



Kalyani Charitable Trust's
Late G. N. Sapkal College of Engineering

Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik – 422 213



Ref: KCT's/LGNSCOE/2024-25/173 (1)

Date: 17/03/2025

To,

The Principal,

Late G.N. Sapkal College of Engineering,
Nashik (Maharashtra), 422213.

Subject: Requesting permission for conducting add-on program.

Sir,

I, Prof. Snehal H. Gorde, a faculty member of your esteemed institution, humbly request your permission on behalf of our Electronics & Telecommunication department to plan a Value Added /Add-on program on "Troubleshooting of RF based Products" in association with IQAC aimed at enhancing students' knowledge of the subjects. The program's objective is to foster industrial awareness among the students and improve their educational experience.

This program has been planned and implemented by a committed group of professionals, who have made sure that it is in line with both our educational objectives and institutional principles. We have a thorough schedule of events, a participation list, and the materials needed.

Kindly grant us permission to proceed with organization of this program. Your support and guidance will undoubtedly boost the confidence and enthusiasm of our students. We look forward to your positive response and approval for the same.

Thanking you in anticipation.

Yours sincerely,

Prof. Snehal H. Gorde

Encl.:

1. Program Module and Outcome



RHS S/H
forwarded for your
Approval.

Permitted



KALYANI CHARITABLE TRUST'S
**LATE G.N. SAPKAL COLLEGE OF
 ENGINEERING**



Kalyani Hills, Anjaneri-Vadholi, Trimbakeshwar Toad, Dist: Nashik-422212(India)

Tel.:+91-2594-220168/71. Fax : +91-2594-220174

Website:www.sapkalknowledgehub.org, Email: gns_engineering@sapkalknowledgehub.com

**Department of Electronics & Telecommunication
 Engineering**

Program Module and Outcome

**30 Hrs Certificate Course/Add-on Course on
 "Troubleshooting of RF based Products"**

Sr/ No.	Module	Syllabus
1	Module 1	Understanding RF Fundamentals Common RF Issues
2	Module 2	Troubleshooting Methodologies Specific Troubleshooting Scenarios
3	Module 3	Tools and Resources

Sr/ No.	Module	Outcome
1	Module 1	Students understand the fundamental principles of RF communication and identify and diagnose common RF communication issues.
2	Module 2	Students were able to apply step-by-step troubleshooting methods to identify faults in RF systems, evaluate common fault scenarios and select appropriate tools and techniques for effective resolution.
3	Module 3	Students identified and described key tools used in RF troubleshooting and develop test procedures for systematic troubleshooting using hardware and software resources.

Prof. S. H. Gorde
 Program Coordinator



Prof. S. B. Borse
 HoD E&TC

Prof.(Dr.) S. B. Bagal
 Principal
 Prof.(Dr.) Sahebrao B. Bagal
 Principal
 Late G. N. Sapkal College of Engineering
 Anjaneri, Nashik-422 213



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Department of Electronics and Telecommunication Engineering

Date : 18/03/2025

NOTICE

All the students of Third Year E&TC are hereby informed that our department has organized 30 Hours Add on Program on "Troubleshooting of RF based Products" from date 25/03/2025 to 29/03/2025 from 09.00 am to 04.00pm. It is compulsory for all the students to attend the program.

Venue: Basic Electronics Lab, E&TC department.

Prof. S. H. Gorde
Program Coordinator

Prof. S. B. Borse
HOD, E&TC Engg.





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Late G. N. Sapkal College of Engineering

Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik – 422 213



ACAD-R-39	Activity Report	Academic Year: 2024-25
Rev.: 00		Semester: II
Date: 01-12-2024		

