

SRI SRINIVASA EDUCATIONAL AND CHARITABLE TRUST® SAPTHAGIRI COLLEGE OF ENGINEERING (Affiliated to Visvesvaraya Technological University, Belagavi and Approved by AICTE, New Delhi) (Accredited by NAAC with "A" grade) (An ISO 9001:2015 & ISO 14001:2015 Certified)



1.1.2 The institution adheres to the academic calendar including the conduct of CIE

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Academic Caler I for ODD Semester of UG programmes year 2021-22

nent										
		V semester B.Arch./ B.Plan.	VII semester B.E./B.Tech.	VII semester B.Plan./B.Arch	IX semester B.Arch	IX semester III semester III Semester III semester I semester B.Arch B.E./ B.Tech. B.Arch. B. Plan B.E./B.Tech	III Semester B.Arch.	III semester B. Plan	l semester B.E./B.Tech.	l semester B.Arch/B.Plan
of UDU 01.10.2 Semester	01.10.2021	01.10.2021	01.10.2021	01.10.2021	01.10.2021	18.10.2021	18.10.2021	18.10.2021		
Last Working day of ODD 31.01.2022 Semester	2022	31.01.2022	31.01.2022	31.01.2022	31.01.2022	19.02.2022	19.02.2022	19.02.2022		
Practical 01.02.2022 Examination 10.02.2022	2022) 2022	01.02.2022 To 10.02.2022	01.02.2022 To 10.02.2022	01.02.2022 To 10.02.2022	1	21.02.2022 To 04.03.2022	21.02.2022 To 04.03.2022	21.02.2022 To 04.03.2022		
Theory 11.02.2022 Examinations 25.03.2022	2022) 2022	11.02.2022 To 25.03.2022	11.02.2022 To 25.03.2022	11.02.2022 To 25.03.2022	I	07.03.2022 To 25.03.2022	07.03.2022 To 25.03.2022	07.03.2022 To 25.03.2022	Will be anno	Will be announced later
Internship		1	1	-	1	1	I	1		
Internship Viva Voce/ Project viva		1	1	1	1	I	I	I		
Summer Project / Professional training / Organization Study		1	1	1	I	I	I	I		
Submission of the report to University		1	1	I	1	I	I	1		
Commencement 04.04.2022 of EVEN Semester	2022	04.04.2022	04.04.2022	04.04.2022	07.02.2022	11.04.2022	11.04.2022 11.04.2022 11.04.2022	11.04.2022		

Please Note:

- The academic sessions for ODD semesters should commence from the dates mentioned above.
- The Institute needs to function for six days a week with additional hours (Saturday is a full working day). #if required the college can plan to have extra classes even on Sundays also.
 - Faculty should conduction additional tutorial classes ONLINE to solve the doubts of the students.
- The faculty/staff shall be available to undertake any work assigned by the university.
- Notification regarding the Calendár of Events relating to the conduct of University Examinations will be issued by the Registrar (Evaluation) from time to time.
 - Academic Calendar may be modified based on guidelines/directions issued in the future by MHRD/UGC/AICTE/State Government.
- Academic Calendar is also applicable for Autonomous Colleges. In case if any changes are to be effected by Autonomous Colleges in the academic terms and examination schedule, they could do so with the approval of the University.
 - The offline classes may be conducted either by staggering the timings in 02 sessions in a day with 50% capacity for each session or full day session with 50% capacity on alternative days, following all SOPs.
- The college has to conduct offline classes to cover 80% of the syllabus of the courses; however, 20% of the syllabus can be covered in virtual (Online) mode. Attendance of the students' for offline and online classes is mandatory and record should be maintained and submitted to university whenever informed.
 - Students joining to VII semester B.E./B.Tech., should complete the Internship before the commencement of the classes.

151TE REGISTRAR ーちい

Page 2 of 3

Sapthagiri College of Engineering 14/5, Chikkasandra, Hesenghatta Mala Road Bengaluru - 560 057



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Sri Srinivasa Educational & Charitable Trust

SAPTHAGIRI COLLEGE OF ENGINEERING

F-ADN-03/RO

(Affiliated to VTU, Belagavi, and Recognized by AICTE, New Delhi) (Accredited by NAAC with "A" Grade) (ISO: 9001-2015 and ISO: 14001-2015 certified Institute)

