



# AISSMS

## COLLEGE OF ENGINEERING

ज्ञानम् सकलजनहिताय

(Accredited by NAAC with grade A+)



6

### 360<sup>0</sup> PBAS PROFORMA

### AY 2022- 2023 (Term I)

Full Name	Dr. Prachi P. Vast
Educational Qualifications	Ph.D(Electronics), M.Tech (Control System)
Present Designation	Assistant Professor
Grade Pay	6000
Teaching Process	

### PART A

#### A. Teaching Process (Max. Points: 25)

#### 1) Lectures, Practical's, Tutorials, Projects, Seminars Contact Hours (Max.Score: 50)

Sr No	Semester / Year	Course Code /Name	No. of Scheduled Classes	No. of actually held Classes	API Score		
					Faculty	HOD	Principal
1	1/2022-23	Microcontroller-Theory	43	43	50	50	
2	1/2022-23	Microcontroller-Pract.	74	74	50	50	
3	1/2022-23	Skill Development	16	16	50	50	
4	1/2022-23	Project	12	12	50	50	
<b>Total</b>					<b>50</b>	50	50

\* Lecture (L), Seminar (S), Tutorial (T), Practical (P), Contact Hours (C)

2) Completion of Course File (Max. Score: 20)

SN	Course / Paper	Titles as per index (As per defined index of course file)	Details (Yes/No)	API Score		
				Faculty	HOD	Principal
1	Microcontroller	Notes, Study Material	Yes	2	2	
		Use of Reference book	Yes	2	2	
		Question Bank and Model Answer and Unit Test / Assignment Record	Yes	2	2	
		Use of ICT	Yes	2	2	
		Course Activity details	Yes	2	2	
		CO PO Mapping with justification	Yes	2	2	
		Individual faculty contribution	Yes	2	2	
		Insem/Unit Test with CO mapping	Yes	2	2	
		CO Attainment Calculation and CO PO Attainment report	Yes	2	2	
		Content beyond syllabus	Yes	2	2	
<b>Total</b>				<b>20</b>	<b>20</b>	<b>20</b>

3) Use of participatory and innovative teaching-learning methodologies; updating of subject content, course improvement etc. (Max. Score: 10)

Course Code /Name/s	Title No	Details of Resources Utilized / Provided to the Students	API Score		
			Faculty	HOD	Principal
Microcontroller	3	50:10 Module	2	0	0

		Conceptual videos	2	2	
		Learning Management System	2	2	
<b>Total Score (Max. 10)</b>			6	4	4

4) Result Analysis (Max. Score: 10)

Sr No	Semester / Year	Course Code / Course Name (Class)	Result %	API Score		
				Faculty	HOD	Principal
1	1/2022-23	Microcontroller	62.33	6.2	6.2	
2						
<b>Total Average Score (Max. 10)</b>				10	6.2	6.2

5) Project (Max. Score: 10)

Sr No	Project	API Score		
		Faculty	HOD	Principal
1	Project apart from curriculum			
2	Industrial collaboration/ Sponsorship (Max Marks 5)			
3	External funding (Max Marks 5)			
4	Award (Max Marks 5)			
5	Project outcome in terms of Students participation in event /Students' publication. (Max Marks 5)	5		
<b>Total</b>			5	5

Teaching Process Points $\text{Total Points} = \frac{\text{Total Score out of 100} \times 25}{100}$		Points		
		Faculty	HOD	Principal
Total Score out of 100 = (A1+A2+A3+A4+A5)	Total Points out of 25	23	21.9	21.9

### B. Students' Feedback (Max. Score: 10)

Sr No	Course Code /Name		Average Student feedback on the scale of 10			API Score		
			Mid-Sem	End-Sem	Average	Faculty	HOD	Principal
1	Microcontroller	Practical	8.7	8.8	8.75	8.75	8.75	
2	Microcontroller	Theory	8.6	8.8	8.7	8.7	8.7	
3	SD	Practical	8.5	8.8	8.65	8.65	8.65	
<b>Total</b>						8.7	8.7	8.7

### C. Departmental Activities (Max. Score: 20)

Sr No	Activity	Nature of Activity	API Score		
			Faculty	HOD	Principal
1	PG Lab In Charge	Lab In Charge	2	2	2
2	Mentor		3	3	3
3	Organising guest lecture		3	3	3
4	Signing MOU with Industry		5	5	5
5	EFY SDC in charge		2	2	2

6	NAAC Criteria 3 coordinator		2	2	2
7	NBA Criteria 3 coordinator		2	2	2
8	ET Coordinator (Time table Coordinator)	Drone	2	2	2
<b>Total</b>			<b>20</b>	<b>20</b>	<b>20</b>

#### Institute Level Activities (Max. Score: 10)

Sr No	Institute Level Activity Description	Nature of Activity	API Score		
			Faculty	HOD	Principal
1	Membership in professional bodies		5	5	
2	College Autonomy committee		2	2	
3					
4					
5					
<b>Total</b>			<b>7</b>	<b>7</b>	<b>7</b>

#### D. ACR maintained at Institute level (Max. Score: 25)

Sr No	Description	API Score		
		Faculty	HOD	Principal
1	Self-motivation • List the activities or initiatives other than regular load/duties.	5	3 <sup>02</sup>	
2	Target based work • List the tasks allotted to you. Timely completion of allotted work – To be observed by HOD	5	3 <sup>02</sup>	
3	Punctuality • Number of late marks – Office report. • Punctuality in lecture/practical – To be observed by HOD. • Timely completion and weekly checking of daily report – To be observed by HOD. Number of absentee without intimation and/or load adjustment – To be observed by HOD/GFM	5	3 <sup>02</sup>	

4	Effectiveness Work done without errors & least follow-up – To be observed by HOD	5	32	
5	Obedience To be observed by HOD and Principal	5	32	
	<b>Total Score</b>	25	15	

10

**E. Contribution to Society (Social Activities) (Max. Score: 10)**

Sr No	Activity Description	Nature of Activity	API Score		
			Faculty	HOD	Principal
1					
2					
<b>Total</b>				0	0

## PART B

### RESEARCH AND ACADEMIC CONTRIBUTIONS

(Enclose all the relevant documents)

#### 1. Published Papers in Journals

Sr No	Title with page Nos.	Journal details	ISSN/ISBN No.	Indexing Scopus/ SCI/ SCIE/ UGC	API Score		
					Faculty	HOD	Principal
1	Network Security in Cloud and Big Data Computing using AI	Computer Integrated Manufacturing Systems	1006-5911	Scopus	6	6	5
2	Observation of an Uncertainty Estimation in Deep Learning	Neuro Quantology	1303-5150	Scopus	6	6	6
1	Smart Mining Safety System	Wesleyan Journal of Research	0975-1386	UGC	4.5	4.5	4.5
2	Pothole Detection Using Image Processing	Wesleyan Journal of Research	0975-1386	UGC	4.5	4.5	4.5
<b>Total</b>					<b>21</b>	<b>21</b>	<b>21</b>

#### 2. Articles / Chapters published in Books

Sr No	Title with page Nos.	Book Title, editor & publisher	ISSN/ISBN No.	Type of Publisher	No of co-authors	Whether you are the first author	API Score		
							Faculty	HOD	Principal
1									
<b>Total</b>									

#### 3. Creation of ICT mediated Teaching Learning pedagogy and content and development of new and innovative course and curricula.