Particulars	Description
Department	Electronics & Telecommunication
Activity	Add On Program
Activity level	College
Title	Troubleshooting of RF based products.
Organized by	Prof. S. H. Gorde
Venue	K.C.T's Late G. N. Sapkal College of Engineering, Anjaneri, Nashik
Date	25/03/25 to 29/03/25
Time	9.00 am to 4.00 pm
Objectives of the activity	<ul style="list-style-type: none"> To enhance students' skills and knowledge in troubleshooting of RF based products. To enable users to diagnose and resolve issues related to radio frequency (RF) communication. To improve performance of RF based products and ensure reliable connectivity in RF communication.
Outcomes of activity	<ul style="list-style-type: none"> Improved practical problem-solving abilities and increased confidence in diagnosing and resolving issues with RF based products. Users will be able to identify and interpret common RF issues (e.g., interference, attenuation, signal loss) and enhance ability to distinguish between hardware, software, or environmental causes of RF problems. Increased signal strength and stability across RF products and mitigation of common RF issues like co-channel interference, multipath fading, and signal attenuation.
Targeted Participants	TE students
Total no. of Participants & % of students	66 and 90%
Speaker/ Resource Person	<ol style="list-style-type: none"> Name: Mr. Gaurav Prakash Sawant (Mob. 8390004298) Test Engineer, Jabil Circuit India Pvt. Ltd. Ranjangaon MIDC, Pune



The day wise sessions were delivered through lectures. The topics covered are mentioned below-

Day 1: Introduction to RF systems, Architecture of typical RF-based products and Overview of transceivers, antennas, impedance matching.

Day 2: Signal flow analysis in transmit and receive chains and Understanding RF path losses and interference.

Day 3: Common RF Issues & Debugging Techniques.

Day 4: Real-world product failure analysis (IoT node, RF remote, telemetry device), Replacing faulty RF ICs, filters, and capacitors.