14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057

	Calendar of Events (Tentative) for AY: 2021-22 (ODD semester)										
form	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Events (5 th & 7 th Semester)			
202			1	2	3	4	5				
00	6	7	8	9	10	11	12				
	13	14	15	16	17	18	19	23 : Commencement of ODD semester			
September 2021	20	21	22	23	24	25	26				
0)	27	28	29	30							
	and a				1	2	3	02 : Gandhi Jayanthi			
21	4	5	6	7	8	9	10	06: Mahalaya Amavasye			
er	11	12	13	14	15	16	17	14: Ayudha Pooja 15: Vijayadashami			
October	18	19	20	21	22	23	24				
00	25	26	27	28	29	30	31				
1	1	2	3	4	5	6	7	01: Kannada Rajthosthava 03 : Naraka Chathudashi			
Der	8	9	10	11	12	13	14	05 : Balipadyami			
November 2021	15	16	17	18	19	20	21	08 – 10 : IA Test-I 15: Proctor report-I			
Nov	22	23	24	25	26	27	28	20: PTM			
	29	30									
2			1	2	3	4	5	18: Proctor report-II 22 - 24: IA Test-II			
er 2021	6	7	8	9	10	11	12	25 : Christmas			
Ō	13	14	15	16	17	18	19				
Dece	20	21	22	23	24	25	26				
Ô	27	28	29	30	31						
			11.4.7			1	2	15: Makara Sakranti			
22	3	4	5	6 7 8 9 15: Makara Sakranti 20 - 22: Lab IA Test				20 - 22: Lab IA Test			
V 20	10	11	12	13	14	15	16	24 - 27: IA Test-III 31: Last Working Day			
January 2022	17	18	19	20	21	22	23	VTU Lab Exam: 01/02/2022 - 04/03/2022 VTU Theory Exams: 11/02/2022 - 25/03/2022			
Jan	24	25	26	27	28	29	30	110 moory Exams. 1102/2022 - 20/00/2022			
	31										
		(days in ODD semester: 95 days nester for AY 2021-22: 04.04.2022			
						1	2	Reden			
	Entre Service Control of						Print	Head of the Department Electronics & Communication			
					58pt	hixkasa Be	Golleg	e of Engineering saraghatta Main Road 560 057 Engineering Bangalore 560 057.			

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	С	A States	an and the second s	a de la	e and	States and	an sealing a	for AY: 2021-22 (ODD semester)
elana Anna anna anna anna anna anna anna a	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Events (5 th & 7 th Semester)
202			1	2	3	4	5	23 : Commencement of ODD semester
	6	7	8	9	10	11	12	28-30: Workshop on Design, Development and deployment of Electronics Products
	13	14	15	16	17	18	19	30: Poster Presentation under IETE Student
September	20	21	22	23	24	25	26	Chapter
G	27	28	29	30				
					1	2	3	
CA Ann	4	5	6	7	8	9	10	02 : Gandhi Jayanthi 06: Mahalaya Amavasye
La Co	11	12	13	14	15	16	17	14: Ayudha Pooja 15: Vijayadashami
October	18	19	20	21	22	23	24	29&30: Workshop on NI Labview
ő	25	26	27	28	29	30	31	
	1	2	3	4	5	6	7	01: Kannada Rajthosthava
2021	8	9	10	11	12	13	14	03 : Naraka Chathudashi 05 : Balipadyami
	15	16	17	18	19	20	21	08 – 10 : IA Test-I 15: Proctor report-I
November	22	23	24	25	26	27	28	16-20: Project First Review
Nov	29	30						20: PTM 23: Industrial visit to GTTC, Bangalore
			1	2	3	4	5	10&11: Project Second Review
2021	6	7	8	9	10	11	12	13: Guest Lecture on Pathway to Career Growth 17: Industrial visit to BEL, Bangalore
	13	14	15	16	17	18	19	18: Proctor report-II 22 - 24: IA Test-II
Decemb	20	21	22	23	24	25	26	25 : Christmas
De	27	28	29	30	31			
						1	2	4:8 Certification course on Image
22	3	4	5	6	7	8	9	Processing/Circuit Design using Multisim 15: Makara Sakranti
20	10	11	12	13	14	15	16	20 - 22: Lab IA Test 24 - 27: IA Test-III
January 2022	17	18	19	20	21	22	23	31: Last Working Day
(an	24	25	26	27	28	29	30	VTU Lab Exam: 01/02/2022 - 04/03/2022 VTU Theory Exams: 11/02/2022 - 25/03/2022
	31							
		C	To	ncem	nber of	of wor	king d	ays in ODD semester: 95 days nester for AY 2021-22; 04.04.2022
	and the second		Cantan Martin	ine contraction		CE (CE)		
					Sa	otheal	Pril	Head of the Department Head of the Department Electronics & Communication ge of Engineering apthagiri College of Engineering

Sri Srinivasa Educational and Charitable Trust®

SAPTHAGIRI COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering (Affiliated to VTU, Belagavi, and Recognized by AICTE, New Delhi) 14/5, Chikkasandra, Hesaraghatta, Main Road, Bengaluru-560057 (ISO 9001-2015 and 14001-2015 Certified Institute) (Accredited by NAAC with "A" Grade) **3 Days Workshop**

Design, Development & Deployment of Electronic Products SCHEMAZEN TECHNOLOGIES, Bengaluru In Association with



28-Sept-2021 to 30-Sept. 2021



SAPTHAGIRI

Sapthaght College of Engliseering Nicasandre, Hesataghatta Main Road Bengaluru - \$60.057

Principal

VISION OF THE INSTITUTE

To be a best Institution imparting quality engineering to deal with community needs through learning and performance

MISSION OF THE INSTITUTE

- To implement path breaking student centric education methods. To augment talent, nurture teamwork to transform to develop
 - individual as responsible citizen.
- To educate the students and faculties about entrepreneurship.
- To meet vibrant requirements of the society Strengthen Industry-Institute Interaction for knowledge sharing.