Sr	Title of	Short	Type of	No. of	API Score

No	Development of Innovative pedagogy	Description/ Contribution	Pedagogy/ Modules/ E- content/ uploaded link	Quadrants	Faculty	HOD	Principal
1							
<b>Total</b>						0	0

4. (a) Research Guidance

Sr No	Degree / Class	Name of Student/s	Thesis Submitted / Degree awarded (with date)	API Score		
				Faculty	HOD	Principal
1	ME/PhD					
<b>Total</b>					0	0

4. (b), (c) & (d) Ongoing and Completed Research Projects/ Consultancy Projects.

Sr No	Title of Research Project	Funding Agency	Date of Sanction	Grant/A mount Mobilized (Rs. Lakhs)	Whether you are the PI/Co-PI/Consultant	Status Ongoing/	API Score		
							Faculty	HOD	Principal
1									
<b>Total</b>								0	0

5. (a) IPR (Patent/ Copyrights/ Design/ Trademarks)

Sr No	Title	National / International	Date of Filing	Status: Published/ Granted as on date	Patent file No.	API Score		
						Faculty	HOD	Principal
1								
<b>Total</b>							0	0

(b) Policy Documents



Sr No	Title	Funding Agency(National / International)	Date of Submission / approval	Policy documents prepare for international bodies like IMF/UNO/UNESCO/world Bank etc. Central/StateGovt. Bodies (name of thebodies)	API Score		
					Faculty	HOD	Principal
1							
<b>Total</b>						0	0

5. (c) Awards/Fellowships

Sr No	Title of the Fellowships/Awards	Date of award	Awarding Agency	Whether level International/ National	API Score		
					Faculty	HOD	Principal
1							
<b>Total</b>						0	0

6. Invited Lectures/ Resource Person

Sr No	Title / Academic Session with date	Lecture/Resource Person/Paper presentation /full paper in Conference Proceedings	Agency	Level (International (Abroad) / International (within country)/ National/State/ University)	API Score		
					Faculty	HOD	Principal
1	Faculty Orientation workshop on BE E&TC revised syllabus of Embedded System and RTOS	Resource Person	Dept. of E&TC Engineering, STES, Sinhgad Institute of Technology, Lonavala, Pune	University	2	2	2
<b>Total</b>							

Paper presentation in Seminars/ Conferences/full paper in Conference Proceedings (*Paper presented in Seminars/Conferences and also published as full paper in Conference Proceedings will be counted only once*).

SN	Title of the paper presented	Title of Conference / Seminar	Organized by	Whether international /National/State /Regional/College or University level	API Score		
					Faculty	HOD	Principal
<b>Total</b>						0	

	API Score		
	Faculty	HOD	Principal
Total score (Resource Person)	2	2	
Total Score (Paper Presentation)		21	
<b>Total Score</b>		<b>23</b>	23

7. Others

(a) Submitted research proposal through Principal(2 Marks per proposal)

Sr No	Title of proposal	Duration	Funding Agency	Grant Amount request	API Score		
					Faculty	HOD	Principal
1							
<b>Total</b>						0	0

(b) Product developed and used by students in lab / commercialized (10 marks per product)

Sr No	Details of product	Used by students in lab / commercialized	API Score		
			Faculty	HOD	Principal

1					
<b>Total</b>					

**(c) Attended FDP of one Week duration or more (3 Marks per FDP)**

Sr No	Title of FDP	Duration (In Week/s)	Organising Agency	API Score		
				Faculty	HOD	Principal
1	Amazon Web Services	1	AISSMS college of engineering, Pune	3	3	3
2	Faculty Orientation workshop on BE E&TC revised syllabus of Embedded System and RTOS		Dept. of E&TC Engineering, STES, Sinhgad Institute of Technology, Lonavala, Pune	3	3	3
3	Faculty Orientation workshop on BE E&TC revised syllabus of Innovation and Entrepreneurship		D Y Patil Institute of Technology, Pimpri	3	3	3
4	Faculty Orientation workshop on BE E&TC revised syllabus of Smart Antennas		Imperial College of Engineering & Research, Wagholi	3	3	3
<b>Total</b>				<b>12</b>	<b>3</b>	<b>3</b>

**(d) NPTEL Certification**

Sr No	NPTEL Certification	Duration (In Weeks)	API Score		
			Faculty	HOD	Principal
1					
<b>Total</b>					

**(e) Industrial Training**

Sr	Name of Company/	Duration	Nature of Training	API Score
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No	Industry/ etc	(In Weeks)		Faculty	HOD	Principal
1						
<b>Total</b>						

(f) QIP grant received

Sr No	Programme	Duration	Funding Agency	Grant Amount	API Score		
					Faculty	HOD	Principal
1							
<b>Total</b>							

(g) Submitted QIP proposal through Principal

Sr No	Programme	Duration	Funding Agency	Grant Amount	API Score		
					Faculty	HOD	Principal
1							
<b>Total</b>							

(h) BOS Member of other Institute / University

Sr No	Name of University / Institute	Name of Board	Contribution	API Score		
				Faculty	HOD	Principal
1						
<b>Total</b>						

(i) Any other research and academic credential not mentioned above

Sr	Details of credential	API Score
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No		Faculty	HOD	Principal
1	Recognition as a Ph.D. Research Guide	5	5	
<b>Total</b>		5	5	

**SUMMARY OF API SCORES FOR ASSESSMENT PERIOD (AY 20\_\_-20\_\_) Sem. (I/ II)**

Sr No	Criteria	Maximum Score	Minimum Score	Points		
				Faculty	HOD	Principal
<b>A</b>	<b>360° Feedback</b>					
a	Teaching Process	25	70 %	23	21.3	
b	Students' Feedback	10		8.7	8.7	
c	Departmental Activities	20		20	20	
d	Institute Activity	10		7	7	
e	ACR	25		25	10	
f	Contribution to Society	10		00	0	
<b>Total</b>		<b>100</b>	<b>70</b>	<b>84</b>	<del>67</del> 67	
<b>B</b>	<b>Research and Academic Contribution (1 to 7)</b>	No Upper Limit	As per following table	40	28	26
<b>Grand Total (A+B)</b>				<b>124</b>	<del>98</del> 98	98

93 June

		Assistant Professor	Assistant Professor (Senior Scale)	Assistant Professor (Selection Grade)	Associate Professor	Professor
<b>B</b>	<b>Research and Academic</b>	15/Year	18 /Year	20 /Year	25 /Year	30 /Year

	Contribution					
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### SEMESTER SUMMARY

A	Total (max. Point 100)	84	72	72	<del>72</del> 67
	Total on 10 point Scale	8.4	7.2	7.2	<del>7.2</del> 6.7
B	Research and Academic Contribution	40	26	26	<del>26</del> 26

### ANNUAL SUMMARY

AY 2022 - 2023

Sr No	360° Feedback		360° Feedback / Year	Research and Academic Contribution		Research and Academic Contribution / Year
	Sem I	Sem II		Sem I	Sem II	
1	84	67	Average of both Sem	40	26	

~~72~~ 67

~~26~~ 26


#### List of enclosures:

1. Certificate as a Resource Person for subject Embedded System and RTOS
2. Certificate of attended Faculty orientation workshop for subject Embedded System and RTOS
3. Certificate of attended Faculty orientation workshop for subject Innovation and Innovation and Entrepreneurship
4. Certificate of attended Faculty orientation workshop for subject Smart Antenna
5. Certificate of paper published on Smart Mining Safety System.
6. Certificate of paper published on Pothole Detection Using Image Processing.


