of the beam. In a previous study, deflection has been calculated using Dial Gauge. The dial gauge is placed at the bottom side of the beam by making its stylus in point contact with beam and will show zero reading. If the load is applied at the free end of the beam will move in a downward direction. Due to point contact of the beam with a stylus, it also moves and shows some reading. But some contact between them will create instrumental errors during measurement.

To avoid this situation, the non-contact device is developed called as Hall Effect Sensor. The Hall Effect sensor is a device which works on the electromagnetic field. If the magnet comes in front of the Hall Effect sensor, it creates a magnetic field between them. If a magnet moves away from it, change in voltage will take place due to the change in distance between them. The change in voltage has been calibrated in

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terms of deflection of the beam. The output of this sensor is another electronic device named as Arduino (Uno) which will give required output only.

The researches have been conducted on composite box beams. Sushanta Ghuku et al. [1] presented an experimental and theoretical study on large deflection behavior of initially curved cantilever beams subjected to various types of loadings. The physical system as a straight cantilever beam subjected to a concentrated tip load has been considered in this study. The proposed approach has been further extended to study large deflection behavior of an initially curved cantilever beam subjected to distributed and combined load. With successful validation of these results with existing results for straight beams, new results are furnished for initially curved cantilever beams. Mohammad Dado et al. [2] studied very large deflection behavior of prismatic and non-prismatic cantilever beams subjected to various types of loadings. The formulation is a function of the angle of rotation of the beam by a polynomial on the position variable along the deflected beam axis. The coefficients of the polynomial are estimated by minimizing the integral of the residual error of the governing differential equation and by applying the beams boundary conditions. Several numerical examples have been presented covering prismatic and non-prismatic cantilever beams subjected to a uniform, non-uniform distributed loads and tip concentrated loadings in vertical and horizontal directions. The loads considered in this study are restricted to the non-follower type loads. Beléndez, T. et al. [3–5] presented the classical problem of deflection of a cantilever beam of linear elastic material, under the action of a uniformly distributed load along its length due to its own weight and an external vertical concentrated load at the free end is experimentally and numerically analyzed. We have presented the differential equation governing the behavior of this system and shown that this equation, although simple, is in fact rather difficult to solve due to the presence of a nonlinear term [4]. The ANSYS program has been used to numerically evaluate the system and estimate Young's modulus of the beam material. Finally, he compares the numerical results with the experimental ones obtained in the laboratory.

In this paper, experimentation has been carried out on four composite box beams which have been manufactured by the same process to find the material uncertainties and this has been analyzed by considering the deflection parameter. After the experimentation on the four beams, the deflection results for different loads were compared with each other to analyze the uncertainties presents the material.

2 Introduction to Composite Box Beam

The composite beam of uniform cross-section has dimensions $800 \times 60 \times 22$ mm. Figure 1 is an eight-layer sandwich composite box beam. The beam used for experimentation with its material properties has been shown in Table 1.

- Material Properties:



Fig. 1 Cantilever composite box beam for experimental analysis

Table 1 Material properties of composite beam

Young’s modulus	Poisson’s ratio	Mod. of rigidity	Density
135 Gpa (Ex Dir.)	0.26	5 Gpa	1600 kg/m ³
10 Gpa (Ey Dir.)			
10 Gpa (Ez Dir.)			

3 Theory of Hall Effect Sensor and Arduino (Uno)

3.1 Hall Effect Sensor

The Hall Effect, an ideal sensing technology, is constructed from a thin sheet of conducting material. With output connections and direction of current flow crosses mutually perpendicular, responds with an output voltage proportional to the magnetic field strength when subjected to a magnetic field, it. As the voltage output is very small (μV), it requires additional electronics to get useful voltage levels. Therefore when the Hall element is combined with the associated electronics, it forms a Hall Effect sensor. It consists of a current carrying metal strip which when placed inside any transverse magnetic field; EMF is developed across the edges of this current carrying metal strip. The magnitude of the developed EMF depends upon the density of the flux and mobility of electron. The Hall Effect element is typically used for sensing current and magnetic field measurements as shown in Fig. 2.

The attributes for using a particular technology or sensor varies according to the application, cost, performance, and availability.

3.2 Arduino (Uno)

Arduino is an open-source platform used to make electronic projects which consist of both software that runs on the computer, used to write, run and upload computer code to the physical board, and a physical programmable circuit board referred to a microcontroller. We use the Arduino Uno for our study which is one of the more popular boards in the Arduino family and the configuration of it is as shown in Fig. 3.

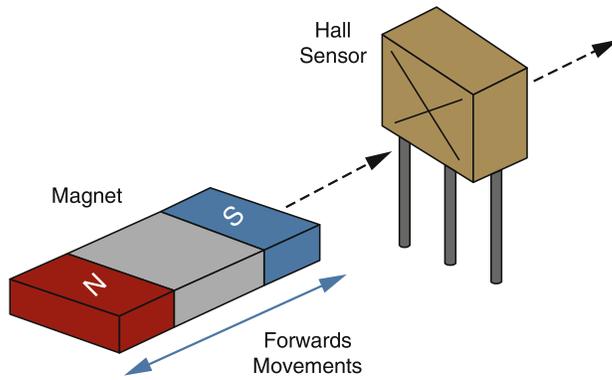


Fig. 2 Principle of Hall Effect Sensor

Fig. 3 Arduino Uno



4 Experimental Analysis of Composite Box Beam

The experimentation has been carried on composite beam by varying load at the free end to find the deflection using Hall Effect sensor. The designed Hall Effect sensor will generate maximum voltage up to 220 volts if the distance between the sensor and the magnet is up to 6 mm. Initially, we put 1–2 mm distance between sensor and magnet then it shows some voltage will be assumed as zero. When 10 N loads are applied at the free end of the beam, the voltage difference is generated between initial and final reading. The change in voltage difference is calibrated in terms of deflection of the beam. The same process is carried out for other loads (20–80 N), and its voltage differences have been calculated using graphical form which was generated during experimentation.



Fig. 4 Experimental setups for deflection of the beam using Hall Effect Sensor



Fig. 5 Composite box beam in unloading and loading condition

The experimental setup for the above-proposed work and beam in loading and unloading condition has been shown in Figs. 4 and 5.

During experimentation, it was analyzed that for 10 N loads 16 v voltages generated and by using this voltage we calculate the deflection of the beam for this particular load. The same process has been carried on four beams. The sample calculations of the first beam for 10 N and 20 N loads have been given below.

1. Sample Calculation for 10 N:

$$\frac{6 \text{ mm}}{220 \text{ V}} = \frac{\delta}{16 \text{ V}}$$

Therefore, $\delta = 0.43 \text{ mm}$

2. Sample Calculation for 20 N:

$$\frac{6 \text{ mm}}{220 \text{ V}} = \frac{\delta}{25 \text{ V}}$$

Therefore, $\delta = 0.68 \text{ mm}$

By the same process, deflection is found out for other loads and remaining three beams. The voltage difference in initial and final reading for different loads has been shown in the following graphs. The following graphs shown in Fig. 6 were generated during the experimentation of the first beam. The same voltage differences have been calculated for the remaining three beams by generating the same graphs to find its deflection for different loads.

Table 2 represents voltage difference of four composite beams along with its free end deflection for different loads.

The experimental results for deflection of four beams for different loads have also been shown in Fig. 7 as deflection gradually increased with increasing load.

5 Conclusion

During the manufacturing of composite material or beams the uncertainties have formed due to some defects or errors in manufacturing process, and it has been studied by the different parameters like deflection, stress, strain, natural frequency etc. The experimentation has been carried out on a composite beam for deflection measurement, and this is for all four beams by the same process, and it has been carried out to analyze the uncertainty present in material or beam.

From the above study on composite beam following conclusions have been drawn:

- The use of a dial gauge indicator for deflection measurement will create problems during measurement due to its contact with the composite beam.
- To avoid this situation, the non-contact device was designed and developed for deflection measurement named as Hall Effect Sensor.
- As deflection results of all four beams are compared with each other then there is no more difference between them. All the results are near to each other to their respective load has also been shown in graphical form.
- Finally, from the comparison of all results, it was observed that there is no any uncertainty present in the material or in composite beams.

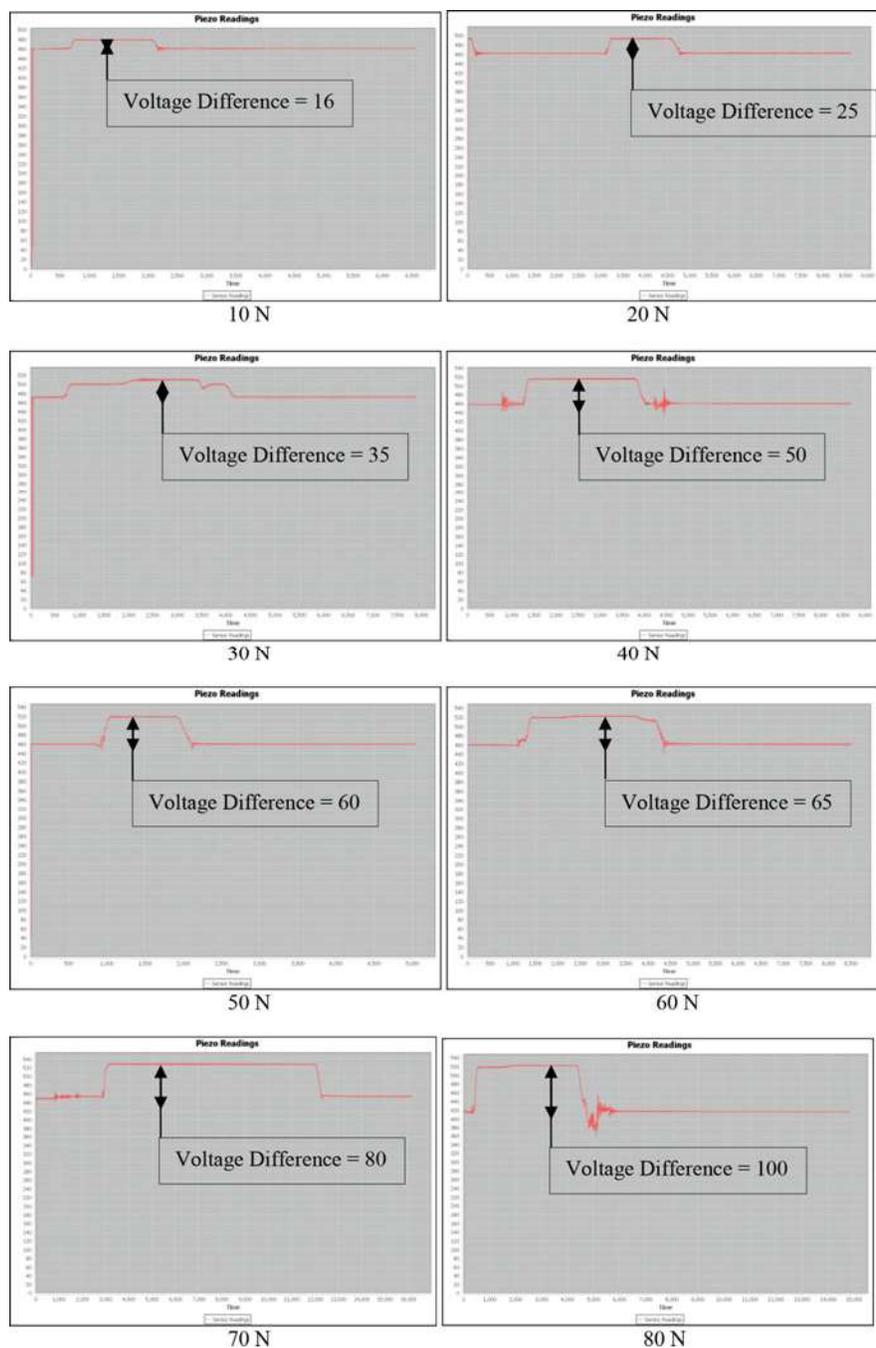
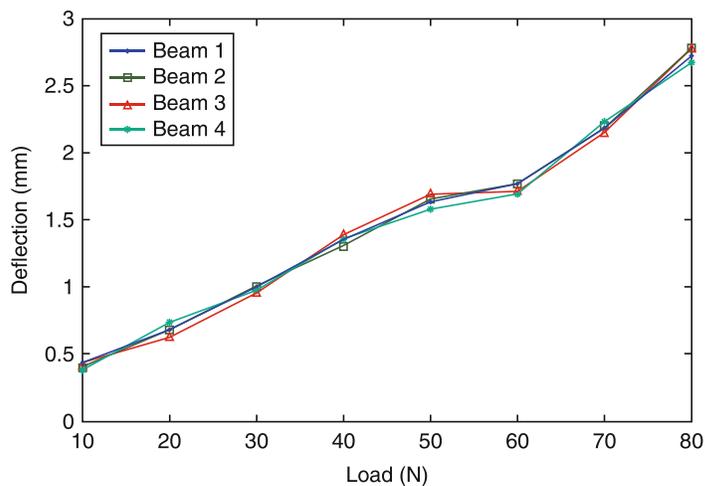