About the College

true of founder Chairman late Sri T.Giriyappa. Following his footsteps, present Educational & Charitable Trust® which was established in the year 2001 and completed 2 decades. SCE, Bengaluru is affiliated to VTU, Belagavi and approved by AICTE, New Delhi. It is ISO 9001:2015 & 14001:2015 certified Institute and Accredited by NAAC with 'A' Grade. The Institute is dreams come Chairman Sri.G.Dayanada, is leading the Governing Council of the Institute - a Sapthagiri College of Engineering stands on the strong edifice of Sri Srinivasa visionary and an eminent industrialist and head of GD Group and Sri G.D. Manoj is the Executive Director of SCE. The college has indeed come a long way offering 7 UG Courses in engineering & Electronics Engineering, Civil Engineering, Biotechnology and eight Research Medals. It has Incubation Center with Industry Institute Labs and various MOUs with Industries for facilitating internships, projects and placement to students. Research activities from faculties & Students getting funds from namely Computer Science & Engineering, Information Science & Engineering, Electronics & Communication Engineering, Mechanical Engineering, Electrical various agencies like DST, KSCST, and VTU-VGST etc. The campus of Sapthagiri Centres. Students of SCE, so far have achieved 36 University Ranks and Gold College of Engineering is spread across 6.5 acres of lush green land.

Vision of the Department

To be an endeavouring department for providing globally relevant learning experience to the students.

Mission of the Department

To Enrich learning experience of students with creative and innovative teaching methods

To Inculcate societal responsibility in students

To Develop entrepreneurial skills of students to make them entrepreneurs rather than employees

To Partner with Industry for focusing on real-life problems and make learning more practical

About the Department

The Department of Electronics and Communication Engineering was established in the year 2001 and intake of 120. The department has achieved academic milestones by securing 02 university ranks. The students of our department participated in student project program organised by KSCST (Karnataka State Council for Science and Technology) and secured the best project award. The department has collaborated with reputed industries for the purpose of MOUs, Industry established lab and Centre for Excellence, Training and Development (CETD).

Chief Patrons

SRI. G. DAYANAND

Chairman, Sapthagiri College of Engineering, Bengaluru. SRI. G.D. MANOJ

Executive Director, Sapthagiri College of Engineering , Bengaluru.

Patrons

Dr. H RAMAKRISHNA Principal, SCE, Bengaluru. Dr. H C SATEESH KUMAR HOD Dept. of ECE.

4/5, Chikkasandra, Hasareghatta Main Road Bengaluru - 560 057 Main Road

Sapthact

- 14	Topics	Time	Resource Person
28.09.21	Introduction to Electronics Industry , Products Role of Product Designers		
	Bridging the Gap between Industry and Academics	9AM - 10:30AM	
	Introduction to System Design Life Cycle		
10 00 31			
17.2	Introduction to Tools LAUENCE UNCAU TOP Designing the Products	11AM - 12:30PM	
	[With Handson]		
	Hardman Darian 18a fuela		
78.09.71	naloware vesign use Lycie		
1	Various Types of Processors , ICS used for Product Design	2:30PM-4 PM	
	Component Packages		0
			MIC. Karunakaran &
29.09.21	Designing a Real time Board	9AM - 10:30AM	leam
29.09.21	Schematics, PCB Design, BOM, Netlist	11AM-12:30PM	
29.09.21	Manufacturing, Components Procurement for your board.	2:30PM-4 PM	
30.09.21	IOT Product Demo's .	9AM-10:30AM	
30.09.21	CareerS in HW Design, QA Session	11AM - 12:30PM	
	Test, Certification and Conclusion		
30.09.21	Manufacturing, Components Procurement for vour board	2:30PM-4 PM	

Students of Semester VII & V can register using the link



SAPTHAGIRI COLLEGE OF ENGINEERING Sri Srinivasa Educational and Charitable Trust®

Department of Electronics and Communication Engineering

State Level Paper Poster Presentation Competition

Institution of Electronics and Telecommunication Engineers 30-Sep-2021 In Association with (IETE) Bengaluru



SAPTHAGIRI COLLEGE OF ENGINEERING

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14/5, Chikkasandra, Hasaraghatta Main Road Bengaluru - 560 057

Sapt

Vision of the Institute

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Chief Patrons

Sri. G. Dayanand,

Chairman, Sri Srinivasa Educational & Charitable Trust, Sapthagiri Group of Institutions, Bengaluru.

Sri. G.D. Manoj,

Executive Director, Sri, Srinivasa Educational & Charitable Trust, Sapthagiri Group of Institutions, Bengaluru.

Patrons

- Dr. H RAMAKRISHNA Principal, SCE, Bengaluru. .
 - Dr. H C SATEESH KUMAR HOD Dept. of ECE.

Princeptveners

4/5, Chikkasandra, Heseraghatta maofebergingtan Asst. Prof. Dept. of ECE Sapthagirl College of anghoesehoBHAH Asst. Prof. Dept. of ECE

Coordinators

- Prof. SHILPA V Asst. Prof. Dept. of ECE
- Prof. VINAY H C Asst. Prof. Dept. of ECE .