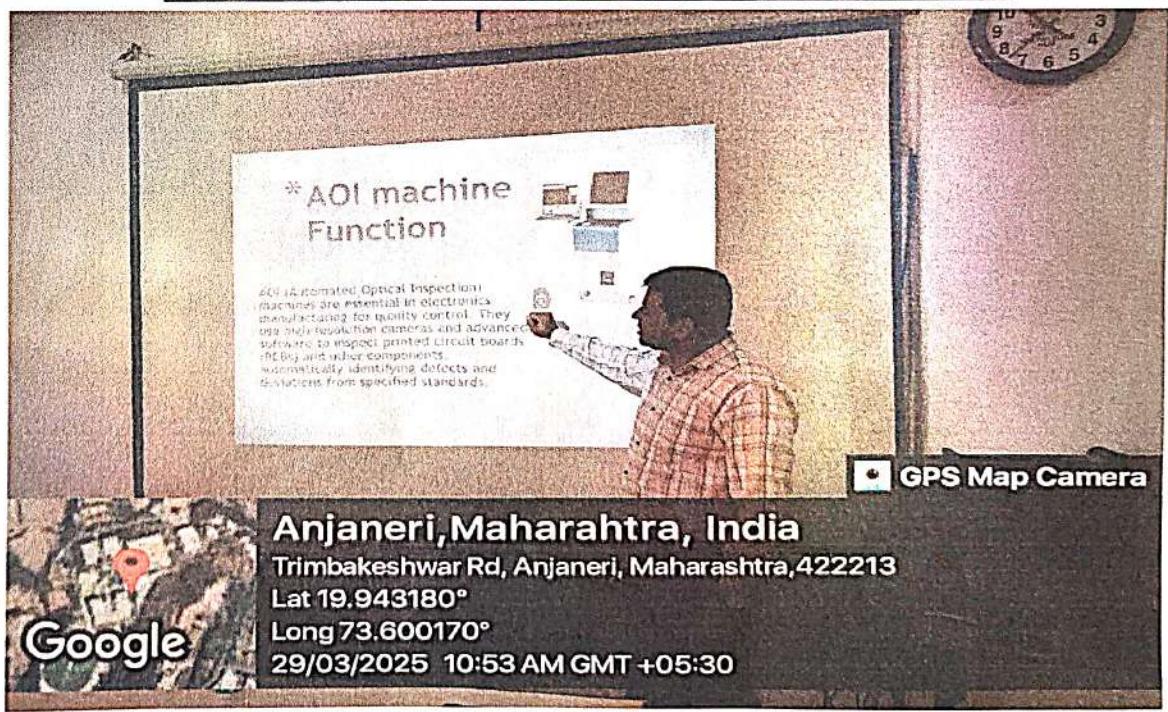
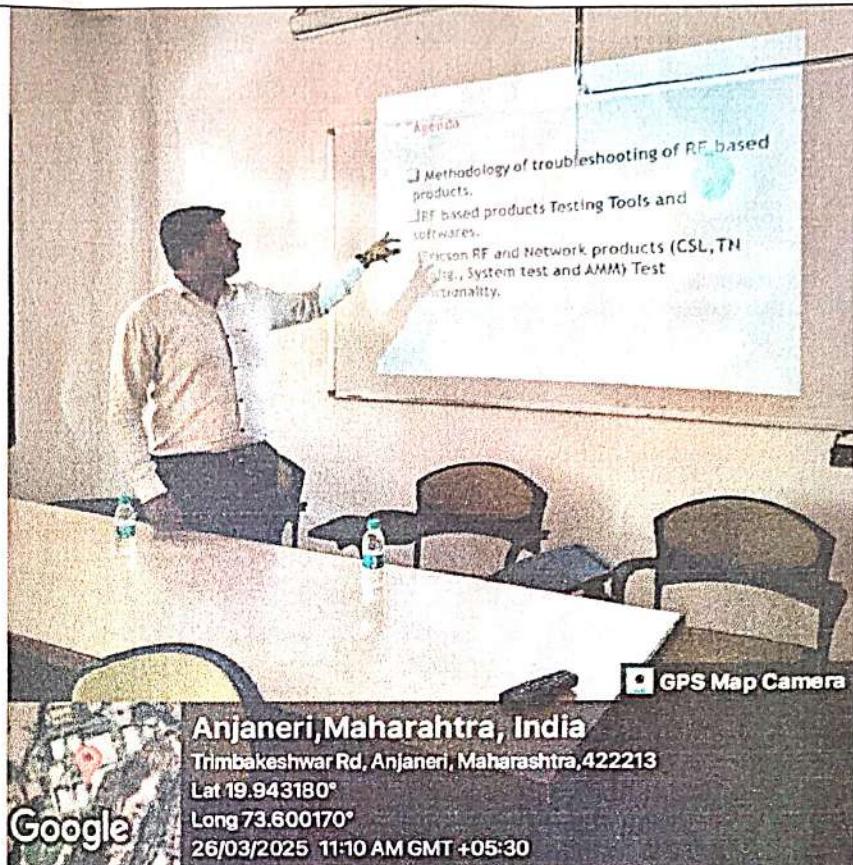
Day 5: Team-based troubleshooting challenge: identify, diagnose, and repair a non-functional RF device, Documentation and reporting techniques.

All sessions were well-received and contributed to students' professional development. Participant engagement was active, and the feedback received indicated a positive learning experience. Overall, the program met its objectives and contributed value beyond the core curriculum.