#### Undertaking

I certify that the information provided in the form is correct to the best of my knowledge and belief and claims made by me in Part B of proforma are supported by enclosing necessary documents issued by respective authorities. Also, all the supporting documents for the claims

made in part A and part B of proforma enclosed in course file (part B) as per the defined index and verified by Head of department.


Signature:	
Name of Faculty:	Dr. P. P. Vast
Designation:	Asst. Professor
Date & Place:	29/03/2023

Remarks of HoD: I have verified and evaluated the information mentioned in the form along with required enclosures.

Signature:	
Name of HoD:	Dr. S. B. Phonde

\* Result is not satisfactory need to improve it.  
 \* contribution in social activity is missing.  
 \* participation in NPTEL industrial training  
 \* Effort required for research proposal/ATP/funding projects

Date: 12/4/23

  
Signature of Principal

**Instructions:**

1. Activity which falls in **1 July to 31 December** to be counted in the first semester and activity which falls in **1 January to 30 June** to be counted in the second semester of the academic year.
2. Similar or overlapping activities to be claimed only once.
3. Result analysis details and marks (max. 10) to be updated in the form after declaration of results.
4. Photo copy of Course file (Part A and Part B) index signed by Head of department to be enclosed with PBAS proforma.
5. Individual level faculty contribution and activities organized related details to be mentioned in annual report and supporting documents for the same to be uploaded on google folders shared by the respective department.
6. Supporting documents issued by respective authorities to be enclosed for the information provided in the Part B of PBAS proforma.
7. All the supporting documents for the claims made in part A and part B of PBAS proforma are to be enclosed in course file (Part B) as per the defined index and to be verified by Head of department.



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## TEACHING PLAN (TP)

**NAME OF FACULTY :** Dr. PRACHI PRASHANT VAST,  
**COURSE AND CODE :** Electronics and Telecommunication  
Engineering-ETC  
**SEMESTER :** SEMESTER 5

**SUBJECT NAME:** Microcontrollers-MC  
**SUBJECT CODE :** 304184  
**DIVISION :** A

Lect No.	Contents to be Covered	Content Delivery Methods(CDM) used	COs Mapping to the Contents	Proposed Date	Conducted Date	Remarks
1	Difference between microprocessor and microcontroller Introduction to the Microcontroller classification,	Lecture with interaction	CO1	18/07/2022	18/07/2022	
2	Feature and block diagram of 8051 and explanation, Program Status Word (PSW), 8051	Lecture with interaction	CO1	20/07/2022	20/07/2022	
3	Overview of Instruction set, memory organization,	Lecture with interaction	CO1	21/07/2022	21/07/2022	
4	Interrupt structure, timers and its modes	Lecture with interaction	CO1	25/07/2022	27/07/2022	
5	Serial communication: concept of baud rate, Data transmission and reception using Serial port	Lecture with interaction	CO1	27/07/2022	28/07/2022	
6	Sample programs of data transfer, Delay using Timer (0&1) and interrupt	Lecture with interaction	CO1	28/07/2022	01/08/2022	
7	Data transmission and reception using Serial port.	Lecture with interaction	CO1	01/08/2022	03/08/2022	
8	I/O Port Programming	Lecture with interaction	CO1	03/08/2022	04/08/2022	
9	Programming	Lecture with interaction	CO1	01/08/2022	08/08/2022	
10	Programming	Lecture with interaction	CO1	03/08/2022	12/08/2022	
11	Programming	Lecture with interaction	CO1	04/08/2022	11/08/2022	
12	I/O Port Programming	Lecture with interaction	CO1	17/08/2022	17/08/2022	
13	I/O Port Programming	Lecture with interaction	CO1	18/08/2022	18/08/2022	
14	Pin diagram and its functioning Port structure, I/O Port Programming	Lecture with interaction	CO2	22/08/2022	22/08/2022	
15	I/O Interfacing LEDES	Lecture with interaction	CO2	24/08/2022	22/08/2022	
16	Keys	Lecture with interaction	CO2	25/08/2022	25/08/2022	
17	7-segment multiplexed display	Lecture with interaction	CO2	29/08/2022	26/08/2022	
18	DAC 0808	Lecture with interaction	CO2	31/08/2022	29/08/2022	
19	ADC 0809	Lecture with interaction	CO2	01/09/2022	29/08/2022	
20	Stepper motor, Relay	Lecture with interaction	CO2	05/09/2022	29/08/2022	
21	Buzzer, Opto-isolators	Lecture with interaction	CO2	06/09/2022	29/08/2022	



Lect No.	Contents to be Covered	Content Delivery Methods(CDM) used	COs Mapping to the Contents	Proposed Date	Conducted Date	Remarks
22	Comparison of PIC family, Criteria for Choosing Microcontroller	Lecture with interaction	CO3	07/09/2022	07/09/2022	
23	features, PIC18FXXXX architecture with generalized block diagram	Lecture with interaction	CO3	12/09/2022	08/09/2022	
24	MCU, Program and Data memory organization, Bank selection using Bank Select Register,	Lecture with interaction	CO3	14/09/2022	12/09/2022	
25	Pin out diagram, Reset operations	Lecture with interaction	CO3	15/09/2022	14/09/2022	
26	Watch Dog Timers, Configuration registers and oscillator options (CONFIG)	Lecture with interaction	CO3	19/09/2022	15/09/2022	
27	Power down modes, Overview of instruction set.	Lecture with interaction	CO3	21/09/2022	19/09/2022	
28	Brief Summary of peripheral support, Timers and its Programing (mode 0 &1),	Lecture with interaction	CO4	22/09/2022	21/09/2022	
29	Interrupt Structure of PIC18FXXXX with SFR, PORTB change Interrupts	Lecture with interaction	CO4	26/09/2022	22/09/2022	
30	use of timers with interrupts, CCP modes: Capture	Lecture with interaction	CO4	28/09/2022	26/09/2022	
31	Compare and PWM generation	Lecture with interaction	CO4	29/09/2022	28/09/2022	
32	DC Motor speed control with CCP, Block diagram of in-built ADC with Control registers	Lecture with interaction	CO4	03/10/2022	29/09/2022	
33	Sensor interfacing using ADC: All programs in embedded C.	Lecture with interaction	CO4	12/10/2022	13/10/2022	
34	Port structure with programming, Interfacing of LED	Lecture with interaction	CO5	13/10/2022	31/10/2022	
35	LCD and Key board, Motion Detectors	Lecture with interaction	CO5	17/10/2022	02/11/2022	
36	Gas sensors, IR sensors	Lecture with interaction	CO5	19/10/2022	03/11/2022	
37	Design of PIC test Board and debugging	Lecture with interaction	CO5	20/10/2022	07/11/2022	
38	Study of RS232	Lecture with interaction	CO6	24/10/2022	07/11/2022	
39	RS 485, I2C	Lecture with interaction	CO6	26/10/2022	07/11/2022	
40	SPI, MSSP structure (SPI & I2C),	Lecture with interaction	CO6	27/10/2022	09/11/2022	
41	USART (Receiver and Transmitter)	Lecture with interaction	CO6	31/10/2022	09/11/2022	
42	interfacing of RTC (DS1307) with I2C and EEPROM with SPI	Lecture with interaction	CO6	02/11/2022	10/11/2022	
43	Design of Traffic Light Controller	Lecture with interaction	CO6	03/11/2022	10/11/2022	