Staff Coordinators

- DR. VIJAY KUMAR A KULKARNI Prof. Dept. of ECE
- DR. PRAKASH JADHAV Assoc. Prof. Dept. of ECE
 - Prof. AGALYA P Assoc. Prof. Dept. of ECE
 - Prof. SHOBHA S Assoc. Prof. Dept. of ECE
- Prof. RAVISHANKARA M N Assoc. Prof. Dept. of ECE
 - DR. SUDHA M S Asst. Prof. Dept. of ECE
- Prof. SUMA V SHETTY Asst. Prof. Dept. of ECE
 - Prof. SHOBHA H Asst. Prof. Dept. of ECE
- Prof. PRATHIBHA P Asst. Prof. Dept. of ECE
 - Prof. PREETHI T S Asst. Prof. Dept. of ECE
 - Asst. Prof. Dept. of ECE Prof. VARSHINI K
 - Prof. SUMA C Asst. Prof. Dept. of ECE
- Prof. PADMAVATHI C Asst. Prof. Dept. of ECE
 - Prof. KAVITHARJ Asst. Prof. Dept. of ECE
 - Asst. Prof. Dept. of ECE Prof. SHWETHA M
- Prof. MADHU H M Asst. Prof. Dept. of ECE
 - Prof. RANI B A Asst. Prof. Dept. of ECE
- Asst. Prof. Dept. of ECE Prof. VEENA N
- Prof. RASHMI B J Asst. Prof. Dept. of ECE

REGISTRATION FEE: Rs 50/- (FIFTY RUPPEES ONLY)

Mode of Payment: CASH PAYMENT

Topic for paper poster presentation: Mini Projects Last Date of Submission: 23/9/2021

Date of Notification: 27/9/2021

Date of Presentation: 30/9/2021

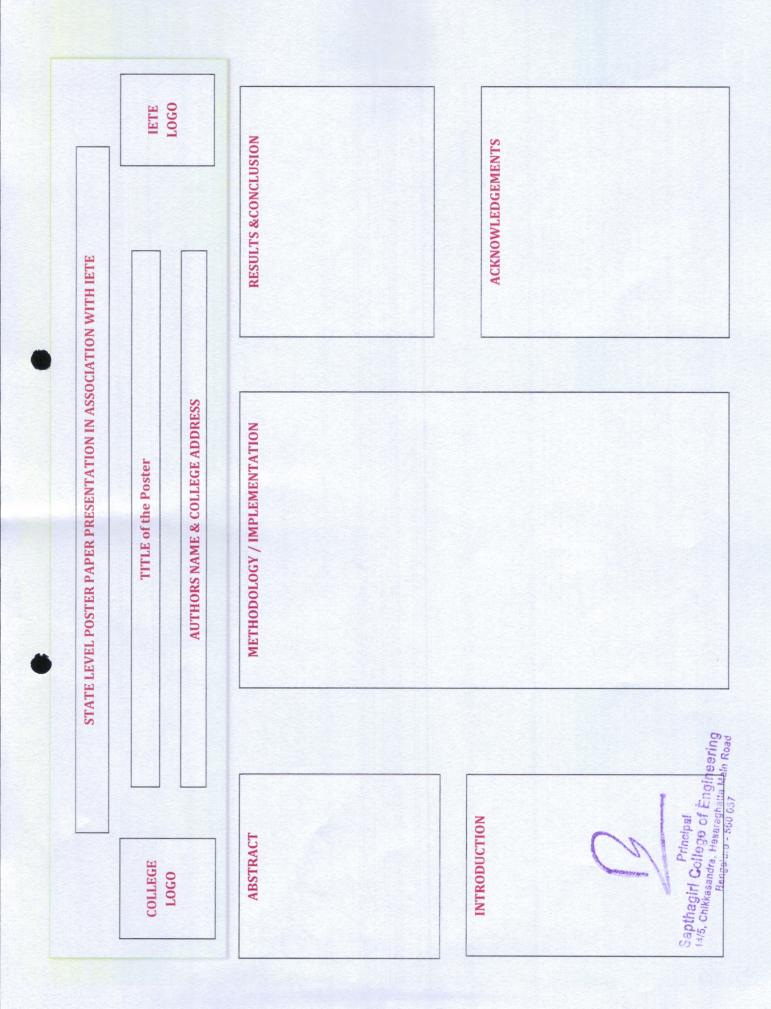
Size of the Poster Paper : A2 Size Colour Print

Template format for Poster Presentation: Attached here with

Contact No: Prof. VINAY H C- 8792526968; Prof. SHILPA V- 9538959760.

Mail-id: vinayhc@sapthagiri.edu.in; shilpav@sapthagiri.edu.in.

Venue: Department of ECE, Rabindranath Tagore Block.





Sapthagiri College Of Engineering (Accredited by NAAC with "A" grade)(Accredited by NBA for ECE, CSE, ISE, ME, EEE)



(An ISO 9001:2015 & ISO 14001:2015 Certified Institution) (Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi.)