Fig. 6 Voltage difference in the initial and final reading of the first beam for different loads

Table 2 Deflection of composite beams

Sr. no.	Load (N)	Voltage difference between initial and final reading				Experimental deflection (mm)			
		<i>Beam 1</i>	<i>Beam 2</i>	<i>Beam 3</i>	<i>Beam 4</i>	<i>Beam 1</i>	<i>Beam 2</i>	<i>Beam 3</i>	<i>Beam 4</i>
1.	10	16	15	16	14	0.43	0.40	0.43	0.38
2.	20	25	25	23	27	0.68	0.68	0.62	0.73
3.	30	35	37	35	36	0.95	1.00	0.95	0.98
4.	40	50	48	51	50	1.36	1.30	1.39	1.36
5.	50	60	61	62	58	1.63	1.66	1.69	1.58
6.	60	65	65	63	62	1.77	1.77	1.71	1.69
7.	70	80	81	79	82	2.18	2.20	2.15	2.23
8.	80	100	102	102	98	2.72	2.78	2.78	2.67

**Fig. 7** Graph of load vs. deflection

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Attribute Inspection of Product Using Image Processing

Anup S. Vibhute, Reshma R. Deshmukh, P. S. Valte, B. D. Gaikwad,
and Shrikant Pawar

Abstract Automation is a crucial thing about an industry which manufactures product within the mass quantity. After manufacturing product; to form the decision of rejecting or accepting is taken by measuring quality parameters. To test quality parameters like dimensions and features of manufactured product inspection is mostly done manually in manufacturing industries. Manual assessment is time-consuming, costly, sometimes inaccurate and manual assessment for elegant shapes is incredibly difficult. To resolve these problems, control and quality management of the commercial product is feasible by the use of image processing techniques.

Keywords DIP • Feature extraction • Gray-scale • Image analysis • Image classification • Image quality • Image capture • Image denoising • Image enhancement • Image edge detection • Image filtering • Image processing • Image recognition • Image segmentation

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1 Introduction

There are two forms of visual-based defect detection; the manual inspection and also the automated one [1]. In many industries, the quality of products is tested by manual review with the assistance of gauges, and if it doesn't fit on gauge properly, then the job is taken into account to be faulty. Also in some industries, the standard testing is completed by a human eye wherein human observes the form and size of the output products are starting of the product line. But in practice, just some pieces are taken and verified for dimension and orientation of the shapes. This manner of manual testing could be a tedious process and at risk of human errors which reduce the standard of the products.

This approach has been utilized in the industry before the existence of automated visual inspection. The activities during this manual inspection are to search the defect, recognize the fault and make the sole decision. Thus, the training for quality inspection is crucial to boost the skill of examination and to attenuate errors during the manufacturing process. They have to look out a way to identify the task with defects than to form clear decision either to accept or to reject or to remodel the defected part. Moreover, human inspectors are slow and have become ineffective after completing the task that required an extended time. They're either full of fatigue or sickness or human weaknesses. Hence, they have frequent rest to want care of a high-performance level. So we want to travel for an automatic visual inspection [2].

Today there is no field of technical endeavour neglected without the impact of Digital Image Processing. Digital Image Processing may well be a way for an automatic visual inspection [3]. We proposed here the attribute inspection technique that uses a camera which captures a digital image of every job. The captured image is preprocessed, filtered. Then the size or attributes are extracted, measured using edge detection [2, 4] and segmentation techniques [5, 6]. Finally, the output is compared with a reference or actual dimension in drawing using feature matching. The image processing task is to look out the faulty piece and to form a decision whether to accept or reject manufactured product using classification [7]. This increases the speed and accuracy and avoids human errors which are common in quality testing and also increases productivity. Quality testing using DIP performs acceptable range.

Some researchers illustrated previous research works which are studied to beat the restrictions of subjective Evaluation in the visual quality inspection by a human inspector. They developed an automatic procedure replacement by using computer vision and image processing technologies to automate the method. These attempts are to figure out the defects in manufacturing by using digital image processing [8].

Here, we proposed a system which helps to keep up the count of excellent products furthermore as faulty products produced within the entire day [9] because it identifies the defect and makes a choice to accept or reject the manufactured product on the premise of attribute inspection [10].

2 Methodology

See Fig. 1.

2.1 Image Acquisition

Images of the desired product are acquired through digital cameras. Photos are usually obtained by one or more cameras placed at the position under inspection. The functions of the cameras are typically fixed. In most cases, industrial automation systems are designed to inspect only known objects at fixed positions [3]. The picture needs to be adequately illuminated and arranged to facilitate good image acquisition. The data flow starts from the image acquisition module by connecting the digital camera with laptop pc (Fig. 2). The image acquisition module captures and transfers Image into the computer for processing [8], in our paper input image shown in Fig. 3.

2.2 Image Preprocessing

Once images are acquired, they're filtered to get rid of background or unwanted reflections from the illumination system. Image restoration can also be applied to boost image quality by correcting geometric distortions introduced by the acquisition system i.e. camera. The acquired input images are preprocessed by using multiple

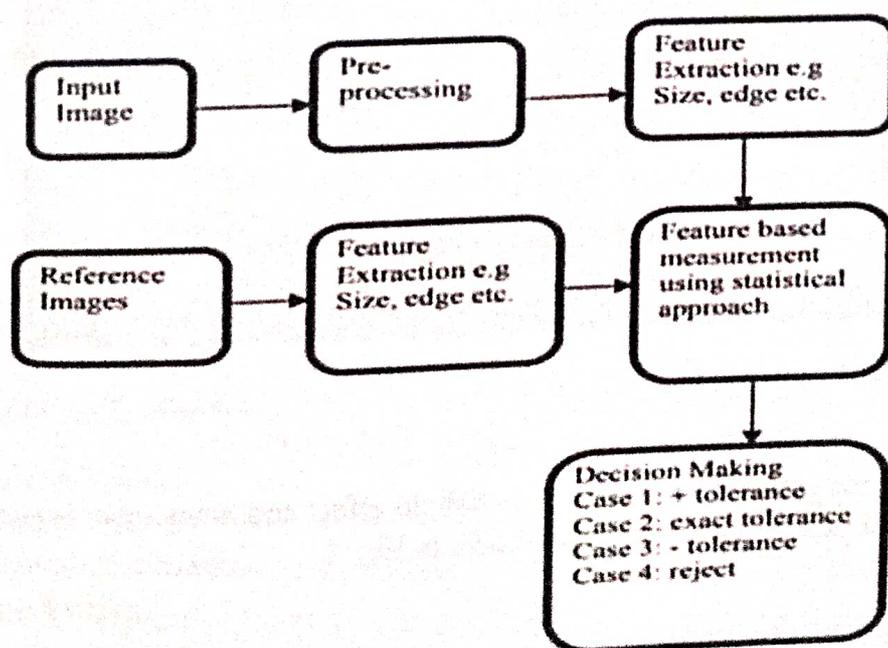


Fig. 1 Block diagram of attribute inspection using image processing

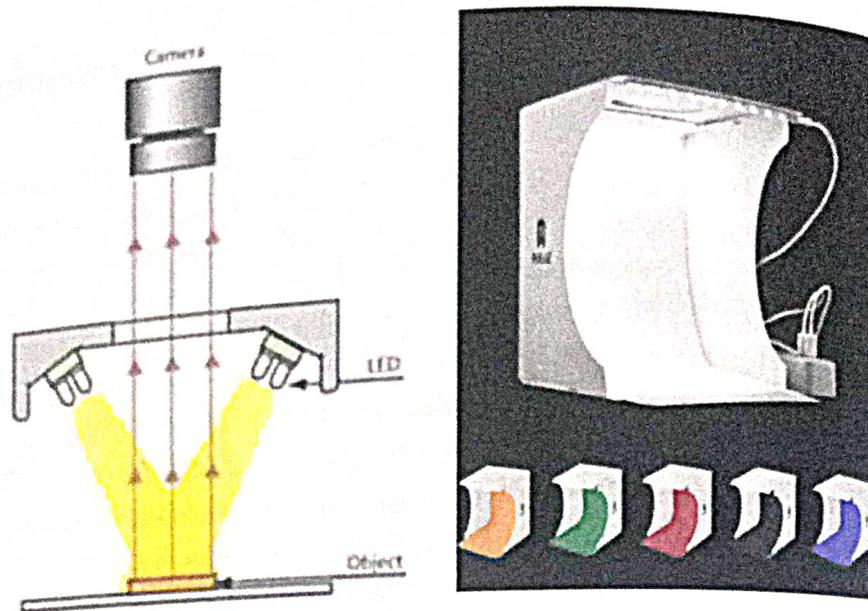


Fig. 2 Camera setup with an illumination source

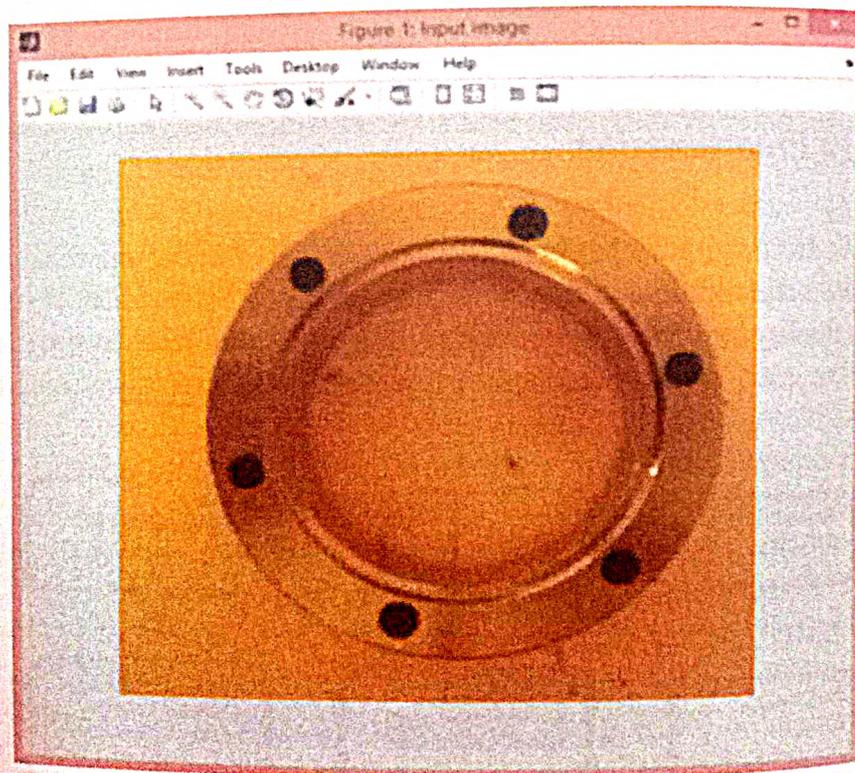


Fig. 3 Acquired input image

operations like grayscale conversion, threshold effect and noisy objects elimination which are present in the pictures, as shown in Fig. 4.