FACULTY : Dr. PRACHI PRASHANT VAST, HOD : Dr. SOMNATH BABARAO DHONDE

ACADEMIC COORDINATOR :



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## PRACTICAL PLAN REPORT

Academic Year: 2022-2023

Faculty: Dr. PRACHI PRASHANT VAST,

Course & Code: Electronics and Telecommunication Engineering (ETC)

Batch: A

Subject Code: Microcontrollers (304184)

Semester: SEMESTER 5

Sr.No	Name Of Experiment/Assignment /Sheet/Job/Project Activity	Date Of Performance Planned	Date Of Completion	Remarks
1	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	18/07/2022	25/07/2022	
2	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	01/08/2022	11/08/2022	
3	Interfacing of Multiplexed 7-segment display	08/08/2022	18/08/2022	
4	Simple programs on Memory transfer.	22/08/2022	08/09/2022	
5	Write a program for interfacing button, LED, relay & buzzer.	29/08/2022	14/09/2022	
6	Interfacing of LCD to PIC 18FXXXX.	12/09/2022	21/09/2022	
7	Generate square wave using timer with interrupt	19/09/2022	02/11/2022	
8	Interfacing serial port with PC both side communication.	26/09/2022	02/11/2022	
9	Generation of PWM signal for DC Motor control.	03/10/2022	09/11/2022	
10	Interfacing of RTC using I2C protocol.	10/10/2022	09/11/2022	

FACULTY NAME: Dr. PRACHI PRASHANT VAST,

HOD NAME: Dr. SOMNATH BABARAO DHONDE ACADEMIC COORDINATOR:



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## PRACTICAL PLAN REPORT

Academic Year: 2022-2023

Faculty: Dr. PRACHI PRASHANT VAST,

Course & Code: Electronics and Telecommunication Engineering (ETC)

Batch: B

Subject Code: Microcontrollers (304184)

Semester: SEMESTER 5

Sr.No	Name Of Experiment/Assignment /Sheet/Job/Project Activity	Date Of Performance Planned	Date Of Completion	Remarks
1	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	18/07/2022	26/07/2022	
2	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	01/08/2022	10/08/2022	
3	Interfacing of Multiplexed 7-segment display	08/08/2022	17/08/2022	
4	Waveform Generation using DAC.	15/08/2022	07/09/2022	
5	Write a program for interfacing button, LED, relay & buzzer.	22/08/2022	15/09/2022	
6	Generate square wave using timer with interrupt.	29/08/2022	19/09/2022	
7	Interfacing of LCD to PIC 18FXXXX.	05/09/2022	26/09/2022	
8	Interfacing serial port with PC both side communication.	19/09/2022	17/10/2022	
9	Generation of PWM signal for DC Motor control.	26/09/2022	31/10/2022	

FACULTY NAME: Dr. PRACHI PRASHANT VAST,

HOD NAME: Dr. SOMNATH BABARAO DHONDE ACADEMIC COORDINATOR:



# AISSMS COLLEGE OF ENGINEERING



ज्ञानम् सकलजनहिताय

Approved by AICTE New Delhi, Recognized by Govt. of Maharashtra,  
Affiliated to Savitribai Phule Pune University and recognized 2(f) and 12(B) by UGC (Id. No. PU/PN/Engg/093(1992))  
Accredited by NAAC with 'A+' Grade

Kennedy Road, Pune 411001, Maharashtra, India. Tel: +91 - 20 - 26058587, 26057660, 26058342 Email: contact@aissmscoe.com, principal@aissmscoe.com  
www.aissmscoe.com

## PRACTICAL PLAN REPORT

Academic Year: 2022-2023

Faculty: Dr. PRACHI PRASHANT VAST,

Course & Code: Electronics and Telecommunication Engineering (ETC)

Batch: C

Subject Code: Microcontrollers (304184)

Semester: SEMESTER 5

Sr.No	Name Of Experiment/Assignment /Sheet/Job/Project Activity	Date Of Performance Planned	Date Of Completion	Remarks
1	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	18/07/2022	28/07/2022	
2	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	01/08/2022	02/08/2022	
3	Interfacing of Multiplexed 7-segment display	08/08/2022	06/09/2022	
4	Waveform Generation using DAC.	15/08/2022	06/09/2022	
5	Write a program for interfacing button, LED, relay & buzzer.	22/08/2022	13/09/2022	
6	Interfacing of LCD to PIC 18FXXXX.	29/08/2022	20/09/2022	
7	Generate square wave using timer with interrupt.	05/09/2022	28/09/2022	
8	Interfacing serial port with PC both side communication.	12/09/2022	29/09/2022	
9	Generation of PWM signal for DC Motor control.	19/09/2022	01/11/2022	

FACULTY NAME: Dr. PRACHI PRASHANT VAST,

HOD NAME: Dr. SOMNATH BABARAO DHONDE ACADEMIC COORDINATOR:



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www.aissmscoe.com

## PRACTICAL PLAN REPORT

**Academic Year:** 2022-2023

**Faculty:** Dr. PRACHI PRASHANT VAST,

**Course & Code:** Electronics and Telecommunication Engineering (ETC)

**Batch:** D

**Subject Code:** Microcontrollers (304184)

**Semester:** SEMESTER 5

Sr.No	Name Of Experiment/Assignment /Sheet/Job/Project Activity	Date Of Performance Planned	Date Of Completion	Remarks
1	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	18/07/2022	28/07/2022	
2	Parallel port interacting of LEDS—Different programs (flashing, Counter, BCD, HEX, Display of Characteristic).	01/08/2022	08/08/2022	
3	Interfacing of Multiplexed 7-segment display	08/08/2022	29/08/2022	
4	Waveform Generation using DAC.	15/08/2022	12/09/2022	
5	Write a program for interfacing button, LED, relay & buzzer.	22/08/2022	22/09/2022	
6	Generate square wave using timer with interrupt.	29/08/2022	27/09/2022	
7	Interfacing of LCD to PIC 18FXXXX.	05/09/2022	14/10/2022	
8	Interfacing serial port with PC both side communication.	12/09/2022	03/11/2022	
9	Generation of PWM signal for DC Motor control.	19/09/2022	03/11/2022	

FACULTY NAME: Dr. PRACHI PRASHANT VAST,

HOD NAME: Dr. SOMNATH BABARAO DHONDE ACADEMIC COORDINATOR:



# AISSMS COLLEGE OF ENGINEERING

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www.aissmscoe.com

## PRACTICAL PLAN REPORT

Academic Year: 2022-2023

Faculty: Dr. PRACHI PRASHANT VAST,

Course & Code: Electronics and Telecommunication Engineering (ETC)

Batch: A

Subject Code: Skill Development (304190)

Semester: SEMESTER 5

Sr.No	Name Of Experiment/Assignment /Sheet/Job/Project Activity	Date Of Performance Planned	Date Of Completion	Remarks
1	Fundamentals of Basic Electronics and interface, if any.	18/07/2022	12/08/2022	
2	Installation and Commissioning of Equipment's	01/08/2022	16/09/2022	
3	Troubleshooting skills in analog circuits, digital circuits, and processors	08/08/2022	23/09/2022	
4	Case study on Automotive Electronics. (Sensors, Clusters, Controls, Semiconductor's devices etc.)	15/08/2022	23/09/2022	
5	Design and Simulate dc-dc boost converter for battery-based applications	22/08/2022	23/09/2022	
6	SMPS Design	22/08/2022	30/09/2022	
7	Industrial Visit (Practical Visit)	29/08/2022	04/11/2022	
8	Documentation/Specification /Manual	12/09/2022	04/11/2022	

FACULTY NAME: Dr. PRACHI PRASHANT VAST,

HOD NAME: Dr. SOMNATH BABARAO DHONDE ACADEMIC COORDINATOR:

MID TERM FEEDBACK TERM I : AY 2021 22

TEACHER - DR. PRACHI PRASHANT VAST

DEPARTMENT - ELECTRONICS AND TELECOMMUNICATION ENGINEERING

TOTAL STUDENTS - 60

ACADEMIC YEAR - 2021-2022

SUBJECT - MICROCONTROLLERS (PRACTICAL)

SEMESTER 5 (A)

DATE - 04/10/2021

TERM - MID TERM

SR NO	QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAGE
1	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	38	13	8	1	0	268	300	89%
2	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	36	13	10	1	0	264	300	88%
3	PACE ON WHICH CONTENTS WERE COVERED	34	16	10	0	0	264	300	88%
4	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	35	15	9	1	0	264	300	88%
5	CLARITY OF EXPECTATIONS OF STUDENTS	37	14	7	2	0	266	300	89%
6	FEEDBACK PROVIDED ON STUDENTS PROGRESS	35	14	10	1	0	263	300	88%
7	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL E-COURSE CONTENT, COMMUNICATION SKILLS AND TEACHING AIDS	34	18	7	1	0	265	300	88%
8	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL PRACTICAL DEMONSTRATION THROUGH V-LAB, VIDEO DEMONSTRATION, YOU TUBE VIDEO	36	15	7	2	0	265	300	88%
9	SUPPORT FROM TEACHER DURING PANDEMIC FOR ADDRESSING STUDENTS ISSUE	36	16	6	1	1	265	300	88%
	<b>TOTAL</b>	<b>321</b>	<b>134</b>	<b>74</b>	<b>10</b>	<b>1</b>	<b>2384</b>	<b>2700</b>	<b>88%</b>
	<b>TOTAL(%)</b>	<b>59%</b>	<b>25%</b>	<b>14%</b>	<b>2%</b>	<b>0%</b>	<b>PERFORMACE INDEX - 88</b>		

**END TERM FEEDBACK TERM I : AY 2021 22**TEACHER - DR. PRACHI PRASHANT  
VASTDEPARTMENT - ELECTRONICS AND TELECOMMUNICATION  
ENGINEERINGTOTAL STUDENTS -  
36

ACADEMIC YEAR - 2021-2022

SUBJECT - MICROCONTROLLERS (PRACTICAL)

SEMESTER 5 (A)

DATE - 09/12/2021

TERM - END TERM

SR NO	QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAGE
1	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	21	10	3	1	1	157	180	87%
2	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	22	10	2	1	1	159	180	88%
3	PACE ON WHICH CONTENTS WERE COVERED	20	10	4	1	1	155	180	86%
4	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	24	9	1	1	1	162	180	90%
5	CLARITY OF EXPECTATIONS OF STUDENTS	20	10	4	1	1	155	180	86%
6	FEEDBACK PROVIDED ON STUDENTS PROGRESS	24	8	2	1	1	161	180	89%
7	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL E-COURSE CONTENT, COMMUNICATION SKILLS AND TEACHING AIDS	21	10	3	1	1	157	180	87%
8	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL PRACTICAL DEMONSTRATION THROUGH V-LAB, VIDEO DEMONSTRATION, YOU TUBE VIDEO	24	9	1	1	1	162	180	90%
9	SUPPORT FROM TEACHER DURING PANDEMIC FOR ADDRESSING STUDENTS ISSUE	22	10	2	1	1	159	180	88%
	<b>TOTAL</b>	<b>198</b>	<b>86</b>	<b>22</b>	<b>9</b>	<b>9</b>	<b>1427</b>	<b>1620</b>	<b>88%</b>
	<b>TOTAL(%)</b>	<b>61%</b>	<b>27%</b>	<b>7%</b>	<b>3%</b>	<b>3%</b>	<b>PERFORMACE INDEX - 88</b>		



MID TERM FEEDBACK TERM I : AY 2021 22TEACHER - DR. PRACHI PRASHANT  
VASTDEPARTMENT - ELECTRONICS AND TELECOMMUNICATION  
ENGINEERINGTOTAL STUDENTS -  
60

ACADEMIC YEAR - 2021-2022

SUBJECT - MICROCONTROLLERS (THEORETICAL)

SEMESTER 5 (A)

DATE - 04/10/2021

TERM - MID TERM

SR NO	QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAGE
1	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	36	17	7	0	0	269	300	90%
2	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	28	22	9	1	0	257	300	86%
3	PACE ON WHICH CONTENTS WERE COVERED	34	17	9	0	0	265	300	88%
4	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	32	17	8	3	0	258	300	86%
5	CLARITY OF EXPECTATIONS OF STUDENTS	35	13	11	1	0	262	300	87%
6	FEEDBACK PROVIDED ON STUDENTS PROGRESS	34	15	10	1	0	262	300	87%
7	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL E-COURSE CONTENT, COMMUNICATION SKILLS AND TEACHING AIDS	34	15	11	0	0	263	300	88%
8	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL PRACTICAL DEMONSTRATION THROUGH V-LAB, VIDEO DEMONSTRATION, YOU TUBE VIDEO	36	14	8	2	0	264	300	88%
9	SUPPORT FROM TEACHER DURING PANDEMIC FOR ADDRESSING STUDENTS ISSUE	36	12	11	1	0	263	300	88%
	<b>TOTAL</b>	<b>305</b>	<b>142</b>	<b>84</b>	<b>9</b>	<b>0</b>	<b>2363</b>	<b>2700</b>	<b>88%</b>
	<b>TOTAL(%)</b>	<b>56%</b>	<b>26%</b>	<b>16%</b>	<b>2%</b>	<b>0%</b>	<b>PERFORMACE INDEX - 88</b>		