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru- 560 057. ELECTRONICS AND COMMUNICATION ENGINEERING



Do Engineering using Graphical Programming Tool

Hands on workshop using NI LabVIEW Venue: Sapthagiri College of Engineering, Bangalore

Date	9:00am to 10:30am	15 min	10:45am to 12:15pm	60 min	1:15pm to 2:45pm	15 min	3:00pm to 4:30pm
Day-1	Engineering solutions using Graphical Systems Design WHY? WHAT?? HOW???		Hands on LabVIEW Programming concepts LabVIEW Environment	- 5	Hands on LabVIEW Programming concept – Decision Making structures		Hands on LabVIEW Programming concepts - Loops
Day-2	Hands on LabVIEW Programming concepts - Creating Re-usable code, Arrays	Tea	Hands on LabVIEW Programming concept – Data Logging	Iuno	Hands on LabVIEW Programming concept – Data Visualization	Tea	Hands on LabVIEW Application Development, Building .exe's

NOTE: Participants per batch is 30-40

DATE: 29-10-2021 & 30-10-2021

Prerequisites for the Workshop:

- > Good ventilated hall preferably, low SUN light intensity to improve visibility of the PPT slides;
- > White Board with colour marker pens; Collar Mike; LCD projector.
- One System per participant or max 2 in a system
- > Internet connections to be disabled in all systems during Training.

Principal Sapthagirl College of Engineering 14/5, Chikkasandra, Hesaraghatta Main Road Bangaluru - 560 057

Corporate office: No. 22, 2nd floor, AKAI Plaza, Opp to AXIS Bank, Sanjaynagar, Bengaluru. Phone: 91-80-40948484 www.visolutions.org Email: support@visolutions.org





AY: 2021-2022

Accredited with NAAC A Grade : An ISO 90001:2015 and 14001:2015 Certified Institution (Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi) SAPTHAGIRI COLLEGE OF ENGINEERING, BENGALURU-57 TrustF-IAT-01/R0 Sri Srinivasa Educational & Charita

Web: www.sapthagiri.edu.in, Email: principal@sapthagiri.edu.in, Phone:080-28372800/1/2, Fax: 080-28372797 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING #14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru- 560 057

FIRST INTERNAL ASSESSMENT TIME TABLE (2021-22-0DD)



Sapthagiri College of EngineeWug 14/5, Chikkasandra, Heseraghatta Main Road Bengaluru - 550 057 rincinal

sandra, Hesaraghatta Main Road Sengaluru - 556 657 Hord of H

Head of the Wepartment



Sapthagiri College of Engineering 14/5, Chikkasandra, Hosarsghetta Main Road L-IAI-UL/KU

AL & Approvent by AICTE, New Delhi) VG, BENGALURY-57 - 0-

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SECOND INTERNAL ASSESSMENT TIME TABLE (2021-22-0DD)

	and the second second					
7 th Parallel Course	17EC71/15EC71 Microwave & Antenna	17EC72/15EC72 Digital Image Processing	17EC755/15EC755 Satellite Communication	17EC741/15EC741 Multimedia Communication	17EC73/15EC73 Power Electronics	
7 th SEM	18EC71 Computer Networks	18EC72 VLSI Design	18EC732 Satellite Communication	18EC743/18EC745 Multimedia Communication/ Machine Learning	18XX75X Open Elective	
TIMINGS	10.45AM-11.45 AM	3:15 PM - 4:15 PM 10.45AM -11.45 AM		3:15 PM – 4:15 PM	10.45AM -11.45 AM	3:15 PM – 4:15 PM
DATE	21/12/2021	Tuesday		22/12/2021 Wednesday	23/12/2021 Thursday	(pncm)) t

Principal

Sapthagint college of Engineering 14/5, Chikkasandra, Hoseraghatta Main Road Bengaluru - 830 057



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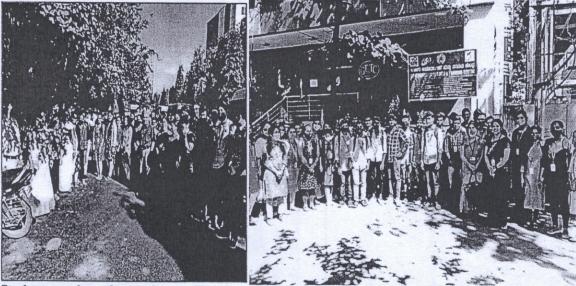
SRI SRINIVASA EDUCATIONAL AND CHARITABLE TRUST® SAPTHAGIRI COLLEGE OF ENGINEERING

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

INDUSTRIAL VISIT REPORT

An Industrial visit to "Government Tool Room & Training Centre", Rajajinagar, Bangalore was organized by Electronics and Communication Department of Sapthagiri College of Engineering on *Tuesday*, 23rd November 2021. 118 students of Electronics and Communication Engineering along with two professors visited GTTC to interact with the Electronics Industry.



Students ready to depart from college

Students at GTTC

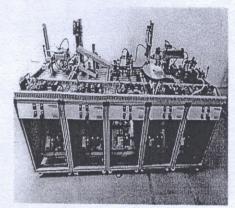
This one-dayIndustrial visit was organized to educate the students on how an organization works and to learn about the work culture. We reached GTTC campus at 10:30 AM. After the security check we were then taken to the seminar hall and given a briefing of rules and guidance's to be followed by everyone inside the industry. The Technical head of GTTC gave an introduction for 60min and told us about the origination of the industry, a overview of what the students would experience for the rest of their afternoon.