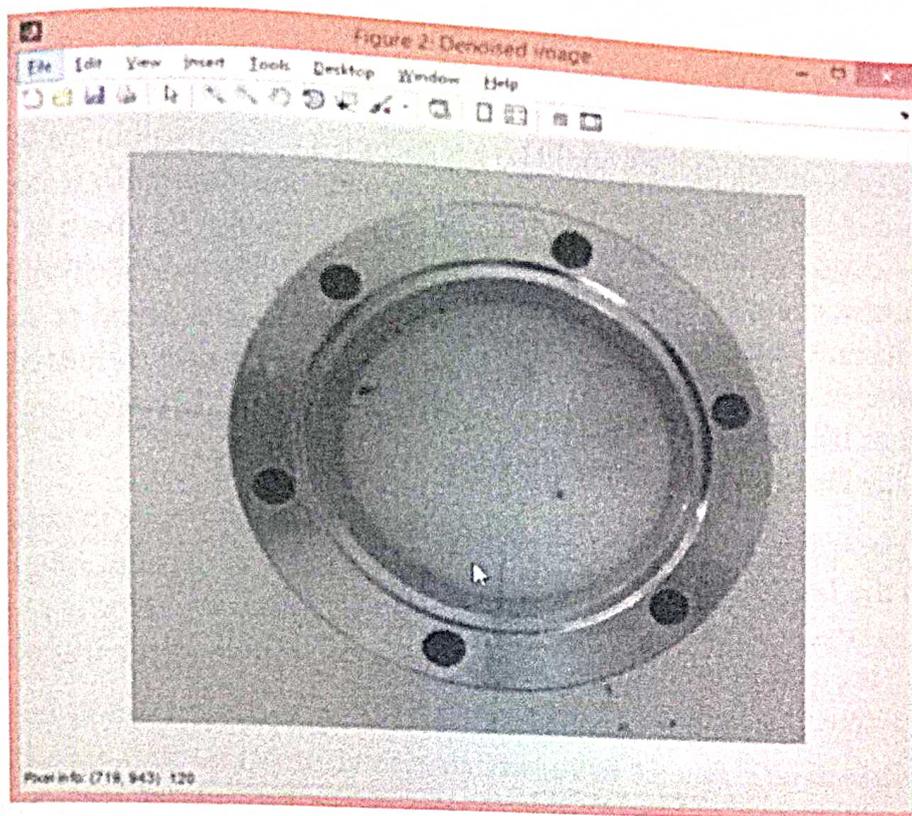


Fig. 4 Pre-processing output

2.2.1 Gray Scale Conversion

Sequence of input images is acquired from a digital camera, and then it is converted into a grayscale image.

2.2.2 Threshold Effect

After Grayscale conversion threshold effect is applied with the particular value. As a result, we get Binary Image from the Gray Scale Image as shown in figure.

2.2.3 Denoised Image Using Image Filtering

Image filtering is used to:

- Remove noise
- Sharpen contrast
- Highlight contours
- Detect edges.

The Median Filter could also be a non-linear digital filtering technique accustomed remove noise from an image which we are going to get Denoised Image which enhances the output of next step edge extraction [11].

2.3 Edge Detection

An Edge in an exceeding picture could be a significant change within the brightness, it's a discontinuity in image intensity. Edge detection is one reasonably feature extraction. Edge detection identifies the points in an exceedingly digital image at which the image brightness changes sharply, have discontinuities. The points at which image brightness changes smartly are organized into a gaggle—this group of curved line segments called as edges. Image segmentation is completed using various edge detection techniques like Sobel, Prewitt, Roberts, Canny, Log [6, 12]. Here we are using the Sobel Edge Detection technique for edge extraction [13].

Sobel Edge Detection: It works by calculating the gradient of image intensity at each pixel within the Image and then emphasizes regions of high spatial frequency that correspond to edges. The convolution masks [14] of Sobel operator is as shown in Fig. 3, which are accustomed, obtain the gradient magnitude of the Image from the initial. The output of a Sobel edge detector is shown in Fig. 7.

1	2	1
0	0	0
-1	-2	-1

(a)

-1	0	1
-2	0	2
-1	0	1

(b)

The gradient magnitude is given by $|G| = \sqrt{G_x^2 + G_y^2}$.

Typically, [15] an approximate magnitude is computed using:

$$|G| = |G_x| + |G_y|$$

2.4 Segmentation

Image segmentation may be a necessary technique used for image analysis. It's the tactic of partitioning a digital image into multiple segments (sets of pixels, also called image objects). This step tries to partition the image into regions of interest that correspond to part or whole objects inside the scene [12]. The varied segmentation techniques used are EM algorithm, OSTU algorithm and Genetic Algorithm [6]. Threshold selection is employed in OTSU algorithm. Compared with all other segmentation methods, the Otsu method is one of the only successful ways for image Thresholding because of its simple calculation. Thresholding creates binary images from grey-level ones by turning all pixels below some threshold to zero, and each one pixel this threshold to a minimum of one [16]. If $g(x, y)$ might be a threshold

version of $f(x, y)$ at some global threshold T , it's often defined as [17],

$$\begin{aligned} (x, y) &= 1; (x, y) \geq T \\ (x, y) &= 0; \textit{otherwise} \end{aligned}$$

The segmentation output is shown in Fig. 7.

2.5 Feature Measurement

We have used Euclidean distance for feature measurement like inner diameter, outer diameter and have matched. The Euclidean distance gives straight line distance between two points. It's appropriate once we have continuous numerical variables and need to reflect absolute distances. This distance takes into consideration every variable and doesn't remove redundancies. Moreover, this distance doesn't scale-invariant, so generally must scale previously to use the gap. The Euclidean distance [10] between two weight vectors provides a measure of similarity between the corresponding images $Imgref$ and $Imgtest$, as shown in Fig. 10. The measurement output is shown in Fig. 9. The formula for which is,

$$\text{Euclidean Distance (Imgref, Imgtest)} = \sqrt{(\text{Imgref, Imgtest})^2}$$

$$\text{Matching} = \left\{ \frac{(2|A \cap B|)}{|A| + |B|} \right\} \quad \text{Mismatching} = \left\{ 1 - \frac{(2|A \cap B|)}{|A| + |B|} \right\}$$

2.6 Decision Making

In case of visual inspection, the system has to decide if the result of manufacturing meets the quality standards, by matching [18] the computed features with a known model. If the product satisfies the matching criterion, it is considered to be accepted or else rejected.

2.7 Graphical User Interface

A graphical program (GUI) may be a visual interface to a plan. An honest GUI can make schedules more comfortable to use by providing them with a uniform appearance and with intuitive controls like push buttons, list boxes, sliders, menus, then forth. A graphical-based language allows the user to figure directly with graphics.

The developed GUI window gives a matching result for the acceptance and rejection process [19]. From the all MATLAB functions that are presented and implemented, all of them combine in the GUI screen to be the last final model for our proposed system [20] as shown in Fig. 11.

3 Results and Discussion

Initially, we have captured 100 images of the required job (Ring Gear). The photos are taken through all angles in such a way that all dimensions are covered. While acquiring images from different angles, care is being carried by maintaining the same distance from every angle (top view, side view and 45° angle). We formed three databases for three different perspectives. Then we have taken new input images one by one (around 100 test images) and compared with the reference database for getting a final result of acceptance or rejection of input test job image.

After preprocessing dataset with the help of image processing techniques such as Thresholding, denoising using the median filter, we need to do edge detection. Initially, used canny method and results are as shown in Fig. 5. So, to get the more precise output, we have gone for Sobel edge detection whose products are better as shown in Fig. 6, than the Canny edge detection.

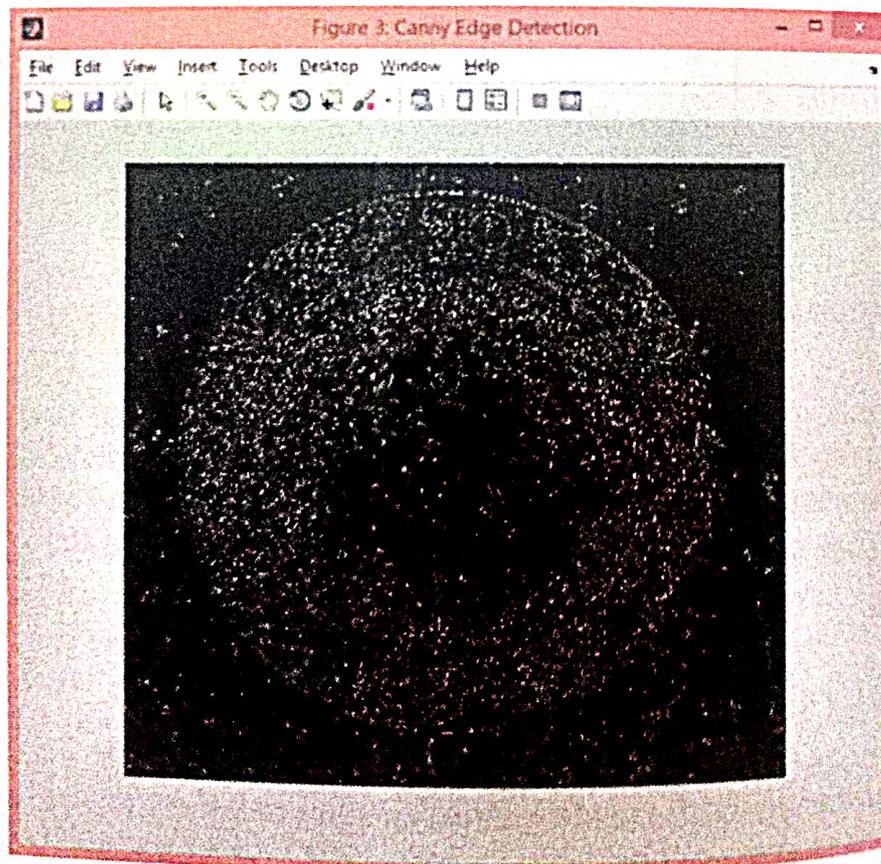


Fig. 5 Canny edge detection output

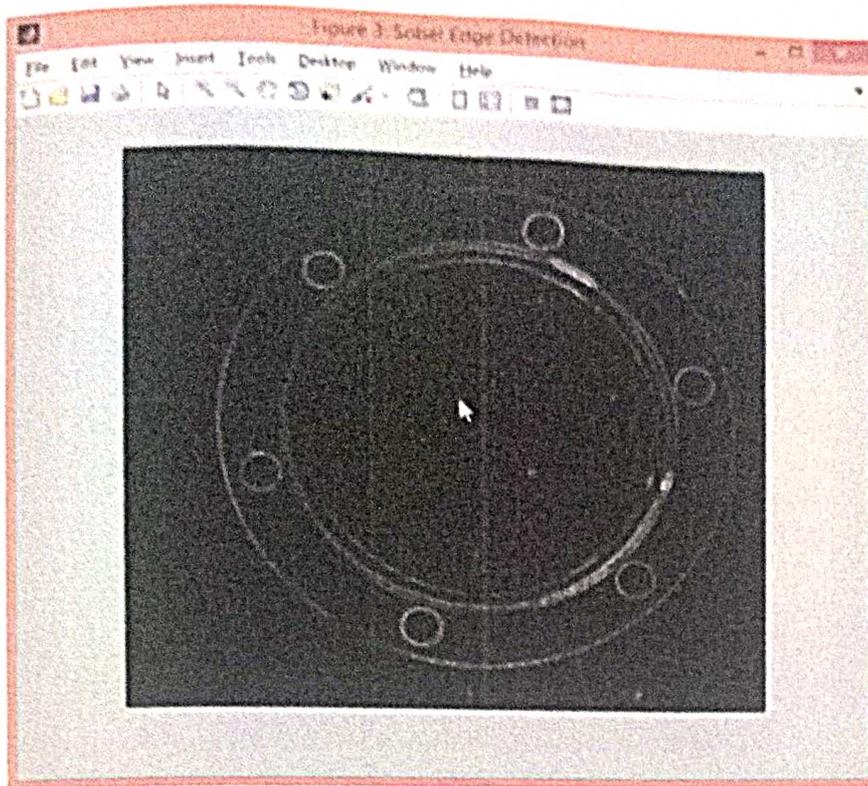


Fig. 6 Sobel edge detection output

Because of simplicity, we have used Otsu segmentation. The segmentation result of Otsu segmentation algorithm is stable or profitable as shown in Figs. 7, 8 and 9.

Figure 10 has shown either the test image matched with the reference database or not (Fig. 11).

GUI used to give a straightforward approach for checking image processing results. We have offered training database, an input image, preprocessing, edge detection, selecting parameter to be measured, segmentation and matching result buttons in GUI (Fig. 12).

Previous researchers have given defect detection only. But our proposed system adds to earlier research works, defect detection with decision making. The decision is taken in terms of acceptance or rejection of the product. Out of 100 test images of the product, almost 92 are accepted, and 8 are rejected due to excess positive tolerance. As our product is industrial Ring gear mostly circles, we found. So, if diameter exceeds than the considered positive tolerance, product becomes faulty. Thus, our proposed system gives 92% accurate results (Table 1).