Geo-tag
photos of the
activity



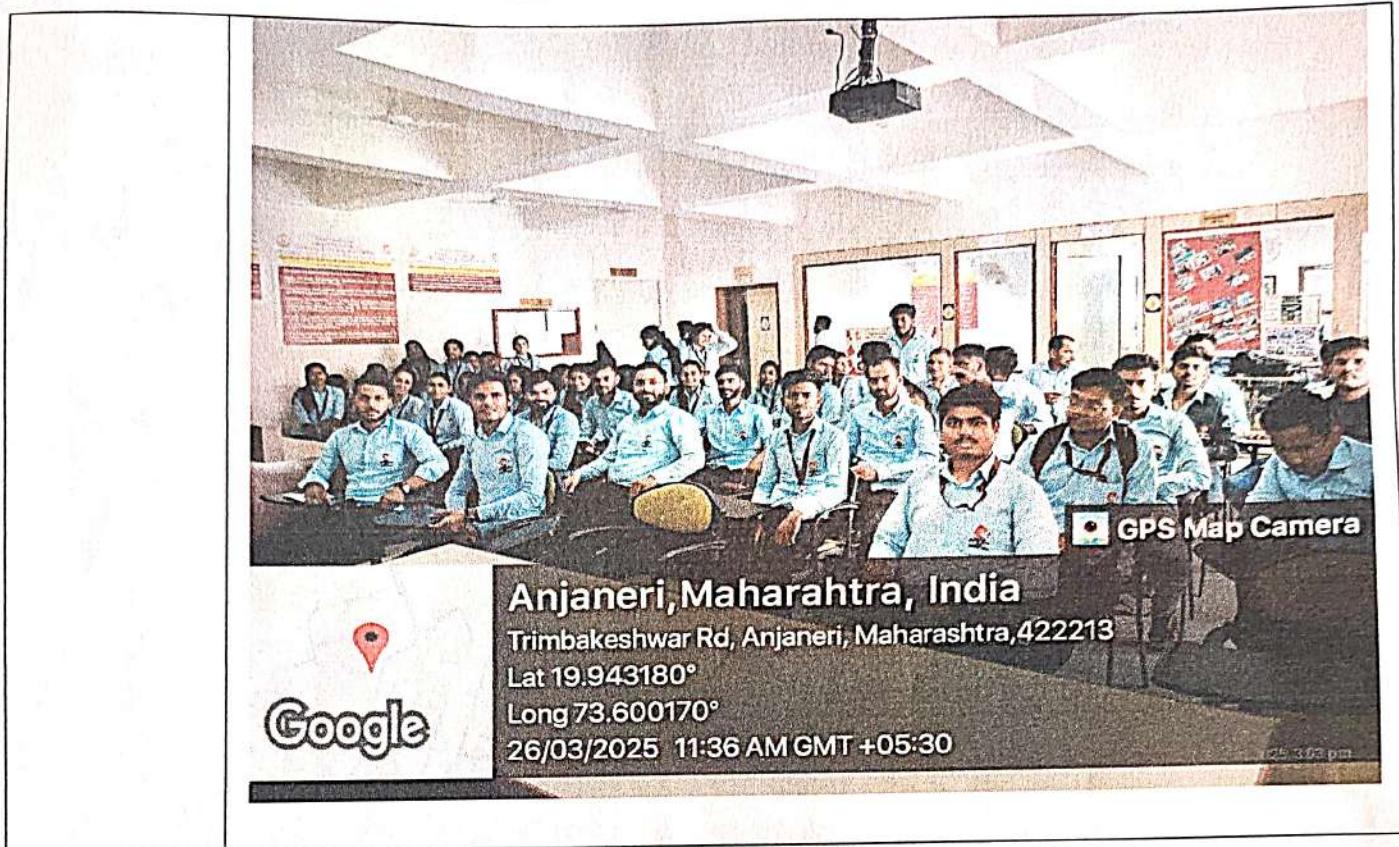
Content of the activity	<p>1. Understanding RF Fundamentals:</p> <ul style="list-style-type: none"> Basic concepts of radio frequency, including frequency, wavelength, and signal propagation. Different types of RF signals and their characteristics. RF spectrum and common frequency bands used in wireless communication. RF modulation techniques. <p>2. Common RF Issues:</p> <ul style="list-style-type: none"> Signal interference from other devices or environmental factors. Range limitations and signal strength issues. Hardware failures in RF components. <p>3. Troubleshooting Methodologies:</p> <ul style="list-style-type: none"> Systematic approach to identifying the root cause of RF problems. Using test equipment like spectrum analyzers and signal generators. Using test equipment like spectrum analyzers and signal generators. <p>4. Specific Troubleshooting Scenarios:</p> <ul style="list-style-type: none"> Troubleshooting Wi-Fi and Bluetooth devices. Resolving issues with wireless sensor networks. Resolving issues with wireless sensor networks. <p>5. Tools and Resources:</p> <ul style="list-style-type: none"> Spectrum analyzers, signal generators, and other RF test equipment. Software tools for analyzing RF data and network performance.
Relevance to POs	PO1, PO2, PO3, PO5, PO12
Relevance to PSOs	PSO2
Methodology used	<ol style="list-style-type: none"> 1. Presentation 2. Study and Demonstration 3. Notes and comments 4. Questions and Discussion
Brief Description of the activity	<p>An add-on program was designed to enhance core curriculum knowledge and skills of students of TE Electronics & Telecommunication. The program focused on RF communication and methods of troubleshooting of RF based products and involved 66 students successfully completing it.</p> <p>We initially welcomed our resource person Mr. Gaurav Prakash Sawant in presence of respected Principal, Prof. (Dr.) S. B. Bagal and HOD Prof. S. B. Borse. Mr. Gaurav Sawant introduced himself and interacted with students on various aspects. The program inaugurated by presenting a token of love to the resource person. The sessions started just after the inauguration. All participants were fully active and enthusiastic during the start of session.</p>