An interaction with different laboratories like robotics, mechatronics, process instrumentation, renewable energy gave a very good exposure to the students and it created an interest among the students.

Principal

Sapthagiri College of Engineering 14/5, Chikkasandra, Hesaraghatta Mala Roan Bengaloru - 560 057

Automation laboratory



The Automation Lab imparts skills & knowledge on complete factory automation with PLC, HMI, SCADA Industrial Communication-Networking. Participants are trained on concept of automation, programming of PLC, Screen designing, setting up communication with PROFINET, Diagnostic & troubleshooting strategies.

Equipment & Software Siemens 571200 with KTP700 comfort touch panel & 57-300 test kit with TP700 comfort touch panel Siemens 11A Portal V13/V14.

Mechatronics laboratory

The Mechatronics Lab imparts expertise in the field of Mechatronics system /Process. Participants are trained on various Electrical Components, Mechanical Components, Pneumatics, Digital Fundamentals and troubleshooting Techniques with System Approach. It benefits students of all streams to acquire hybrid Technical Skills

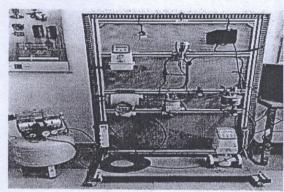
Equipment & Software Modular Automation and Production System (MAPS 6S), 5 Individual Station of MAPS-6S, Siemens S7-1200 PLC's, Diagnostic Kit 2006, Siemens TIA Portal V1



Students at PLC laboratory

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Process Instrumentation laboratory



The Process Instrumentation Lab enables Participants to work on Advanced Automation usingDistributed Control Systems (DCS) and understanding the working of the various process equipment in Plants.

Equipment & Software Magnetic Flow Meter, Mass Flow Meter, Ultrasonic Flow Meter, Ultrasonic Level Transmitter, Absolute pressure Transmitter; Radar Level Transmitter, Temperature Transmitter, SIMATIC PCS7, PDM V8.2/9.0

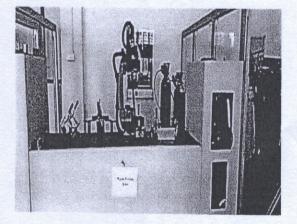


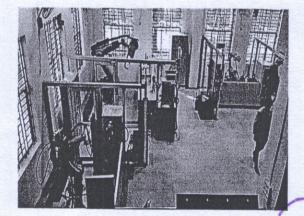
Students at process instrumentation laboratory

Robotics laboratory

Robotics play an important role in the manufacturing Industry, ensuring that the quality of theproduct is not compromised, and the production volumes are met. In the Robotics Lab, participants will be taught on working principles of programming and application of Robotics.

Major equipment software Robotic Pick and Place Cell Robotic Arc Welding Cell Robotic Spot-Welding Cell Rob CAD, ABB Robot Studio simulation and offline Programming Software.

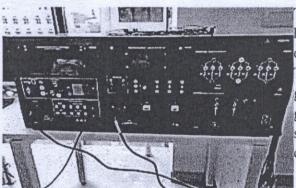




Plasma welding robot

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Renewable Energy Laboratory



The different kinds of energy was highlightened how solar and wind energy is converted into electricity using a 'Solar Test Bench' and 'Wind Turbine Controller' respectively, where the power generated to run the bulb and the turbine was generated by a '4 Quadrant Dynamometer'. They showed us how the speed of wind generated could be controlled by the computer using a software.



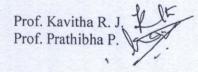
Students at Renewable energy laboratory

The industrial visit made the students think about the following points:

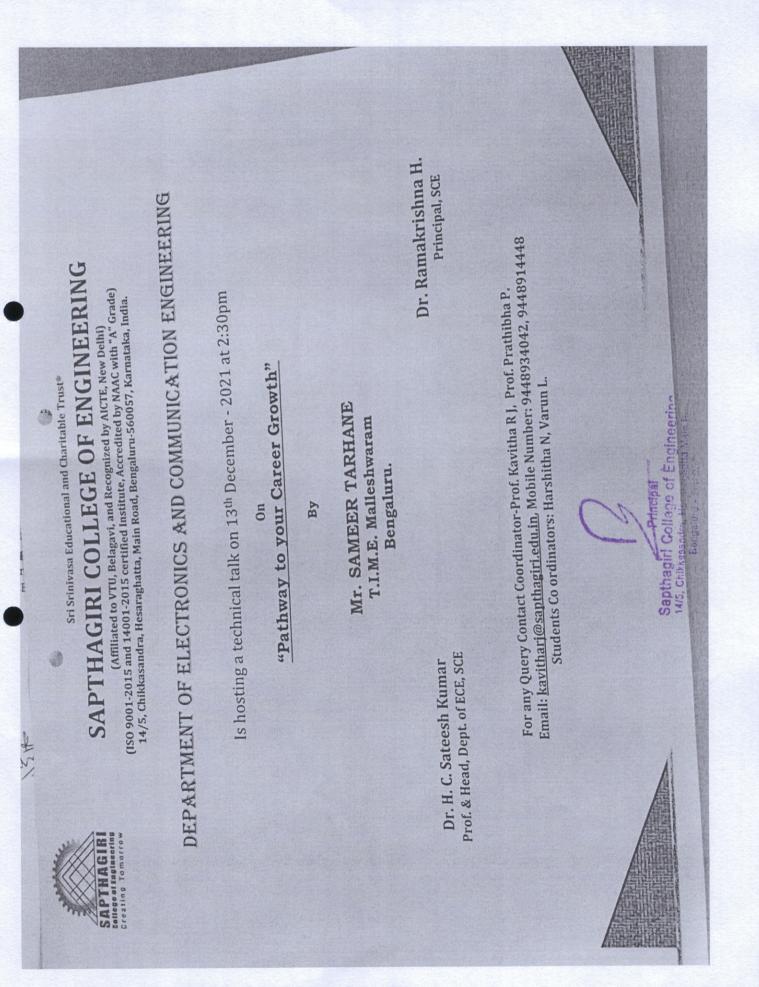
- Renewable sources of energy (Solar and Wind)
- Robotics
- PLC,HMI
- SCADA