4 Conclusion

In this study, the image processing technique is used for automatic inspection and internal quality control. Although lot of research carried by different researcher doing research in images processing, there's scope to use image processing techniques for internal control of commercial product. The image processing techniques

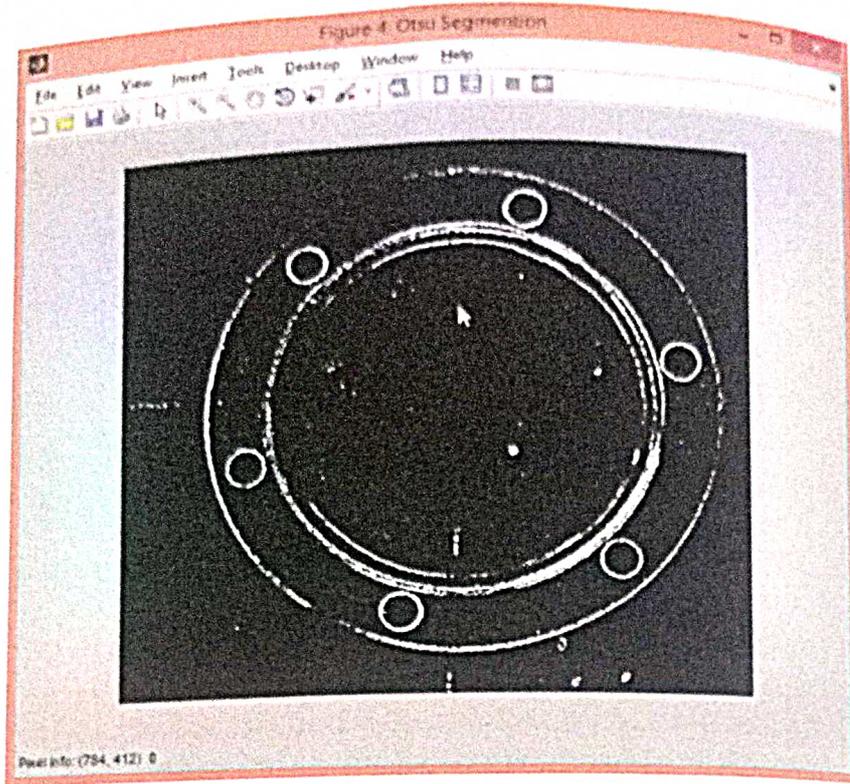


Fig. 7 Segmentation output

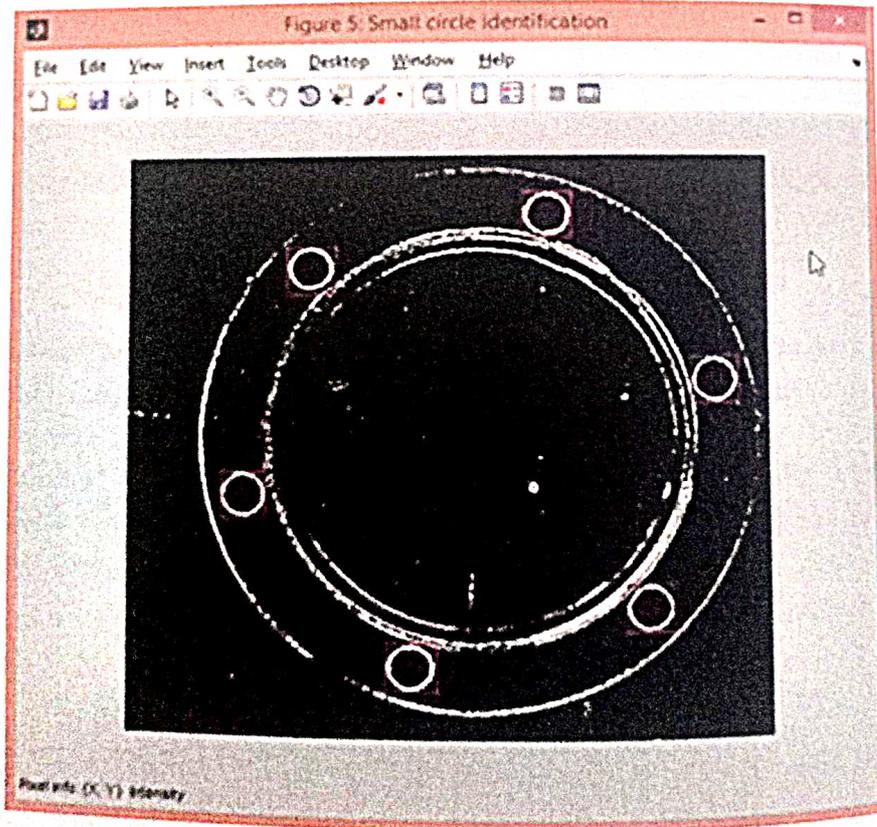


Fig. 8 Small circle detection

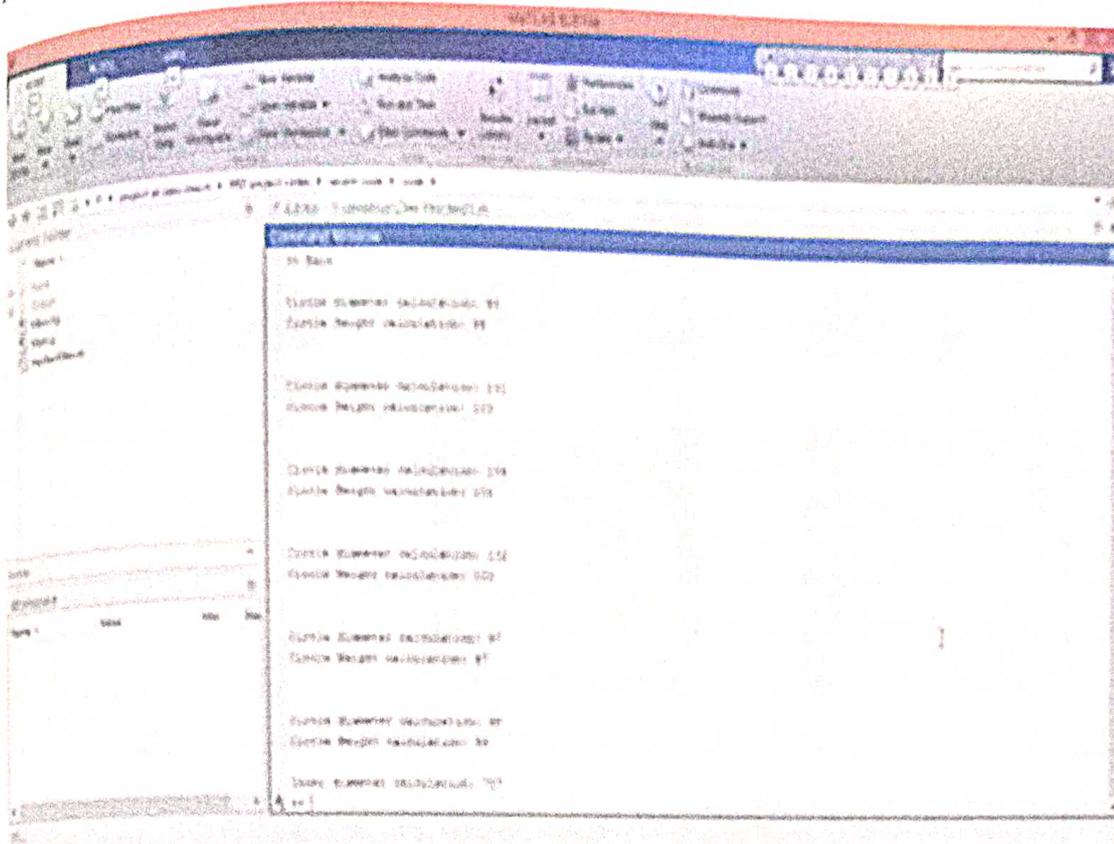


Fig. 9 Attribute measurement

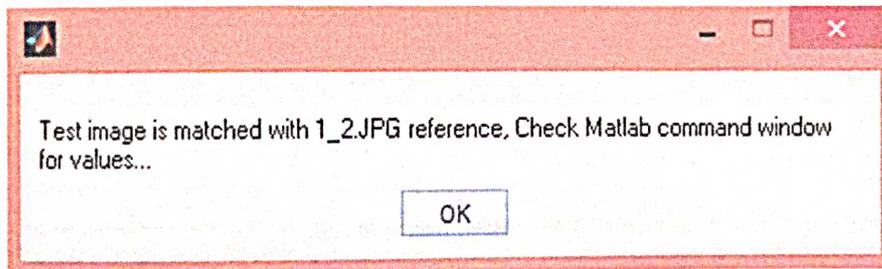


Fig. 10 Final comparison output

makes inspection automatic and fast. Also improves quality and production rate of an industry. Algorithm is proposed for real time quality monitoring of manufactured product. This proposed system can replace manual inspection of commercial product. Result will indicate product is appropriate or not. Using this automatic inspection system cost of inspection is reduced as we require only 1 time installation cost. Also accuracy of inspection will increase.

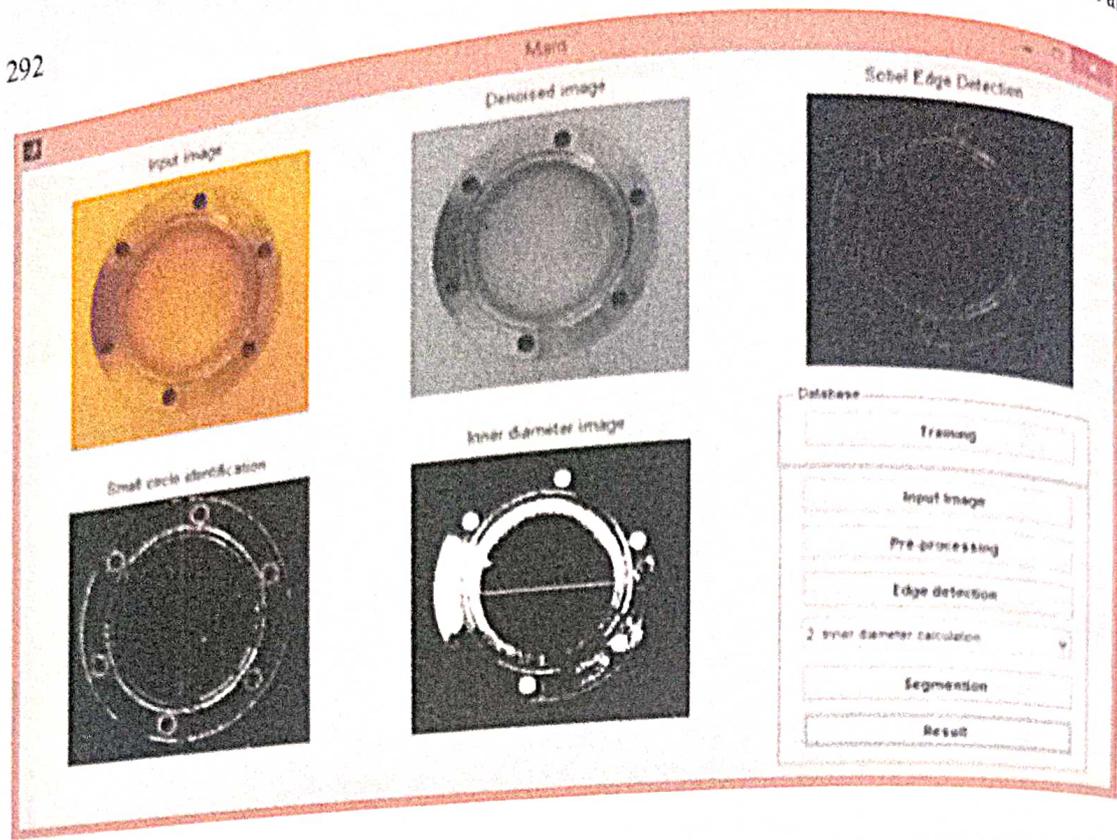


Fig. 11 GUI results for various parameters

Distances	VarName1	VarName2	VarName3	VarName4	VarName5	VarName6	VarName7	VarName8	VarName9	VarName10	VarName11	VarName12	Difference	VarName14	VarName15	VarName16	VarName17	VarName18	
1	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
2	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
3	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
4	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
5	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
6	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
7	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
8	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
9	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
10	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
11	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
12	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
13	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
14	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
15	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
16	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
17	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
18	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
19	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0
20	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0	0	0	0