Kalyani Charitable Trust's
Late G. N. Sapkal College of Engineering

Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik – 422 213



Prof. S. H. Gorde
Coordinator / Prepared by

Prof. (Dr.) V. A. Kolhe
IQAC coordinator



Prof. S. B. Borse
HOD

Prof. (Dr.) S. B. Bagal
Principal

Prof. (Dr.) Sahebrao B. Bagal
Principal

Late G. N. Sapkal College of Engineering
Anjaneri, Nashik-422 213



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Late G. N. Sapkal College of Engineering
Kalyani Hills, Anjaneri, Trimbakeshwar Road,
Nashik - 422 213



Ref: KCT's /LGNSCOE/2024-25/

Date: 20/03/2025

To,

Prof. Gaurav Prakash Sawant
Test Engineer,
Jabil Circuit India Pvt. Ltd.,
Ranjangaon MIDC, Pune.

Subject: - Invitation letter to conduct Add on Program on "Troubleshooting of RF based Products"

Respected Sir,

We are pleased to invite you as a resource person for conducting Add on Program on "Troubleshooting of RF based Products" organized by Electronics & Telecommunication Engineering Department from date 25/03/2025 to 29/03/25 in association with IQAC of Late G. N. Sapkal College of Engineering, Anjaneri, Nashik 422212.

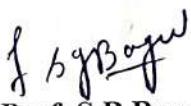
We will be grateful if you could share your valuable expertise on the topic aforementioned. We hope that the students will be benefitted by attending the this program with the topic of Python Programming"

We look forward to your presence in the campus.

Thanking You,

With warm regards.

Yours Faithfully,


Prof. S.B.Borse

HOD, E&TC Engg.




Prof.(Dr.)S. B. Bagal

Principal

Prof.(Dr.) Saliebrao B. Bagal

Principal

Late G. N. Sapkal College of Engineering
Anjaneri, Nashik-422 213



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Website: www.sapkalknowledgehub.org E-mail: gns_engineering@sapkalknowledgehub.com



Date: 29/03/2025

To,
Mr. Gaurav Prakash Sawant
Test Engineer,
Jabil Circuit India Pvt. Ltd.,
Ranjangaon MIDC, Pune.

Subject: Letter of Appreciation.

Reference: 30 Hours Add on Program on "Troubleshooting of RF based Products"

Respected Sir,

We would like to take this opportunity to thank you for delivering 30 Hours Add on Program on "Troubleshooting of RF based Products" organized in Late G. N. Sapkal College of Engineering from 25/03/ 2025 to 29/03/2025. The program was successful and was appreciated by the participating students.

During the program students actively interacted with you, which will surely help them in future. The participants were significantly benefited by this Add on Program.

The department and college appreciate your time, dedicated efforts for conducting 30 Hours Add on Program on "Troubleshooting of RF based Products" and contribution in improving the well-being of the participants.

Yours Sincerely,

Prof. S. B. Borse
HOD, E&TC Department,
LGNSCOE, Nashik

Deputed
29/03/2025
S. B. Borse



FFEDBACK FORM – RESOURCE PERSON

We would appreciate if you could take a few minute to share your opinion with us.

Name of the Resource Person: Gaurav..... Prakash.... Sawant.....

Mobile No: 8390004298..... **E-mail id:** gaurav.sawant.01@gmail.com.....