END TERM FEEDBACK TERM I : AY 2021 22TEACHER - DR. PRACHI PRASHANT  
VASTDEPARTMENT - ELECTRONICS AND TELECOMMUNICATION  
ENGINEERINGTOTAL STUDENTS -  
37

ACADEMIC YEAR - 2021-2022

SUBJECT - MICROCONTROLLERS (THEORETICAL)

SEMESTER 5 (A)

DATE - 09/12/2021

TERM - END TERM

SR NO	QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAGE
1	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	25	8	2	1	1	166	185	90%
2	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	23	8	4	1	1	162	185	88%
3	PACE ON WHICH CONTENTS WERE COVERED	22	11	2	1	1	163	185	88%
4	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	27	7	1	1	1	169	185	91%
5	CLARITY OF EXPECTATIONS OF STUDENTS	24	9	2	1	1	165	185	89%
6	FEEDBACK PROVIDED ON STUDENTS PROGRESS	24	9	2	1	1	165	185	89%
7	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL E-COURSE CONTENT, COMMUNICATION SKILLS AND TEACHING AIDS	24	9	2	1	1	165	185	89%
8	SUPPORT FOR THE DEVELOPMENT OF STUDENTS SKILL PRACTICAL DEMONSTRATION THROUGH V-LAB, VIDEO DEMONSTRATION, YOU TUBE VIDEO	24	9	2	1	1	165	185	89%
9	SUPPORT FROM TEACHER DURING PANDEMIC FOR ADDRESSING STUDENTS ISSUE	25	8	2	1	1	166	185	90%
	<b>TOTAL</b>	<b>218</b>	<b>78</b>	<b>19</b>	<b>9</b>	<b>9</b>	<b>1486</b>	<b>1665</b>	<b>89%</b>
	<b>TOTAL(%)</b>	<b>65%</b>	<b>23%</b>	<b>6%</b>	<b>3%</b>	<b>3%</b>	<b>PERFORMACE INDEX - 89</b>		



Sinhgad Institutes

### Faculty Orientation Workshop

On

B. E. (E&TC) Revised Syllabus 2019 Course.

Subject: Embedded System and RTOS

Under aegis of Board of Studies (E&TC), SPPU Pune

(July 14-16, 2022) (Online Mode)



SPPU Pune

### E-Certificate of Participation..!

This is to certify that, Dr. Prachi Vast of AISSMS, Pune has Worked as Resource Person in Faculty Orientation Workshop on BE(E&TC) revised syllabus (2019 Course) under the aegis of Board of Studies (E&TC), Savitribai Phule Pune University, organized by, Dept. of E&TC Engineering, STES, Sinhgad Institute of Technology, Lonavala, Pune from 14/07/2022 to 16/07/2022.


Prof. P. C. Latare  
Faculty Coordinator

Dr. D. D. Chaudhary  
HOD, E&TC, SCOE

Dr. M. S. Gaikwad  
Principal, SCOE, Pune

Dr. D. S. Bormane  
Chairman BoS (E&TC)

Dr. M. G. Chaskar  
Dean Faculty of Sci. & Tech. SPPU






## AISSMS

COLLEGE OF ENGINEERING

आयतम संपन्नतासोदिताय

Approved to teach the "A" grade



# CERTIFICATE

## OF PARTICIPATION


PROUDLY PRESENTED TO

### Dr. Prachi Prashant Vast


---

for successful completion of One week Faculty Development Program  
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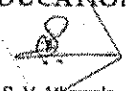
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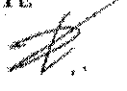
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Sinhgad Institutes

## Faculty Orientation Workshop

On

B. E. (E&TC) Revised Syllabus 2019 Course.

*Subject: Embedded System and RTOS*

Under aegis of Board of Studies (E&TC), SPPU Pune

(July 14-16, 2022) (Online Mode)



SPPU Pune

### ***E-Certificate of Participation..!***

This is to certify that, Dr. Prachi Vast of AISSMS, Pune has attended Faculty Orientation Workshop on BE(E&TC) revised syllabus (2019 Course) under the aegis of Board of Studies (E&TC), Savitribai Phule Pune University, organized by, Dept. of E&TC Engineering, STES, Sinhgad Institute of Technology, Lonavala, Pune from 14/07/2022 to 16/07/2022.

Prof. P. C. Latane  
Faculty Coordinator

Dr. D. D. Chaudhary  
HOD, E&TC, SCOE

Dr. M. S. Galkovad  
Principal, SCOE, Pune

Dr. D. S. Bormane  
Chairman BoS (E&TC)

Dr. M. G. Chaskar  
Dean Faculty of Sci. & Tech. SPPU



**BoS, SPPU**  
Board of Studies (E&TC)  
Savitribai Phule Pune University

**DPU**

Dr. D. Y. Patil Unitech Society's  
Dr. D. Y. Patil Institute of Technology  
Pimpri, Pune -411018

## Faculty Orientation Workshop

B. E. (E&TC) Revised Syllabus 2019 Course

*Subject: Innovation & Entrepreneurship*

### ***E-Certificate of Participation..!***

This is to certify that,

**SNEHAL RAJESH SHEGAONKAR** of **Dr. D. Y. PATIL INSTITUTE OF TECHNOLOGY** has attended Faculty Orientation Workshop on BE(E&TC) revised syllabus (2019C) under the aegis of Board of Studies (E&TC), Savitribai Phule Pune University, organized by, Dept. of E&TC Engineering, Dr. D. Y. Patil Institute of Technology, Pimpri, Pune on 30/01/2023 & 31/01/2023.

Dr. Bhavna Ambudkar  
Faculty Coordinator

Dr. D. G. Bhalke  
HOD, E&TC, DIT

Dr. L. K. Wadhwa  
Principal, DIT

Dr. D. S. Bormane  
Chairman BoS (E&TC)

Dr. M. G. Chaskar  
Dean Faculty of Sci. & Tech. SPPU



**BoS, SPPU**  
Board of Studies (E&TC/Electronics)  
Savitribai Phule Pune University



**JSPM's**  
Imperial College of  
Engineering & Research, Wagholi, Pune



## Faculty Orientation Workshop

B. E. (E&TC/Electronics) Revised Syllabus 2019 Course

Subject: Smart Antennas

### Certificate of Participation..!

This is to certify that,


**Dr. Prachi Vast**  
of AISSMS COE Pune

has attended Faculty Orientation Workshop on B.E.(E&TC) revised syllabus (2019 Course) under the aegis of Board of Studies (E&TC/Elex.), Savitribai Phule Pune University, organized by, Dept. of E&TC Engineering, Imperial College of Engineering & Research, Wagholi, Pune from 14/07/2022 to 16/07/2022.