Fig. 12 Final result in excel format

Table 1 Results of acceptance or rejection

No. of test images taken	Accepted with (+3 pixel) positive tolerance	Accepted with (-3 pixel) negative tolerance	Exact images	Rejected products
100	45	42	5	8

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Problem Solving Methodologies through Model Development

- **Solving Complex Engineering Problems**
- **Team Work**
- **Use of Modern Tools**
- **Professional Ethics and Responsibilities**
- **Communication**

Product Development (A.Y. 2019-20)

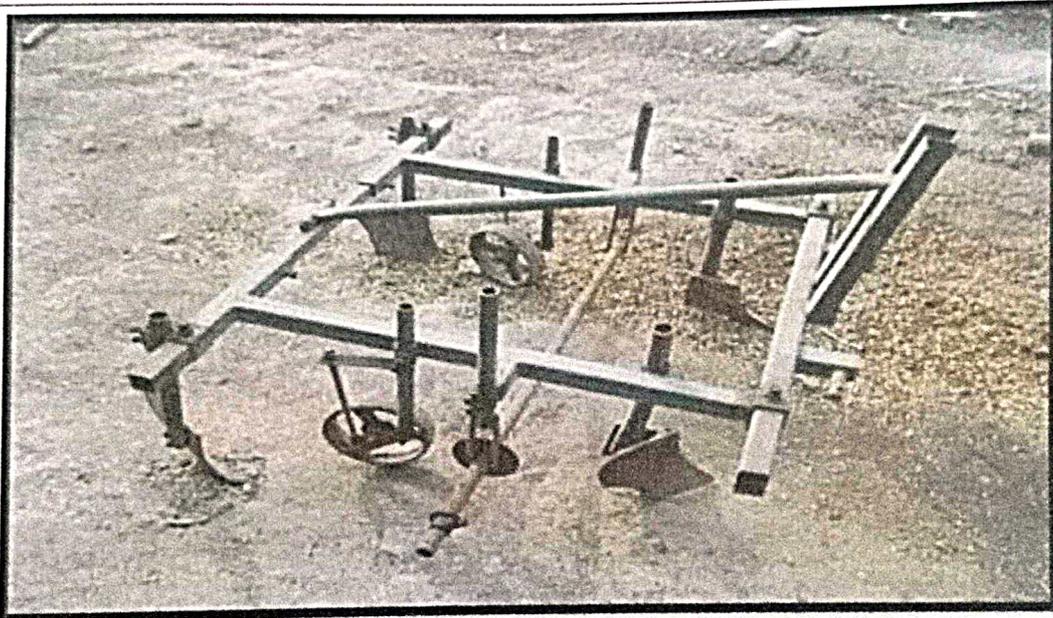
Name of Students: 1. Nikate Pornima 2. Pooja Kambale 3. Ashture Chandraprabha

Name of Guide: Dr. S. S. Wangikar

Product :- Mulching Machine

- Scope:**
- For laying plastic paper (mulch) in the farm and punch a hole on paper for plantation in one pass, mulching machine is required
 - As manual work becomes automated the working is easy and time efficient
 - Automatic covering of paper edges with the help clay carried out rapidly.

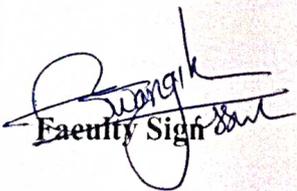
Fabricated Machine:



- Specification**
- Available from 2.5 feet to 4 feet
 - Capacity:- 1 Acres per 30 min.

- Application**
1. To lay plastic mulch and punch a hole on paper in one pass.
 2. To complete all above operations in minimum time.
 3. To reduce the cost of machine, this eventually reduces the investment of small farmers.

Benefits Available for any covering size, Increases in work efficiency.


Faculty Sign

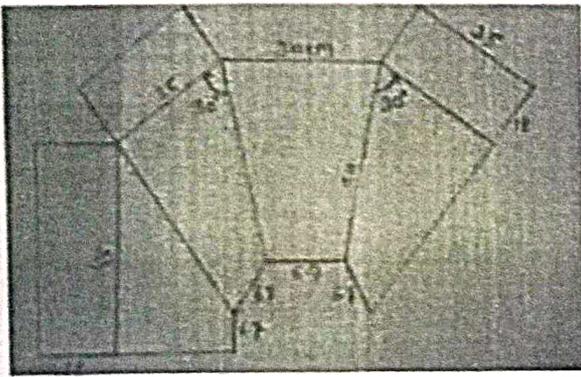

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Product

:- Eco Low Flushing Toilet

Objectives:

- To design the toilet with minimum flush of water



Following students from BE Class (2018-19) are involved in design of eco-low-flushing toilet system

- 1.Mr. Dinesh M Yedage
- 2.Mr. Dattatray M Gaikwad
- 3.Mr. Shubham B Choudhari
- 4.Mr. Vaibhav B Khune
- 5.Mr. Khela R Chaure
- 6.Mr. Vikas P Mulgir

Specification

- GI sheets are used to design slope of the toilet seat as GI sheets are proved to be equally competent as that of ceramic materials.

Benefits

These eco-low flushing toilets are more economical compared to traditional toilets because of their better flushing property and minimum cost of construction.

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Problem Solving Methodologies through Design Projects

- **Professional Engineering Solutions in Societal and Environmental Contexts**
- **Team Work**
- **Professional Ethics and Responsibilities**
- **Communication**

Detailed Project Report on SEWERAGE SYSTEM DESIGN FOR GOPALPUR VILLEGE

Project Proposed by: Gopalpur Grampanchayat, Gopalpur
Tal. Pandharpur, Dist: Solapur-413304

Prepared by: SVERI's College of Engineering, Pandharpur


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SEWERAGE SYSTEM DESIGN REPORT OF GOPALPUR VILLAGE

1. ABOUT GOPALPUR VILLAGE

Gopalpur is a pilgrimage village according to Census 2011 information the location code or village code of Gopalpur village is 562367. Gopalpur village is located in Pandharpur Tehsil of Solapur district in Maharashtra, India. It is situated 2km away from sub-district headquarter Pandharpur and 78km away from district headquarter Solapur. As per 2009 stats, Gopalpur village is also a gram panchayat.

Population of Gopalpur

Total Population - 6,918

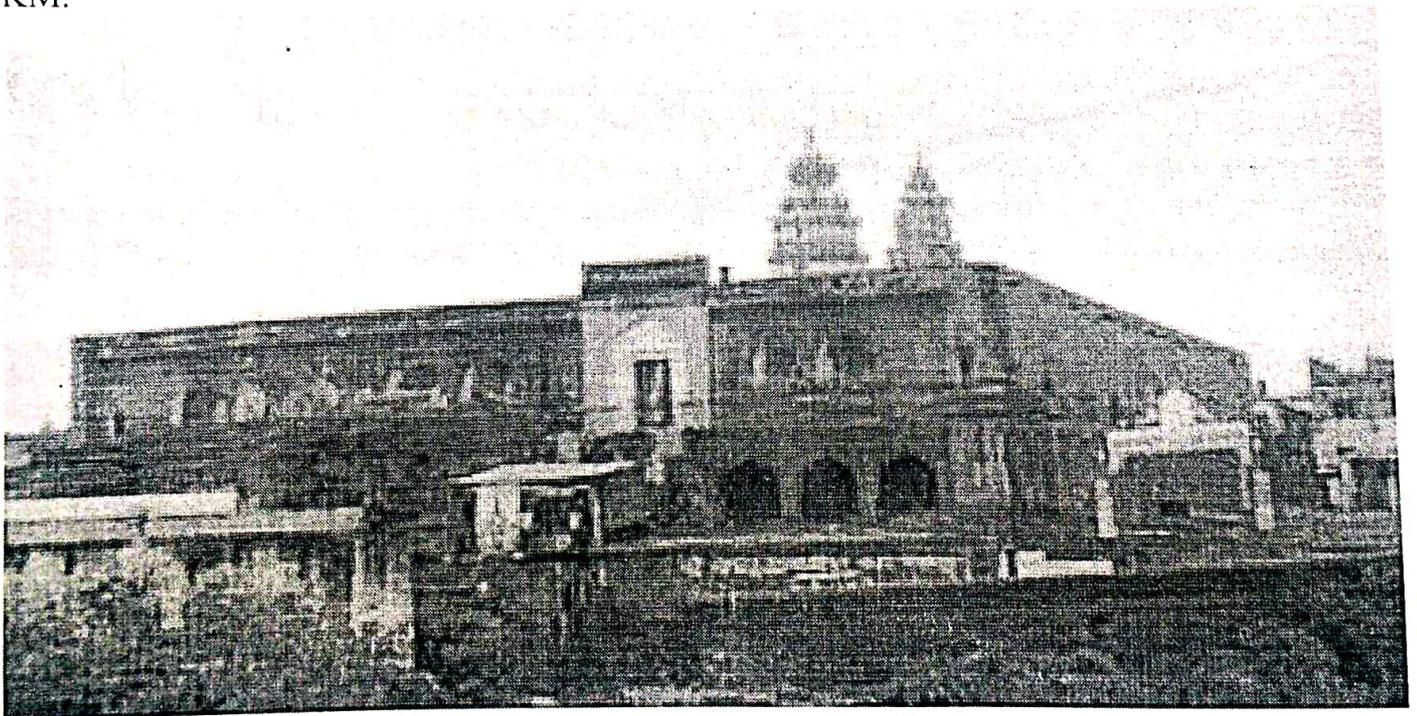
Male Population - 3,718

Female Population - 3,200

Geography:

The total geographical area of village is 1095 hectares. Gopalpur has a total population of 6,918 peoples. There are about 1,160 houses in Gopalpur village. Pandharpur is nearest town to Gopalpur which is approximately 2km away.

Gopalpur is a village panchayat located in the Solapur district of Maharashtra state, India. The latitude 17.6605502 and longitude 75.3485055 are the geocoordinate of the Gopalpur. Mumbai is the state capital for Gopalpur village. It is located around 303.5 kilometer away from Gopalpur.. The other nearest state capital from Gopalpur is Hyderabad and its distance is 274.4 KM. The other surrounding state capitals are Hyderabad 333.3 KM., Daman 405.2 KM., Bangalore 572.5 KM.




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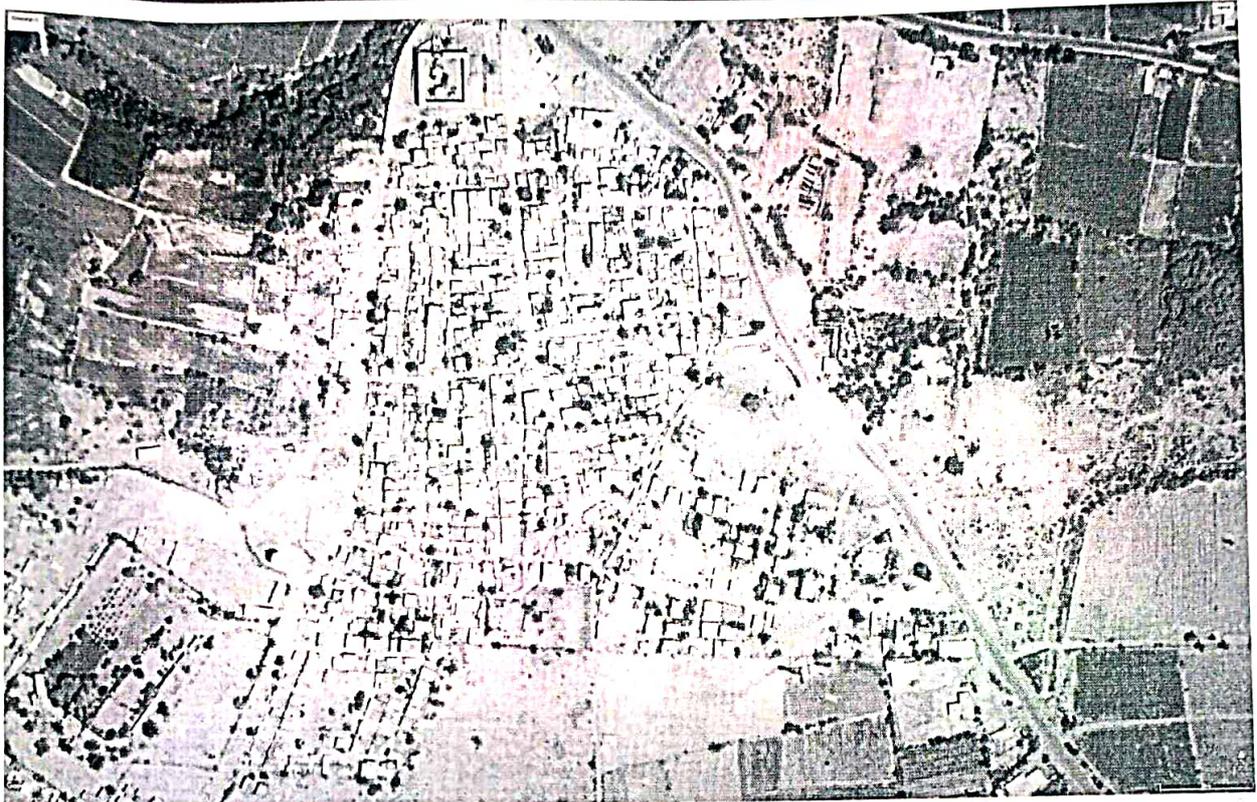
Climatology:

Pandharpur lies in the area of comparatively dry regions in the state. In general rainfall in the region is scanty. The rainfall figures collected for last fifteen years & analyzed as below. The temperature ranges from 42°C to 8°C during summer & the winter months respectively.