HOD, ECE

Industrial Visit Co ordinators



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SRI SRINIVASA EDUCATIONAL AND CHARITABLE TRUST® SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to Visvesvaraya Technological University, Belagavi and Approved by AICTE, New Delhi) (Accredited by NAAC with "A" grade) (An ISO 9001:2015 & ISO 14001:2015 Certified)

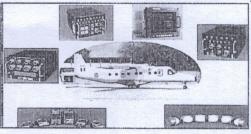
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING (NBA Accredited)

REPORT ON INDUSTRIAL VISIT TO BEL

Bharat Electronics Limited (BEL) is a Navratna PSU under the Ministry of Defence, Government of India. It manufactures state-of-the-art electronic products and systems for the Army, Navy and the Air Force. BEL has also diversified into various areas like homeland security solutions, smart cities, e-governance solutions, space electronics including satellite integration, energy storage products including e-vehicle charging stations, solar, network & cyber security, railways & metro solutions, airport solutions, Electronic Voting Machines, telecom products, passive night vision devices, medical electronics, composites and software solutions.

An industrial visit was organized from Electronics and Communication Department, Sapthagiri College of Engineering to BEL located near Jalahalli, Bangalore on 17th December, 2021. It was planned for a batch of 102 students accompanied by 2 teachers. This one-day Industrial visit was organized to educate the students on various aspects of an organization. The divisions which were visited were

Radar Electronic Support Measures (ESM) Systems



This air borne ESM system provides reconnaissance of ground based, airborne, shipborne and submarine radars, both static and mobile. The system intercepts, detects and identifies radar signals and displays all the parameters of radar emission. The system is in

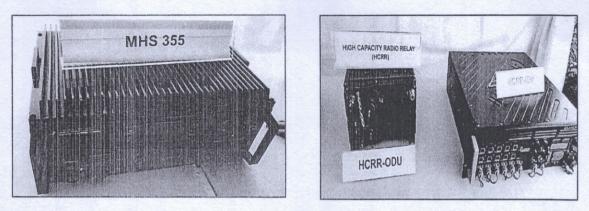
frequency (D to J band), provides 100% probability of intercept and processes radar signals with very low reaction time. It also carries out threat prioritization and provides threat warning by using a built-in radar library. The system sensitivity is adequate to meet the range requirements of most of the radars.

FEATURES

- Wide open in spectral and spatial domain
- High Probability of Intercept (POI)
- High sensitivity and good DOA accuracy
- Light weight and Modular construction
- Automatic tracking of large number of emitters
- Data recording and replay facility for Post Mission Analysis

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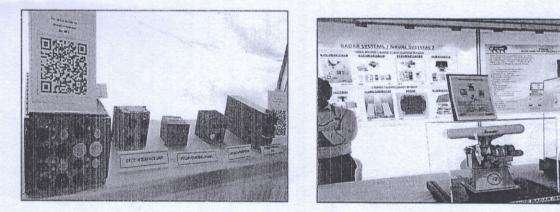


It employs mono-pulse amplitude comparison technique on a four antenna system configuration, it provides high DOA accuracy. The ESM system features an integrated DIFM receiver for highly accurate instantaneous frequency measurement.

FEATURES

- Simple configuration & modular construction
- Designed using state-of-art devices
- Near 100% Probability of Intercept (POI)
- Wide frequency coverage with good dynamic range
- Auto-tracking of large number of emitters 0
- Extensive Built-in Test for self diagnosis
- Large Radar Library for threat identification and prioritization
- Data recording and replay facility for post mission analysis

Flight Control System for Light Combat Aircraft(LCA)



DFCC is an on board computer used for the flight control functions of the Aircraft The on board computer has quadraplex construction. Each channel has got Multi layer Board which employs SMD components. All the PCBs are interconnected through the mother board, which is of polyamide material.

FEATURES

- Processes the various transducer signals and discrete related to flight control in the Aircraft
- Provides the basic hardware interface, which controls the Computer
- Converts the 28V dc input from the Aircraft into regulated voltage for use by internal PCBs College of Engineerin
- All the hardware interfaces of analog, digital and power supply cards are accessed by software a, Hesaraghatta Main Roa to a valid address Bengaluru - 560 057

Air Data Computer (ADC) is part of flight control system of the aircraft. It performs air data computation like atmospheric pressure, temperature and angle of attack by taking input from air data sensors like pressure transducers, temperature sensor and ang le of attack sensor.