  
Dr. A. S. Deshpande  
Faculty Coordinator

  
Dr. S. K. Bhatia  
HOD, E&TC, ICOER

  
Dr. R. S. Deshpande  
Principal, ICOER

  
Dr. D. S. Bormane  
Chairman BoS (E&TC)

  
Dr. M. G. Chaskar  
Dean Faculty of Sci. & Tech. SPPU

## Wesleyan Journal of Research

An International Research Journal

ISSN : 0975 - 1386

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This is to certify that

**Dr. Prachi Vast**

Department of Electronics and Telecommunication Engineering, AISSMS College of Engineering  
for the paper entitled

### SMART MINING SAFETY SYSTEM

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# Wesleyan Journal of Research

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This is to certify that

**Dr. Prachi P. Yast**

*Department of Electronics & Telecommunication All India Shri Shivaji Memorial Society's, College of Engineering Pune, India*  
for the paper entitled

### POTHOLE DETECTION USING IMAGE PROCESSING

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# Network Security in Cloud and Big Data Computing using AI

Dr. Amita Aniruddhe Shinde, Dr. Varsha Degaonkar, Dr. Prachi Prashant Vast

Assistant professor, AISSMS Institute of Information Technology, Pune, India

Associate Professor, International Institute of Information Technology, Pune

Assistant Professor, AISSMS College of Engineering, Pune, India

## Abstract:

Web information is fundamentally expanding because of the advancement of organization innovation, actuating the presence of enormous information. The tests have also shown that profound mining and examination of enormous datasets would present extraordinary advantages. In spite of the fact that distributed computing upholds information examination in a revaluated and savvy way, it brings serious protection issues while sending the first information to cloud servers. In the interim, the returned examination result experiences malevolent deduction assaults and furthermore uncovers client security. In this paper, to overcome the above security issues, we propose an overall system for Protecting Multiparty Information Security (PMDP for short) in distributed computing. The PMDP system can safeguard numeric information figuring and distributing with the help of untrusted cloud servers and accomplish appointment of capacity all the while. Our structure is based upon a few cryptography natives (e.g., secure multiparty calculation) and differential protection instrument, which ensures its protection from semi-honest members without intrigue. We further launch PMDP with explicit calculations and exhibit its security, productivity, and benefits by introducing security investigation and execution conversation. Besides, we propose a security-improved system sPMDP to oppose malignant inside members and outside enemies. We delineate that both PMDP and sPMDP are solid and scale well and consequently are alluring for down-to-earth applications.

**Keywords:** Network, Security, Cloud, Big Data, Computing, AI.

**DOI:** [10.24297/j.cims.2022.12.23](https://doi.org/10.24297/j.cims.2022.12.23)

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## 1. Introduction

[22][12] With the essentially expanding information size and the quick improvement of the comparing information examination innovation, the first information, which generally has attributes of large volume, heterogeneity, and bad quality, starts to assume a vital part in different fields, for example, medical care, ad, government direction, and transportation [22][11]. This is fundamentally on the grounds that making profound mining and examination over these enormous datasets (i.e., large information) would uncover some covered-up and important data, and further creates extraordinary advantages[11][2][3][4]. Then again, inferable from the



# Source details

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# Observation of an Uncertainty Estimation in Deep Learning

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## Abstract

Container organizations have demonstrated extraordinary dedication to image recognition due to their ability to perceive the posture, surface, and disfigurement of items and article parts. In any case, the majority of current container networks are deterministic, with limited communication vulnerability. A considerable lot of them will generally be pompous on out-of-circulation information, making them less dependable and thus decreasing their reasonableness for viable reception in well-being basic regions like well-being and self-driving vehicles. In this work, we propose a container network in view of a variation combination of Gaussians to prepare conveyances of organization loads rather than a solitary arrangement of loads and empower the model to communicate its prescient vulnerability on out-of-dispersion information. Preparing dispersions of loads enjoy the additional benefit of keeping away from over fitting on more modest datasets which are normal in well-being and different fields. Albeit exploratory results show that the proposed model can recover only key details, join more quickly, is less computationally complex, can really communicate its prescient vulnerabilities, and achieve execution esteems that are comparable to the leading-edge models. Bayesian brain networks are known to exhibit slow preparation and combination. This indicates that CapsNets can demonstrate the straightforwardness, validity, unwavering quality, and interpretability expected for functional reception.

**Key:** Observation, Uncertainty, Estimation, Deep Learning, additional, benefit, keeping.

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**Introduction**  
As of late, there has been an upsurge in the reception of Profound Learning (DL) to perform complex errands, for example, Visual Inquiry Addressing [1][5][6][7], and plant illness identification [2], among others,

because of their superb presentation as far as speed and exactness contrasted with people. Container Organizations [3, 4, 5, 6, 7], for instance, have exhibited the capacity to perceive the posture, surface, and twisting of an item and its parts. They have along these



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## SMART MINING SAFETY SYSTEM

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**Abstract:-** Mining is an industry where safety needs to be top priority for the all the time. Safety in mining refers to all measures taken to ensure the health and safety of a mining team for their efficient, safe and responsible work. Mining Safety is designed to prevent injuries in the mining industry and promote a safe workplace for miners. There is a need of real-time monitoring of all the critical problems faced by miners. We are presenting solution through which Mine Managers will be able to track and monitor parameters like presence of hazardous gases, temperature of surrounding area, ground vibrations, miners' health & position, etc. with the help of sensors and RF technology. Chemical hazards due to harmful gases will be detected using Gas Detection Sensors. Ground & Body Vibrations will be detected by vibrations sensors while, miners' health will be monitor by body temperature and pulse sensors. We will be able to trace miners' positions with the help of location tracking devices. With the help of controller, sensors will send data to RF module and it will be monitored continuously at Manager's system. If any problem is detected by system, alarm will be raised automatically to alert control unit to take preventive actions. Thus, problem of unavailability of network can be overcome by the RF based wireless communication system. The presented approach will provide smart, effective and efficient Mining Safety System.

**KEYWORDS:** Mining Safety, RF Technology, Wireless Sensor Networks, Wireless Communication

### I. INTRODUCTION

The mining industry is known worldwide for its highly risky and hazardous working environment.[6] Studies in the area of mining safety have shown that the majority of incidents occur due to human error, the prevention of which would greatly enhance the safety of working conditions.[7] Mining workers are affected by many hazards like ventilation problems, mine flooding, gas explosions, ceiling collapsing, mine haulage, sudden inrushes and mine inundation, spontaneous combustion, to un-optimized evacuation routes.[2] The mine operators have been working for decades to ensure no fatal accident results in death, injury, or poor health of miners.[6] Our objective is to improve the overall safety of the mine & workers by designing a smart system that has sensors embedded in it that will detect hazardous conditions inside the mine and to analyze the physical conditions of the workers to trigger an alarm in case of emergency.[8] Using RF based wireless communication, system will send sensors data to control unit and raised an alert if problem is detected. Such private networks allow real-time monitoring through connected sensors, which produce troves of data about mine conditions, equipment status and worker location, enabling operators to understand present conditions inside the mine. Hence, this safety system will efficiently solve the problems faced by mines.



## POTHOLE DETECTION USING IMAGE PROCESSING

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**Dr. Amita Shinde** Assistant professor, Department of Instrumentation Engineering, All India Shir Shivaji Memorial Society's, Institute of Information Technology, Pune, India

Department of Instrumentation Engineering, AISSMS Institute of Information Technology

**Abstract:-** In this fast-tracked world, everyone wants to reach their destinations that too as soon as possible. Some ready apps may suggest the routes which can help them reach their goals early, and other may also show all possible ways with traffic congestion for ex. Google maps.