Table No. 1: Rainfall Data

Average and Actual Rainfall in Last Fifteen years	
Years	Rainfall (mm)
2000	554.2
2001	545.8
2002	403.3
2003	254.6
2004	532.8
2005	519.7
2006	474.8
2007	605.3
2008	469.2
2009	730.8
2010	672.1
2011	395.8
2012	361.8
2013	566.2
2014	371.3
Average	497.18

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2. DESIGN CRITERIA

Most of the design philosophies and reference data for the design of Sewerage are considered from the "Manual on Sewerage and Sewage Treatment" document published by Central Public Health and Environmental Engineering Organization.

Design Flow

First of all, calculate the average sewage flow on the basis of water consumption and the population at the end of the design period. i.e at the full development of the area. Then the design flow for sanitary sewer and partially combined sewers can be calculated by using the following formulae.

- For Sanitary Sewer

$$Q_{\text{design}} = \text{Peak sewage flow} + \text{infiltration}$$

- For partially combined sewer

$$Q_{\text{design}} = 2 \times \text{Peak sewage flow} + \text{infiltration}$$

Design Equation

Manning's Equation is used for sewers flowing under gravity

$$V = \frac{1}{n} R^{2/3} S^{1/2}$$

Where

V = Velocity of flow in m/sec

R = Hydraulic mean depth (A/P) = D/4 when pipe is flowing full or half full

S = Slope of the sewer

n = Coefficient of roughness for pipes = 0.013 (For RCC Pipes)

Minimum (Self Cleansing) Velocity

Sewage should flow at all times with sufficient velocity to prevent the settlement of solid matter in the sewer. Self Cleansing Velocity is the minimum velocity that ensures non settlement of suspended matter in the sewer.

The following minimum velocities are generally employed

- Sanitary sewer = 0.6 m/sec
- Storm sewer = 1.0 m/sec
- Partially combined sewer = 0.7 m/sec

In this design partially combined sewer has been considered. Therefore, minimum velocities considered for the design are 0.7 m/sec.

Maximum velocity

The maximum velocities in the sewer pipes should not exceed more than 2.4 m/sec. This maximum velocity in the sewer should not exceed this limit of 2.4 m/sec. It is to avoid the excessive sewer abrasion and also to avoid steep slopes.

Minimum Sewer Size

250mm is taken as the minimum sewer size. The reason being that, the choking does not take place even with the bigger size particles, which are usually thrown into the sewer through manholes.

Minimum Cover of Sewer

1m is taken as the minimum cover over the sewers to avoid damage from live loads coming on the sewer.

SEWERAGE SYSTEM DESIGN REPORT OF GOPALPUR VILLAGE

Spacing of Manhole (WASA, Criteria)

For (Sewer Size) 225mm to 380mm	spacing not more than 100m
For (Sewer Size) 460mm to 760mm	spacing not more than 120m
For (Sewer Size) greater than 760mm	spacing not more than 150m

Direction of Sewer Line

Sewer should flow, as far as possible the Natural Slope.

Design of Sewer

- Size of Sewer

Use the following relation to find the diameter of sewer

$$Q_f = A \times V$$

- Slope of Sewer

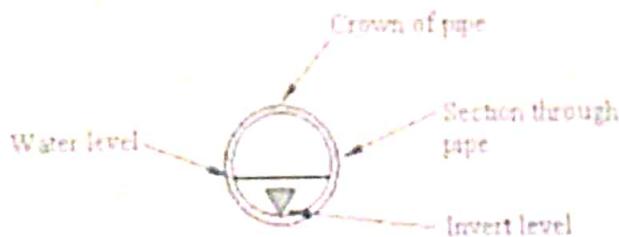
Select the minimum velocity value and use the Manning's formula

$$V = \frac{1}{n} R^{2/3} S^{1/2}$$

Invert Level

The lowest inside level at any cross-section of a sewer pipe is known as Invert Level at that Cross-section.

Invert Level = NGSL/Road Level – Depth of Sewer – Thickness of Sewer – Dia. of Sewer



INVERT LEVEL OF PIPE


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SEWERAGE SYSTEM DESIGN REPORT OF GOPALPUR VILLAGE

3. SEWERAGE DESIGN DATA

Population Forecasting

The existing population provided by Gopalpur Grampanchayat is 6918 as per recent census (2010). The design period is considered of 30 Years. The population growth per year is assumed to be 2 %. Total number of houses considered are about 1765 which are utilised for distribution of population over the pipe network.

Population forecast $P_d = P_p \times (1+2/100)^{38}$

$$P_d = 6918 \times (1+2/100)^{38} = 14682$$

Sewerage Flow Estimation: For the towns provided with piped water supply but without sewerage system and tentative data provided by Gopalpur Grampanchayat the water consumption per capita is 135 liters per day. Sewage generated is assumed to 80 % of water consumption.

$$P_d = 14682 \text{ (From Table)}$$

Per capita water consumption 135 lpcd (liters per capita per day)

$$\text{Average Design flow} = P_d \times \text{water consumption} \times 0.8 / 1000$$

(80% goes to sewers as waste water)

$$= (135 \times 14682 \times 0.8) / 1000$$

$$Q_{\text{avg}} = 1585.65 \text{ m}^3/\text{day}$$

Infiltration assumed is 5 % of average flow

$$\text{Infiltration} = 0.05 \times 1585.65 = 79.28 \text{ m}^3/\text{day}$$

$$\text{Peak Flow} = 4 \times 1585.65 = 6342.62 \text{ m}^3/\text{day} \quad (\text{Peak factor} = 4)$$

Storm water contribution is assumed to be equal to Peak Flow amount

$$\text{Storm water} = 6342.62 \text{ m}^3/\text{day}$$

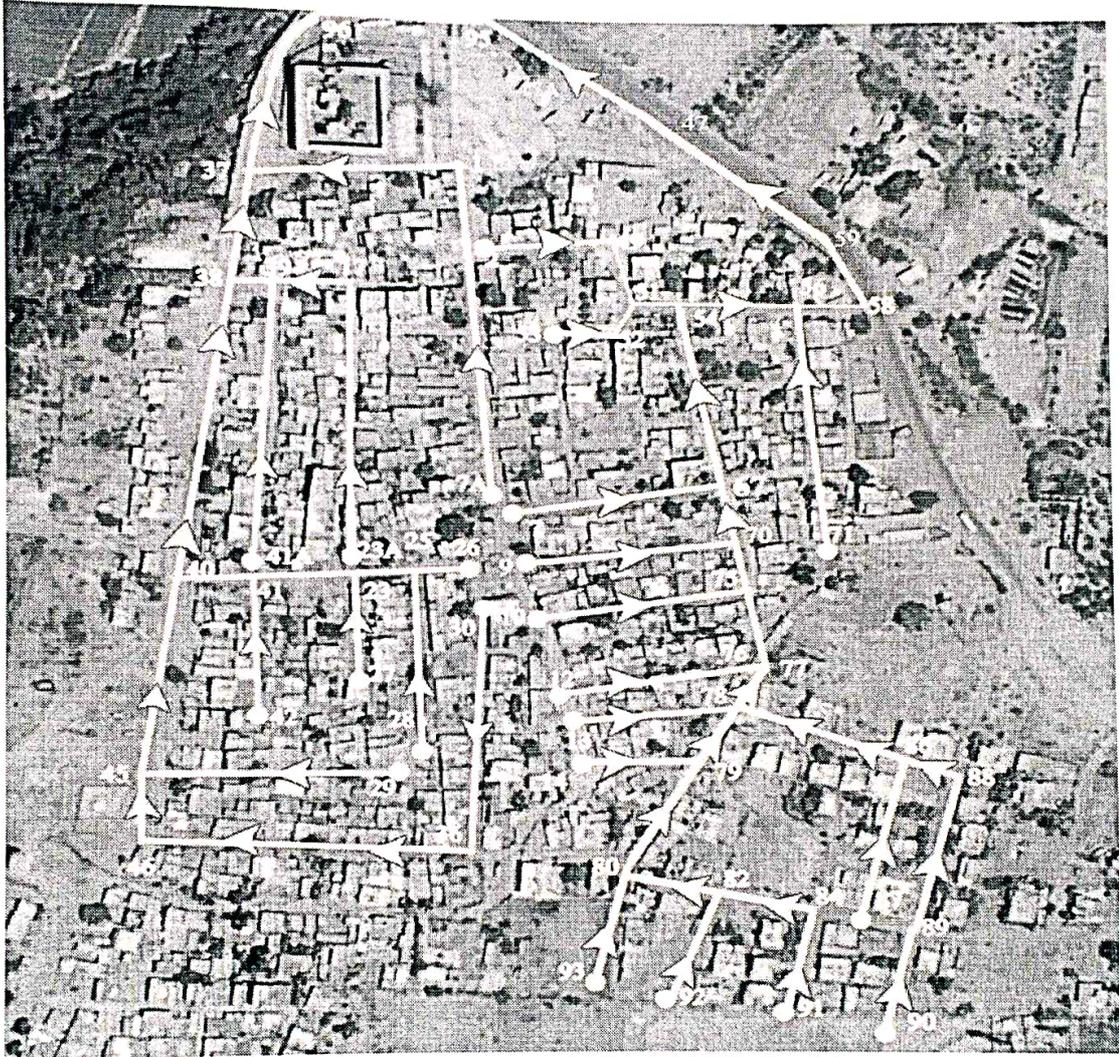
$$\text{Design Flow} = \text{Peak Flow} + \text{Storm water} + \text{Infiltration}$$

$$\text{Design Flow} = 6342.62 + 6342.62 + 79.28 = 12764.52 \text{ m}^3/\text{day}$$


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SEWERAGE SYSTEM DESIGN REPORT OF GOPALPUR VILLAGE

Table 2 shows the the flow estimation over the pipe network where as Table 3 shows the details of pipe and excavation required as per minimum slope requirements. From this table it has been observed that minimum flow of 0.7 m/s has been maintained in almost all pipes of the network. The minimum pipe size considered is of 250mm whereas maximum pipe size required is 400mm. Total length of pipe network is about 3746 m. The layout of the sewerage system is shown below.