The Stores Interface Box (weapon computer) is front-end weapon management computer based on open architecture concept. It is part of weapon control system of the aircraft and controls Pylon Interface Boxes. It controls Pylon Interface Boxes based on high level commands received from open architecture computer over 1553B bus.

Ground Control Station and Datalink For UAV



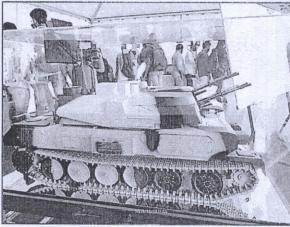
ROLE: The Ground Control Station of R-II provides the interface between UAV and the ground-based operator.

FUNCTION: The functional requirements of GCS include communication, mission planning, Air vehicle control, payload management, payload video processing and recording, flight

data recording, post flight analysis and replay.

FEATURES

- Testing of UAV using inbuilt Flight Line Tester (FLT)
- Mission planning and validation
- Monitor and Control of UAV in all the modes of Flight
- Monitor and Control of all the UAV parameters in all the phases of flight
- External Pilot interface
- Payload control and monitoring
- Automatic takeoff and landing system (ATOL) interface
- Health monitoring of UAV systems, GCS, GDT, EP and SATCOM
- Recording of UAV and Payload data
- Synchronization of all the UAV parameters
- Dissemination of UAV sensors data to services in required format
- Replay of recorded information
- Post flight analysis
- Inter and Intra communications



Upgraded Schilka Weapon System

The Upgraded Schilka system is a ZSU 23 mm, 4 barrel, advanced all weather selfpropelled Air Defence Weapon System primarily designed to protect mobile formations against aircraft and helicopters. The Upgraded Schilka provides drastic improvements in operational performances, accuracies and power consumption. It consists of state of the art 3D planar Active phased array solid state Radar and Electro Optical Fire Control system that ensures Day and night capability for detection, acquisition and tracking of targets. The

various phases of operation such as rapid acquisition of fast moving target, determination of the aiming point for the guns and ballistics of the projectiles, rapid laying of the guns on to the target and firing canbe carried out when the vehicle is on the move or at halt.

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FEATURES

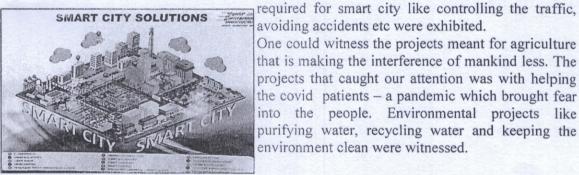
- State-of-the-art, coherent, 3D planar Active phased array solid state search/track Radar
- Electronic Beam Steering in Elevation. TWS search capability in circular and sectors cans.
- Advanced ECCM capabilities. 0
- Single Target Tracking (STT) and Multi Target Tracking (MTT) Capability. 65
- Cueing to target data received from external surveillance radar. 0
- Modern digital Fire Control Computer.
- Advanced Inertial Navigation System(INS) with GPS for the system stabilization and navigation.
- Passive mode of target engagement with the introduction of Electro Optical (Day/Nightcamera, -LRF)fire control system.
- Latest state of the art fire detection and suppression system. Modern high power engine for system mobility.
- Entire system operates on 128 VDC. Auxiliary Power Engine to cater for system powersupply 0 requirements.
- User friendly operator displays with facility to introduce maps. 10
- Air condition (AC) system to enhance the crew comfort. 0
- Built-in simulator for operator training. 0
- Nuclear Biological Chemical (NBC) protection system .
- Data recording capability for offline debriefing.

PCB MANUFACTURING

The visit gave us an insight from Circuit design, pcb design, prototype development and testing of the PCB.

ADDED FEATURES

It was a feat to the eyes to see the innovations for the benefit of mankind. Projects that are



avoiding accidents etc were exhibited.

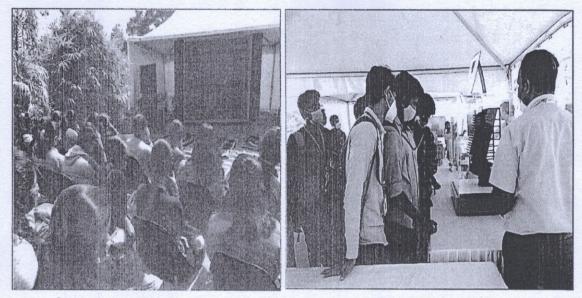
One could witness the projects meant for agriculture that is making the interference of mankind less. The projects that caught our attention was with helping the covid patients – a pandemic which brought fear into the people. Environmental projects like purifying water, recycling water and keeping the environment clean were witnessed.

The best part is the cleanliness and the hospitality of the BEL that caught our attention. Indeed visiting this massive organization once again, the work of this organisation can be better understood.



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Students departing for industrial visit



Students in the session at the venue

Students in the interactive session

CE)

Head of the Department Electronics & Communication Sapthagiri College of Engineering Bangalon, 560 057.

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Industrial visit Coordinators

Prof Kavitha R J Prof. Prathibha P