Name of the Affiliating Organisation: Jobil....Circuit....Ind....pvt....Ltd.....

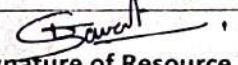
Address of the Affiliating Organisation: B.26., M.T.P.C. Industrial Area, Ranjangaon, Tal. Shirur

Title of Event: Troubleshooting at RF Based Product.....

Date(s) of Participation: From 25-03-2025..... to 29-03-2025..... Days: 05.....

Kindly tick mark (✓) in the relevant box below

Sr.	Performance Attributes	Rating			
1.	Involvement of the participants in the event	1	2	3	
		1 – Not ; 2 – Moderate ; 3 – Very Inquisitive			
2.	Nature of the event organized (Relevance to students / Academics)	1	2	3	
		1 – Not; 2 - Moderately; 3 – Most Relevant			
3.	Infrastructural capacity of the organizing Department / Institute	1	2	3	
		1 – Insufficient; 2 – Sufficient; 3 – Excellent			
4.	Overall impact of the event on the participants	1	2	3	
		1 – Beneficial; 2 – More Beneficial; 3 – Most Beneficial			
5.	Comments on the boarding and lodging facilities (if availed)	1	2	3	
		1 – Average; 2 – Good; 3 – Excellent			
6.	In near future how would you like to associate with the Students / Department / Institute?				
	Mentoring	Infrastructure Sharing	Employment	Financial Support	
7.	Comments / Suggestions:	All..... participant..... actively..... interacted.....Co-operated.....			


Signature of Resource Person

Late G. N. Sapkal College of Engineering
 Department of Electronics & Telecommunication Engineering
FEEDBACK OF PARTICIPANTS

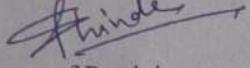
Title of the Program/Event: 30 Hours Add on Program on "Troubleshooting of RF based Products" in Department of Electronics & Telecommunication Engineering

Name of Participant:Shubham.....Shinde.....

Name of the Department: Mechanical/Civil/Electrical/E&TC/Computer/Other

1.	Did you find the Expert talk is useful?	1	2	3	
		1-not useful ; 2-To some Extend ; 3-Very useful			
2.	Did it fulfill your expectation?	1	2	3	
		1-not useful ; 2-To some Extend ; 3-Very useful			
3.	Did the Seminar improve your knowledge about the topic discussed?	1	2	3	
		1-not useful ; 2-To some Extend ; 3-Very useful			
3.	Suggestion to further improvement:	No			

Date: 29/03/2025


 Signature of Participants

Late G. N. Sapkal College of Engineering
 Department of Electronics & Telecommunication Engineering
FEEDBACK OF PARTICIPANTS

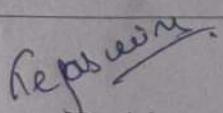
Title of the Program/Event: 30 Hours Add on Program on "Troubleshooting of RF based Products" in Department of Electronics & Telecommunication Engineering

Name of Participant:Tejaswini Khade.....

Name of the Department: Mechanical/Civil/Electrical/E&TC/Computer/Other

1.	Did you find the Expert talk is useful?	1	2	3	
		1-not useful ; 2-To some Extend ; 3-Very useful			
2.	Did it fulfill your expectation?	1	2	3	
		1-not useful ; 2-To some Extend ; 3-Very useful			
3.	Did the Seminar improve your knowledge about the topic discussed?	1	2	3	
		1-not useful ; 2-To some Extend ; 3-Very useful			
3.	Suggestion to further improvement:	No			