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SEWERAGE SYSTEM DESIGN REPORT OF GOPALPUR VILLAGE

Table 2: Details of Sewerage Network Flow estimation

SR No.	Sewer No	From MH no.	To. MH no.	Length (m)	Plots served			Total population	Avg. Sewage flow m3/day	Infiltration (m3/day)	Peak flow (m3/day)	Storm Water (m3/day)	Design flow (m3/day)
					Local	Previous	previous						
					Local	Previous	Total						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	90-89	90	89	35.1	20	0	20	160	17.28	0.864	69.12	69.12	139.104
2	91-84	91	84	31.2	20	0	20	160	17.28	0.864	69.12	69.12	139.104
3	92-82	92	82	34.9	20	0	20	160	17.28	0.864	69.12	69.12	139.104
4	93-80	93	80	38.4	20	0	20	160	17.28	0.864	69.12	69.12	139.104
5	89-88	89	88	73.4	25	20	45	360	38.88	1.944	155.52	155.52	312.984
6	87-86	87	86	72.4	25	0	25	200	21.6	1.08	86.4	86.4	173.88
7	84-82	84	82	40.4	20	20	40	320	34.56	1.728	138.24	138.24	278.208
8	82-80	82	80	50	15	60	75	600	64.8	3.24	259.2	259.2	521.64
9	80-79	80	79	44.2	30	95	125	1000	108	5.4	432	432	869.4
10	14-79	14	79	42	30	0	30	240	25.92	1.296	103.68	103.68	208.656
11	79-78	79	78	35.1	20	155	175	1400	151.2	7.56	604.8	604.8	1217.16
12	88-86	88	86	32.5	20	45	65	520	56.16	2.808	224.64	224.64	452.038
13	86-78	86	78	80.5	30	90	120	960	103.68	5.184	414.72	414.72	834.624
14	13-78	13	78	86	40	0	40	320	34.56	1.728	138.24	138.24	278.208
15	78-77	78	77	35	20	335	355	2840	306.72	15.336	1226.88	1226.88	2469.096
16	12-77	12	77	94	40	0	40	320	34.56	1.728	138.24	138.24	278.208
17	77-75	76	75	20.2	20	395	415	3320	358.56	17.928	1434.24	1434.24	2886.408
18	10-75	10	75	110.5	40	0	40	320	34.56	1.728	138.24	138.24	278.208
19	75-70	75	70	27	15	455	470	3760	406.08	20.304	1624.32	1624.32	3268.944
20	9-70	9	70	106.5	60	0	60	480	51.84	2.592	207.36	207.36	417.312
21	7-67	7	67	108	50	0	50	400	43.2	2.16	172.8	172.8	347.76
22	70-67	70	67	29.4	20	530	550	4400	475.2	23.76	1900.8	1900.8	3825.36
23	67-54	67	54	102	50	550	600	4800	518.4	25.92	2073.6	2073.6	4173.12
24	71-56	71	56	87	70	0	70	560	60.48	3.024	241.92	241.92	486.864
25	53-52	53	52	28	20	0	20	160	17.28	0.864	69.12	69.12	139.104
26	52-51	52	51	16.5	20	20	40	320	34.56	1.728	138.24	138.24	278.208
27	2-49	2	49	72	20	0	20	160	17.28	0.864	69.12	69.12	139.104
28	49-51	49	51	30	20	20	40	320	34.56	1.728	138.24	138.24	278.208
29	51-54	51	54	24.5	20	80	100	800	86.4	4.32	345.6	345.6	695.52
30	54-56	54	56	53	40	700	740	5920	639.36	31.968	2557.44	2557.44	5146.848
31	56-58	56	58	29	20	810	830	6640	717.12	35.856	2868.48	2868.48	5772.816
32	58-59	58	59	21	30	830	860	6880	743.04	37.152	2972.16	2972.16	5981.472
33	59-47	59	47	41	30	860	890	7120	768.96	38.448	3075.84	3075.84	6190.128
34	47-47A95	47	47A95	127	30	890	920	7360	794.88	39.744	3179.52	3179.52	6398.784
35	47A95-95	47A95	95	38.3	30	920	950	7600	820.8	41.04	3283.2	3283.2	6607.44
36	30-36	30	36	107.5	60	0	60	480	51.84	2.592	207.36	207.36	417.312
37	36-46A	36	46A	33.8	30	60	90	720	77.76	3.888	311.04	311.04	625.968
38	46A-46	46A	46	104	45	90	135	1080	116.64	5.832	466.56	466.56	938.952
39	46-45	46	45	28.5	15	135	150	1200	129.6	6.48	518.4	518.4	1043.28
40	29-45	29	45	97	60	0	60	480	51.84	2.592	207.36	207.36	417.312
41	28-25	28	25	81	30	0	30	240	25.92	1.296	103.68	103.68	208.656
42	27-23	27	23	71	30	0	30	240	25.92	1.296	103.68	103.68	208.656
43	42-41	42	41	76	35	0	35	280	30.24	1.512	120.96	120.96	243.432
44	45-40	45	40	97.4	40	210	250	2000	216	10.8	864	864	1738.8
45	26-25	26	25	24.5	30	0	30	240	25.92	1.296	103.68	103.68	208.656
46	25-23	25	23	34	20	60	80	640	69.12	3.456	276.48	276.48	556.416
47	23A-17	23A	17	161.5	60	0	60	480	51.84	2.592	207.36	207.36	417.312
48	41A-39	41A	39	165.5	60	0	60	480	51.84	2.592	207.36	207.36	417.312
49	23-41	23	41	34	20	110	130	1040	112.32	5.616	449.28	449.28	904.176
50	41-40	41	40	33	20	165	185	1480	159.84	7.992	639.36	639.36	1286.712
51	40-38	40	38	141	60	435	495	3960	427.68	21.384	1710.72	1710.72	3442.824
52	17-39	17	39	34	30	60	90	720	77.76	3.888	311.04	311.04	625.968
53	39-38	39	38	26.4	20	150	170	1360	146.88	7.344	587.52	587.52	1182.384
54	38-37	38	37	49.5	30	665	695	5560	600.48	30.024	2401.92	2401.92	4833.864
55	7A-1	7A	1	154.7	100	0	100	800	86.4	4.32	345.6	345.6	695.52
56	1-37	1	37	90	40	100	140	1120	120.96	6.048	483.84	483.84	973.728
57	37-96	37	96	167	30	835	865	6920	747.36	37.368	2989.44	2989.44	6016.248
58	95-96	95	96	39	20	950	970	7760	838.08	41.904	3352.32	3352.32	6746.544

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Table 3: Details of Pipe Selection and laying levels etc.

SR. No.	Sewer No	From MH no.	To. MH no.	Length (m)	Design flow (m ³ /day)	Da (m)	Slope	Va (m/sec)	Ground Level		Adjusted Invert level		Excavation Depth		
									Upper	Lower	Upper	Lower	upper	lower	
							Sa								
1	90-89	90	89	35.1	139.104	0.25	0.00102029	0.56	103.785	103.085	102.535	101.835	1.25	1.25	
2	91-84	91	84	31.2	139.104	0.25	0.00102029	0.56	103.4	102.81	102.650	102.060	0.75	0.75	
3	92-82	92	82	34.9	139.104	0.25	0.00102029	0.56	103.46	100.885	102.210	100.135	1.25	0.75	
4	93-80	93	80	38.4	139.104	0.25	0.00102029	0.56	102.22	101.74	100.970	100.490	1.25	1.25	
5	89-88	89	88	73.4	312.984	0.25	0.00204059	0.64	103.085	100.69	101.835	99.440	1.25	1.25	
6	87-86	87	86	72.4	173.88	0.25	0.00136039	0.60	102.69	100.33	101.440	99.080	1.25	1.25	
7	84-82	84	82	40.4	278.208	0.25	0.00170049	0.63	102.81	100.885	102.060	100.135	0.75	0.75	
8	82-80	82	80	50	521.64	0.25	0.00302687	0.67	100.885	101.74	100.135	99.984	0.75	1.76	
9	80-79	80	79	44.2	869.4	0.25	0.00476137	0.68	101.74	101.025	99.984	99.773	1.76	1.25	
10	14-79	14	79	42	208.656	0.25	0.00163247	0.62	103.275	101.025	102.025	99.775	1.25	1.25	
11	79-78	79	78	35.1	1217.16	0.25	0.00714205	0.69	101.025	100.695	99.773	99.523	1.25	1.17	
12	88-86	88	86	32.5	452.088	0.25	0.00289083	0.67	100.69	100.33	99.440	99.080	1.25	1.25	
13	86-78	86	78	80.5	834.624	0.25	0.00442127	0.68	100.33	100.695	99.080	98.724	1.25	1.97	
14	13-78	13	78	86	278.208	0.25	0.00170049	0.63	103.365	100.695	102.115	99.445	1.25	1.25	
15	78-77	78	77	35	2469.096	0.25	0.0146242	0.74	100.695	100.3	98.724	98.212	1.97	2.09	
16	12-77	12	77	94	278.208	0.25	0.00170049	0.63	103.39	100.3	102.140	99.050	1.25	1.25	
17	77-75	76	75	20.2	2886.408	0.3	0.0090569	0.72	100.3	100.335	98.212	97.994	2.09	2.34	
18	10-75	10	75	110.5	278.208	0.25	0.00170049	0.63	103.955	100.335	102.705	99.085	1.25	1.25	
19	75-70	75	70	27	3268.944	0.3	0.0103888	0.74	100.335	100.18	97.994	97.714	2.34	2.47	
20	9-70	9	70	106.5	417.312	0.25	0.00272078	0.66	104.05	100.18	102.800	98.930	1.25	1.25	
21	7-67	7	67	108	347.76	0.25	0.00238068	0.64	104.475	100.225	103.225	98.975	1.25	1.25	
22	70-67	70	67	29.4	3825.36	0.3	0.01198707	0.74	100.18	100.225	97.714	97.361	2.47	2.86	
23	67-54	67	54	102	4173.12	0.35	0.0078	0.73	100.225	100.115	97.361	96.566	2.86	3.55	
24	71-56	71	56	87	486.864	0.25	0.00295885	0.67	99.375	99.175	98.125	97.868	1.25	1.31	
25	53-52	53	52	28	139.104	0.25	0.00102029	0.56	101.835	100.54	100.585	99.290	1.25	1.25	
26	52-51	52	51	16.5	278.208	0.25	0.00170049	0.63	100.54	100.275	99.290	99.025	1.25	1.25	
27	2-49	2	49	72	139.104	0.25	0.00102029	0.56	101.46	99.745	100.210	98.495	1.25	1.25	
28	49-51	49	51	30	278.208	0.25	0.00170049	0.63	99.745	100.275	98.495	98.444	1.25	1.83	
29	51-54	51	54	24.5	695.52	0.25	0.00442127	0.68	100.275	100.115	98.444	98.336	1.83	1.78	
30	54-56	54	56	53	5146.848	0.35	0.00964166	0.74	100.115	99.175	96.566	96.055	3.55	3.12	
31	56-58	56	58	29	5772.816	0.4	0.0068844	0.74	99.175	97.925	96.055	95.855	3.12	2.07	
32	58-59	58	59	21	5981.472	0.4	0.00722862	0.75	97.925	96.77	95.855	95.703	2.07	1.07	
33	59-47	59	47	41	6190.128	0.4	0.00742791	0.75	96.77	94.76	95.370	93.360	1.40	1.40	
34	47-47A95	47	47A95	127	6398.784	0.4	0.00779025	0.74	94.76	92.225	93.360	90.825	1.40	1.40	
35	47A95-95	47A95	95	38.3	6607.44	0.4	0.00797142	0.74	92.225	91.185	90.825	89.785	1.40	1.40	
36	30-36	30	36	107.5	417.312	0.25	0.00272078	0.66	103.965	102.555	102.715	101.305	1.25	1.25	
37	36-46A	36	46A	33.8	625.968	0.25	0.00408117	0.68	102.555	103.045	101.305	101.167	1.25	1.88	
38	46A-46	46A	46	104	938.952	0.25	0.00544156	0.68	103.045	103.085	101.167	100.601	1.88	2.48	
39	46-45	46	45	28.5	1043.28	0.25	0.00612176	0.69	103.85	103.98	100.601	100.427	3.25	3.55	
40	29-45	29	45	97	417.312	0.25	0.00272078	0.66	104.795	103.98	103.545	102.730	1.25	1.25	
41	28-25	28	25	81	208.656	0.25	0.00163247	0.62	104.42	104.525	103.170	103.038	1.25	1.49	
42	27-23	27	23	71	208.656	0.25	0.00163247	0.62	104.63	104.36	103.380	103.110	1.25	1.25	
43	42-41	42	41	76	243.432	0.25	0.00166648	0.62	104.495	103.745	103.245	102.495	1.25	1.25	
44	45-40	45	40	97.4	1738.8	0.25	0.00952273	0.71	103.98	102.56	100.427	99.499	3.55	3.06	
45	26-25	26	25	24.5	208.656	0.25	0.00163247	0.62	104.375	104.525	103.125	103.085	1.25	1.44	
46	25-23	25	23	34	556.416	0.25	0.00306088	0.67	104.525	104.36	103.085	102.981	1.44	1.38	
47	23A-17	23A	17	161.5	417.312	0.25	0.00272078	0.66	104.36	102.745	103.110	101.495	1.25	1.25	
48	41A-39	41A	39	165.5	417.312	0.25	0.00272078	0.66	103.745	101.535	102.495	100.285	1.25	1.25	
49	23-41	23	41	34	904.176	0.25	0.00510146	0.68	104.36	103.745	102.981	102.807	1.38	0.94	
50	41-40	41	40	33	1286.712	0.25	0.00816234	0.69	103.745	102.56	102.495	101.310	1.25	1.25	
51	40-38	40	38	141	3442.824	0.3	0.01092156	0.75	102.56	100.29	99.499	97.959	3.06	2.33	
52	17-39	17	39	34	625.968	0.25	0.00408117	0.68	102.745	101.535	101.495	100.285	1.25	1.25	
53	39-38	39	38	26.4	1182.384	0.25	0.00680195	0.69	101.535	100.29	100.285	99.040	1.25	1.25	
54	38-37	38	37	49.5	4833.864	0.35	0.00931666	0.74	100.29	96.765	98.940	95.415	1.35	1.35	
55	7A-1	7A	1	154.7	695.52	0.25	0.00442127	0.68	104.475	100.61	103.225	99.360	1.25	1.25	
56	1-37	1	37	90	973.728	0.25	0.00578166	0.69	100.61	96.765	99.360	95.515	1.25	1.25	
57	37-96	37	96	167	6016.248	0.4	0.00722862	0.75	96.765	90.525	95.365	89.125	1.40	1.40	
58	95-96	95	96	39	6746.544	0.4	0.0068844	0.74	91.185	90.525	89.785	89.125	1.40	1.40	

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4. PROJECT COST ESTIMATION

For estimation of project cost, detailed site survey was carried out. During this survey the existing internal road setup, ground level by surveying method and population distribution was studied. Further, based on the details given in previous sections, detailed sewerage network was design with optimisation minimizing the cost of excavation and reducing the lengths and diameters of pipes. Further, it was ensured to included connectivity to almost every population in the considered village of Gopalpur.