But there are fewer apps / solutions that expels about the road condition, whether it is good enough to travel or not. So, our solution mainly focuses on the travelling safety of the passengers and update the driver with prior warnings OR the best route to travel. Our project is to design a Pothole detection System which assists the driver in avoiding potholes on the roads, by giving the prior warnings to drivers with the help of buzzer, if the driver is approaching a pothole, then the driver will be warned regarding the pothole on the road. This system will be installed on vehicle which can detect and report the pothole through image processing by using raspberry pi module

**KEYWORDS :** Convolution Neural Network (CNN), Raspberry Pi, Buzzer, Image Processing

### I. INTRODUCTION


India is one of the most developing Country in the world and also having the fastest growing economy. Roads are the dominant means of transportation in India today. However, in India most of the roads are narrow and congested. It has a worst surface quality and less maintenance too. Since we are in India, Driving is a breath holding, potentially threatening. Vehicle population has been increased tremendously over the last decades. According to the survey report "Road Accidents in all countries globally", as approximately 1.3 million peoples lost their lives due to fatal road accidents by the ministry of road transport and highways.

The major benefit of our project will be in rainy season as this will be very helpful to take an prior actions, as the bad roads will be detected by our system. We mainly focus on detecting pothole which come across while driving. The system collects the ready images from Dataset, build a Machine learning model, train the model and test it. For Hardware implementation we used the Raspberry Pi 3 B+ model and buzzer for prior alert to driver.


### II. LITERATURE SURVEY

The paper [1] focuses on the pothole detection task based on image processing algorithms and the data captured from ultrasonic sensor placed on the vehicle. For that they proposed the solution of designing a device embedded on the vehicle which can continuously scan the road surface for identifying potholes, alerting the driver in time and enable the driver to avoid the pothole. Further, locate the position of pothole via GPS. The GPS data is uploaded via GPRS or Bluetooth module. Then, the database can be transferred to the cloud using Wi-fi or 4G technology and mapping can be done either by using Google Maps or Open-Street Map.

The paper [2] presents a simple solution to detect potholes and humps and hence avoid accidents and


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Page 1 of 1

ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY'S  
COLLEGE OF ENGINEERING  
Kennedy Road, Pune : 1.

PERFORMANCE APPRAISAL REPORT

NON-TEACHING STAFF

PERIOD OF REPORT : 01/07/2022 To 30/06/2023

PART - I

SELF ASSESSMENT FORM

1. Name (नाम) : Mr. Rajendra Dadasaheb Rode
2. Post held (धारण केलेले पद) : Lab. Assistant
3. Length of service in the present or similar : 17 Years  
Post (सेवा कालावधी सध्याचा किंवा सारख्या पदाचा)
4. Give a brief description of your duties indicating the objectives given to you during the year (तुमच्या कामाचे स्वरूप व दिलेल्या ध्येयाचे संक्षिप्त विवरण) :
  - Laboratory Preparation, guiding students to do the Practicals,
  - Assist to HOD + Faculty
  - Department Research work, Maintain deadstock
5. How would you assess your own performance during the past year against the target set for you? (तुमच्या कामाचे मुल्यमापन तुम्ही कसे कराल) : Excellent
6. Can you mention any specific item(s) of good work done by you? (विशेष काम केलेले असल्यास त्याची थोडक्यात माहिती द्या) :
  - FE Admission Work
  - FE Induction Program Work
  - University & College Exam Work
  - Shivrajaji PD Committee member
  - PBL Exhibition Committee member
  - University In-semester & End Sem CAP Work

Staff Signature with date  
12/7/2023

REMARKS OF THE EVALUATING AUTHORITY

1. Please state whether you agree with the assessment and if not, the reasons therefore : Yes
2. What according to you are the faults and responsibilities of the employee for the shortfall, if any. : Excellent
3. Please give your general assessment regarding the employee's integrity and relations with public. : Excellent

Place : Pune  
Date : 24/07/2023


Signature, Name & Designation  
of the Evaluating Authority

PART - II

ESTIMATES OF GENERAL ABILITY AND CHARACTER

Name : Mr. Rajendra D. Rode  
Period of Report : 01/07/2022 to 30/06/2023  
Post held : Lab. Assistant  
1. Performance Factors :  
(a) Industry & applications : Very good,  
(b) Capacity to get work done by : Excellent  
subordinates.  
(c) Relations with colleagues & the : Excellent  
public.  
2. Intellectual Factors :  
(a) General Intelligence : Very good,  
(b) Technical Ability (Where relevant) : Excellent  
(c) Special Aptitude : Excellent  
3. Administrative ability including : Excellent  
Judgment, initiative and drive  
4. Integrity and character : Excellent  
5. Fitness to continue in the present post : Best  
6. Fitness for promotion : Yes  
7. General Assessment : Excellent

Place : Pune  
Date : 24/07/2023

  
Signature, Name & Designation  
of the Evaluating Authority  
Head, FE

PART - III

REMARKS OF THE REVIEWING AUTHORITY

1. Length of Service under Reviewing Authority : 17 years  
2. Do you agree with the Evaluating Authority :  
or do you wish to modify or add to his  
assessment

Place : Pune  
Date : 03/07/2023



  
Signature, Name & Designation  
of the Reviewing Authority  
Principal  
AISSMS COE, PUNE-1

ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY'S  
COLLEGE OF ENGINEERING  
Kennedy Road, Pune 1.

PERFORMANCE APPRAISAL REPORT


LOWER GRADE STAFF (ONLY CLASS IV)

PERIOD OF REPORT : 01/07/2022 To 30/06/2023

ESTIMATES OF GENERAL ABILITY & CHARACTER

Name (नाव) : Shekhar. S. Mate.  
Date of Appointment (नेमणुकीचा दिनांक) : 09/07/07  
Post held (धारण केलेले पद) : Lab Attendant  
1. Physical fitness (शारीरिक तंदुरुस्ती) : Good.  
2. General ability (सर्वसाधारण बुद्धीमत्ता) : Excellent  
3. Technical ability (where applicable) (तांत्रिक कार्यक्षमता) : Excellent  
4. Integrity and character (सचोटी व धारित्र) : Very Good.  
5. Special aptitude (विशेष कल) : Co-ordination among the Attendant.  
6. Obedience (आज्ञाधारकपणा) : Yes  
7. Punctuality (वक्तशीरपणा) : Adequate  
8. Penalties / Awards, if any (सिद्धा किंवा बक्षीस) : NIL  
9. Fitness for promotion (पदोन्नतीसाठी पात्रता) : Satisfactory  
10. General assessment (सर्वसाधारण मुल्यमापन) : Satisfactory

Place : Pune  
Date : 24/07/2023


  
D. V. Veight  
Signature, Name & Designation  
of the Evaluating Authority  
Head, FE

REMARKS OF THE REVIEWING AUTHORITY

1. Length of Service under Reviewing Authority : 17 years.  
2. Do you agree with the Evaluating Authority or do you wish to modify or add to his assessment? :

Place : Pune  
Date : 03/07/2023



  
Signature, Name & Designation  
of the Reviewing Authority  
Principal  
AISSMS COE, PUNE-1