Date: 29/03/2025


 Signature of Participants



Department of Electronics & Telecommunication Engineering

30 Hours Add on Program on "Troubleshooting of RF based Products"

ATTENDANCE OF PARTICIPANTS

Sr. No.	Name of Participants	Sign				
		25/03/25	26/03/25	27/03/25	28/03/25	29/03/25
1	Aadesh sunil kapadnis	(31) <u>✓</u>				
2	Shivanjali DEEPAK MULIK	(Shivani) <u>✓</u>				
3	Roshni Suresh gavali	(Roshni) <u>✓</u>				
4	Kharmane Tanuja Rangnath	(Tanj) <u>✓</u>				
5	Khade Tejaswini Rajendra	(Khade) <u>✓</u>				
6	Ankush Ravindra Pagar	(Ankush) <u>✓</u>				
7	Gayatri Ravindra Patil	(Gayatri) <u>✓</u>				
8	Jaydip Sandip Hyali	(Jaydip) <u>✓</u>				
9	Jagtap Arti Vinayak	(Arti) <u>✓</u>				
10	Umare Vaishali Popat	(Umare) <u>✓</u>				
11	Patil Jyoti Jaysing	(Jyoti) <u>✓</u>				
12	Mahale Pratiksha Patravi	(Pratiksha) <u>✓</u>				
13	Mahajan Rat Bharat	(Rat) <u>✓</u>				
14	Gosavi Akshay Ganeshwar	(Akshay) <u>✓</u>				
15	Aher Pooja Popat	(Pooja) <u>✓</u>				
16	Gaikwad Bhagyashri Ankush	(Bhagyashri) <u>✓</u>				
17	Shrivat Mrudula Sandip	(Mrudula) <u>✓</u>				
18	Savant Pavan Eknath	(Pavan) <u>✓</u>				
19	Gumule Sakshi Kaital	(Sakshi) <u>✓</u>				
20	Sonanis Sakshi kishor	(Sonanis) <u>✓</u>				
21	Patil Pavan Bhaawan	(Pavan) <u>✓</u>				
22	Mahajan Bhagyashri Gavind	(Bhagyashri) <u>✓</u>				
23	Sheik Ajay Balasaheb	(Ajay) <u>✓</u>				
24	Patil Snehal navneet	(Snehal) <u>✓</u>				
25	Hire Leena Bhalchandra	(Leena) <u>✓</u>				
26	Tumbe Aditya Vrigudev	(Aditya) <u>✓</u>				
27	Mahale Siddesh Dattatreya	(Siddesh) <u>✓</u>				
28	Shinde Satyam Rajendra	(Satyam) <u>✓</u>				
29	Mahajan Manas Raghunath	(Manas) <u>✓</u>				
30	Nikam Kanchan Annasahab	(Kanchan) <u>✓</u>				
31	Vise Pranav Rajendra	(Pranav) <u>✓</u>				
32	Richa Sudhakar kothawade	(Richa) <u>✓</u>				
33	Mokale Vaibhav Bhausaheb	(Vaibhav) <u>✓</u>				



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Website:www.sapkalknowledgehub.org, Email: gns_engineering@sapkalknowledgehub.com