The summary various expenditure heads for the project cost is given in the Table 4. The justification of cost estimation of each of the components in the project are given in the Table 2-5. From the table it can be noted that there are four main components of the project viz. 1) Main Sewerage System costing about Rs. 57.03 Lakh 2) Turnkey cost for connecting the pipes from House to main line is about Rs. 44.12 Lakh 3) Sewage Treatment Plant Cost of Rs. 160.00 Lakh 4) Reconstruction of Cement Loads Rs. 67.76 Lakh. Total Cost of project is Rs. 328.92 Lakh.

Table 4: Summary of Expenditure of Project

Sr. No.	Expenditure Head	Cost	Justification
1.	Excavation Cost for Main Pipes	18,06,343	Details are given Table 5
2.	Manhole Cost	4,52,073	
3.	Main Pipe Cost	18,39,756	
4.	Main Pipe Laying cost	5,70,779	
5.	PCC Cost	10,34,341	
6.	Trunkey Cost for connecting pipes from House to main line	44,12,500	Details are given in following sections
7.	Sewage Treatment Plant	160,00,000	Details are given in following sections
8.	Reconstruction of Cement Roads	67,76,514	Details are given in following sections
	Total	3,28,92,304	


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Dept. of Civil. Engg.
C.O.E. Pandharpur

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Main Sewerage System Cost

Based on the design calculation, quantities of excavation, Main Pipes, Manhole, main pipe laying cost and PCC cost are estimated as shown in Table 4. Based on these estimated quantities and rates of materials and services given in the DSR of Maharashtra Jeevan Pradhikaran the project costs are estimated.

Trunkey Cost for connecting pipes from House to main line

For the 1765 houses considered during design, 5 m length was considered for connecting the sewer line to the individual houses. For the 150 mm diameters pipes, the cost of excavation was considered was about Rs. 120 per meter, pipe laying cost of Rs. 80 per meter and the cost of pipe Rs. 300 per meter.

$$\text{Total Cost} = 1765 \times 5\text{m} \times (120+80+300) = \text{Rs. } 4412500.00$$

Sewage Treatment Plant

Sewage treatment plant are considered to be designed for the average sewage flow. Average sewage flow is about 1600 m³/day. It was proposed to design Four plants of 400 m³/day capacity. Each plant costs around Rs. 40,00,000/- which includes Electromechanical work, interconnecting piping, erecting and commissioning, Civil Work and Training.

Reconstruction of Cement Roads

During installation of sewerage system, it is observed that about 60 % existing roads will get damaged. Therefore, it was decided to include the reconstruction of cement cost. Total Length of the sewerage line is 3746m. This road is assumed to be constructed using 15 mm of WBM and 15mm of PCC with width of 9m. The PCC cost is about Rs. 5000/ per meter whereas WBM cost is about Rs. 1600/ meter. The testing cost will be about Rs. 100/meter.

$$\begin{aligned} \text{Total cost} &= 0.6 \times 3746 \times 0.15 \times 3 \times (\text{Rs. } 5000 + \text{Rs. } 1600 + \text{Rs. } 100) \\ &= \text{Rs. } 67,76,514/- \end{aligned}$$


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Table 5: Manhole to Manhole Cost Analysis

SR No.	Sewer No	From MH no.	To MH no.	Length (m)	Quantity of Excavation	Excavation Cost Rs. 454 per hard murum	Manhole Cost	Pipe Dia (mm)	Pipe Prize	Pipe Cost	Laying prize per pipe	Pipe laying up cost	PCC Quantity 10cm thick	PCC Cost Rs. 4079/cum
1	90-89	90	89	35.1	28.52	12,947.51	6558	250	435	15268.5	139	4878.9	2.28	9,306.24
2	91-84	91	84	31.2	15.21	6,905.34	5302	250	435	13572	139	4336.8	2.03	8,272.21
3	92-82	92	82	34.9	22.69	10,298.99	6558	250	435	15181.5	139	4851.1	2.27	9,253.21
4	93-80	93	80	38.4	31.20	14,164.80	6558	250	435	16704	139	5337.6	2.50	10,181.18
5	89-88	89	88	73.4	59.64	27,075.43	6558	250	435	31929	139	10202.6	4.77	19,460.91
6	87-86	87	86	72.4	58.83	26,706.55	6558	250	435	31494	139	10063.6	4.71	19,195.77
7	84-82	84	82	40.4	19.70	8,941.53	5302	250	435	17574	139	5615.6	2.63	10,711.45
8	82-80	82	80	50	40.73	18,490.55	8302	250	435	21750	139	6950	3.25	13,256.75
9	80-79	80	79	44.2	43.21	19,618.21	8302	250	435	19227	139	6143.8	2.87	11,718.97
10	14-79	14	79	42	34.13	15,492.75	8302	250	435	18270	139	5838	2.73	11,135.67
11	79-78	79	78	35.1	27.65	12,555.35	8302	250	435	15268.5	139	4878.9	2.28	9,306.24
12	88-86	88	86	32.5	26.41	11,988.44	5302	250	435	14137.5	139	4517.5	2.11	8,616.89
13	86-78	86	78	80.5	84.27	38,257.27	8302	250	435	35017.5	139	11189.5	5.23	21,343.37
14	13-78	13	78	86	69.88	31,723.25	5302	250	435	37410	139	11954	5.59	22,801.61
15	78-77	78	77	35	46.17	20,959.99	11529	250	435	15225	139	4865	2.28	9,279.73
16	12-77	12	77	94	76.38	34,674.25	5302	250	435	40890	139	13066	6.11	24,922.69
17	77-75	76	75	20.2	31.31	14,214.41	11529	300	556	11231.2	168	3393.6	1.41	5,767.71
18	10-75	10	75	110.5	89.78	40,760.69	5302	250	435	48067.5	139	15359.5	7.18	29,297.42
19	75-70	75	70	27	45.43	20,623.10	11529	300	556	15012	168	4536	1.89	7,709.31
20	9-70	9	70	106.5	86.53	39,285.19	5302	250	435	46327.5	139	14803.5	6.92	28,236.88
21	7-67	7	67	108	87.75	39,838.50	5302	250	435	46980	139	15012	7.02	28,634.58
22	70-67	70	67	29.4	54.84	24,899.16	13029	300	556	16346.4	168	4939.2	2.06	8,394.58
23	67-54	67	54	102	245.29	1,11,362.38	13029	350	599	61098	172	17544	7.65	31,204.35
24	71-56	71	56	87	72.31	32,829.22	5302	250	435	37845	139	12093	5.66	23,066.75
25	53-52	53	52	28	22.75	10,328.50	5302	250	435	12180	139	3892	1.82	7,423.78
26	52-51	52	51	16.5	13.41	6,086.44	5302	250	435	7177.5	139	2293.5	1.07	4,374.73
27	2-49	2	49	72	58.50	26,559.00	5302	250	435	31320	139	10008	4.68	19,089.72
28	49-51	49	51	30	30.04	13,638.11	5302	250	435	13050	139	4170	1.95	7,954.05
29	51-54	51	54	24.5	28.75	13,051.33	8302	250	435	10657.5	139	3405.5	1.59	6,495.81
30	54-56	54	56	53	132.56	60,180.20	11637	350	599	31747	172	9116	3.98	16,214.03
31	56-58	56	58	29	60.21	27,333.22	11637	400	760	22040	219	6351	2.32	9,463.28
32	58-59	58	59	21	26.35	11,961.60	11637	400	760	15960	219	4599	1.68	6,852.72
33	59-47	59	47	41	45.92	20,847.68	11637	400	760	31160	219	8979	3.28	13,379.12
34	47-47A95	47	47A95	127	142.24	64,576.96	11637	400	760	96520	219	27813	10.16	41,442.64
35	47A95-95	47A95	95	38.3	42.90	19,474.78	11637	400	760	29108	219	8387.7	3.06	12,498.06
36	30-36	30	36	107.5	87.34	39,654.06	5302	250	435	46762.5	139	14942.5	6.99	28,502.01
37	36-46A	36	46A	33.8	34.36	15,599.65	5302	250	435	14703	139	4698.2	2.20	8,961.56
38	46A-46	46A	46	104	147.43	66,932.84	5302	250	435	45240	139	14456	6.76	27,574.04
39	46-45	46	45	28.5	63.01	28,604.45	11302	250	435	12397.5	139	3961.5	1.85	7,556.35
40	29-45	29	45	97	78.81	35,780.88	5302	250	435	42195	139	13483	6.31	25,718.10
41	28-25	28	25	81	72.06	32,714.14	5302	250	435	35235	139	11259	5.27	21,475.94
42	27-23	27	23	71	57.69	26,190.13	5302	250	435	30885	139	9869	4.62	18,824.59
43	42-41	42	41	76	61.75	28,034.50	5302	250	435	33060	139	10564	4.94	20,150.26
44	45-40	45	40	97.4	209.37	95,054.92	11902	250	435	42369	139	13538.6	6.33	25,824.15
45	26-25	26	25	24.5	21.42	9,724.27	5302	250	435	10657.5	139	3405.5	1.59	6,495.81
46	25-23	25	23	34	31.15	14,142.38	6402	250	435	14790	139	4726	2.21	9,014.59
47	23A-17	23A	17	161.5	131.22	59,573.31	6402	250	435	70252.5	139	22448.5	10.50	42,819.30
48	41A-39	41A	39	165.5	134.47	61,048.81	5302	250	435	71992.5	139	23004.5	10.76	43,879.84
49	23-41	23	41	34	25.60	11,621.59	6402	250	435	14790	139	4726	2.21	9,014.59
50	41-40	41	40	33	26.81	12,172.88	6402	250	435	14355	139	4587	2.15	8,749.46
51	40-38	40	38	141	266.08	1,20,799.15	13029	300	556	78396	168	23688	9.87	40,259.73
52	17-39	17	39	34	27.63	12,541.75	6402	250	435	14790	139	4726	2.21	9,014.59
53	39-38	39	38	26.4	21.45	9,738.30	6402	250	435	11484	139	3669.6	1.72	6,999.56
54	38-37	38	37	49.5	50.12	22,753.91	11637	350	599	29650.5	172	8514	3.71	15,143.29
55	7A-1	7A	1	154.7	125.69	57,064.96	6402	250	435	67294.5	139	21503.3	10.06	41,016.38
56	1-37	1	37	90	73.13	33,198.75	6402	250	435	39150	139	12510	5.85	23,862.15
57	37-96	37	96	167	187.04	84,916.16	11637	400	760	126920	219	36573	13.36	54,495.44
58	95-96	95	96	39	43.68	19,830.72	11637	400	760	29640	219	8541	3.12	12,726.48

Total 18,06,343.18 452073 1839755.6 570778.6 10,34,340.58

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