Sr. No.	Name of Participants	Sign				
		25/03/25	26/03/25	27/03/25	28/03/25	29/03/25
34	Chavhan Nibin Dattu	Chavhan	Chavhan	Chavhan	Chavhan	Chavhan
35	Dafde Sunit Rajendra	Dafde	Dafde	Dafde	Dafde	Dafde
36	Darade Pranjal Sharad	Darade	Darade	Darade	Darade	Darade
37	Nagarre Kanchan Sukdev	Nagarre	Nagarre	Nagarre	Nagarre	Nagarre
38	Bhadangle Om Chandrakant	Bhadangle	Bhadangle	Bhadangle	Bhadangle	Bhadangle
39	Sangale Sharang Suresh	S. S.				
40	Bhushan Payentra Patil	Patil	Patil	Patil	Patil	Patil
41	Chetan Mahadev Pardeshi	Chetan	Chetan	Chetan	Chetan	Chetan
42	Kaveri Everest Borse	Kaveri	Kaveri	Kaveri	Kaveri	Kaveri
43	Tanmay Shamrao Jadhav	Tanmay	Tanmay	Tanmay	Tanmay	Tanmay
44	Nilampani Jayesh Jagtap	Nilampani	Nilampani	Nilampani	Nilampani	Nilampani
45	Disha Bhausaheb Jadhav	Disha	Disha	Disha	Disha	Disha
46	Anusukha Kalpesh Kardile	Anusukha	Anusukha	Anusukha	Anusukha	Anusukha
47	Swapnil Sanjay Nikam	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil
48	Bhushan S. Lonar	Bhushan	Bhushan	Bhushan	Bhushan	Bhushan
49	Pawar Gaurav Mahendra	Pawar	Pawar	Pawar	Pawar	Pawar
50	Shinde Suri Yogesh	Shinde	Shinde	Shinde	Shinde	Shinde
51	Bachhav Yash Ganesh	Bachhav	Bachhav	Bachhav	Bachhav	Bachhav
52	Mogal Shivam Sanjay	Mogal	Mogal	Mogal	Mogal	Mogal
53	Shinde Shubham Sukdeo	Shinde	Shinde	Shinde	Shinde	Shinde
54	Dwivedi Pratham. Sunil	Dwivedi	Dwivedi	Dwivedi	Dwivedi	Dwivedi
55	Mali Manav Nitin	Mali	Mali	Mali	Mali	Mali
56	Rooshid. Mukhtar. Sikkalgar	Rooshid	Rooshid	Rooshid	Rooshid	Rooshid
57	Mahajan Chandan Ashok	Mahajan	Mahajan	Mahajan	Mahajan	Mahajan
58	Mohane Gaurav Suresh	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav
59	Komal Dhananjay Bhamare	Komal	Komal	Komal	Komal	Komal
60	Rushikesh Dada Lakde	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh
61	Prasad Nitin Thete	Prasad	Prasad	Prasad	Prasad	Prasad
62	Premal Keda Bachhare	Premal	Premal	Premal	Premal	Premal
63	Mayur S. Tarle	Mayur	Mayur	Mayur	Mayur	Mayur
64	Vaibhav B. Suryavanshi	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav
65	Prasad G. Baviskar	Prasad	Prasad	Prasad	Prasad	Prasad
66	Saniya R. Tripathi	Saniya	Saniya	Saniya	Saniya	Saniya

Prof. S. H. Gorde
Program Co-ordinator



Prof. (Dr.) S. B. Borse
HOD
Principal

G. N. Sapkal College of Engineering

of 49 Boys
Prof. S. B. Borse

K.C.T's

LATE G. N. SAPKAL COLLEGE OF ENGINEERING



Approved by AICTE Affiliated to SPPU

Anjaneri, Trimbakeshwar Road,

Tal & Dist.: Nashik-422213, Mob. No. 09420695484

Email: administrativeofficer@sapkalknowledgehub.org Website: ignscoc.sapkalknowledgehub.org

CERTIFICATE

OF APPRECIATION

This certificate is proudly awarded to

Janhavi Fargade

has participated in 30 Hours Certified Course on "Troubleshooting of RF Based Products" organized by Department of Electronics and Telecommunication Engineering of K.C.T's, Late G. N. Sapkal College of Engineering, Anjaneri, Nashik from 25th March, 2025 to 29th March, 2025.



Prof. S. H. Gorde

Prof. (Dr) S. B. Borse

Prof. (Dr) S. B. Bagal



Program Incharge

HOD, E&TC Dpt.

Principal



K.C.T's

LATE G. N. SAPKAL COLLEGE OF ENGINEERING

Approved by AICTE Affiliated to SPPU

Anjaneri, Trimbakeshwar Road,

Tal & Dist.: Nashik-422213, Mob. No. 09420695484

Email: administrative.officer@sapkalknowledgehub.org Website: ignscoc.sapkalknowledgehub.org



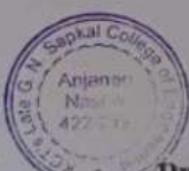
CERTIFICATE

OF APPRECIATION

This certificate is proudly awarded to

Yash Bachhav

has participated in 30 Hours Certified Course on "Troubleshooting of RF Based Products" organized by Department of Electronics and Telecommunication Engineering of K.C.T's, Late G. N. Sapkal College of Engineering, Anjaneri, Nashik from 25th March, 2025 to 29th March, 2025.



Prof. S. H. Gorde

Program Incharge

Prof. S. B. Borse

HOD, E&TC Dpt.

Prof. (Dr.) S. B. Bagal

Principal